Annual Report 2012

College of Medicine & Health Sciences
& Sultan Qaboos University Hospital
## Contents

### DEAN’S MESSAGE

2

### EXECUTIVE SUMMARY

3

### OVERVIEW

5

College of Medicine & Health Sciences

Sultan Qaboos University Hospital

### ACADEMIC & PATIENT CARE DEPARTMENTS

<table>
<thead>
<tr>
<th>Department</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaesthesia, ICU &amp; Pain Management</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>12</td>
</tr>
<tr>
<td>Staff</td>
<td>13</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>13</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>14</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>15</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>15</td>
</tr>
<tr>
<td>Research</td>
<td>16</td>
</tr>
<tr>
<td>Behavioural Medicine</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>18</td>
</tr>
<tr>
<td>Staff</td>
<td>19</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>19</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>20</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>21</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>21</td>
</tr>
<tr>
<td>Research</td>
<td>22</td>
</tr>
<tr>
<td>Biochemistry</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>28</td>
</tr>
<tr>
<td>Staff</td>
<td>29</td>
</tr>
<tr>
<td>Highlights of the Years 2012</td>
<td>29</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>29</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>30</td>
</tr>
<tr>
<td>Research</td>
<td>31</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Child Health</strong></td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>40</td>
</tr>
<tr>
<td>Staff</td>
<td>41</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>42</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>43</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>44</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>44</td>
</tr>
<tr>
<td>Research</td>
<td>45</td>
</tr>
<tr>
<td><strong>Emergency Medicine</strong></td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>54</td>
</tr>
<tr>
<td>Staff</td>
<td>55</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>56</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>57</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>58</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>58</td>
</tr>
<tr>
<td>Research</td>
<td>60</td>
</tr>
<tr>
<td><strong>Family Medicine &amp; Public Health</strong></td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>62</td>
</tr>
<tr>
<td>Staff</td>
<td>63</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>63</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>63</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>64</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>65</td>
</tr>
<tr>
<td>Research</td>
<td>66</td>
</tr>
<tr>
<td><strong>Genetics</strong></td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>72</td>
</tr>
<tr>
<td>Staff</td>
<td>73</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>73</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>73</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>74</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>75</td>
</tr>
<tr>
<td>Research</td>
<td>78</td>
</tr>
<tr>
<td><strong>Haematology</strong></td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>82</td>
</tr>
<tr>
<td>Staff</td>
<td>82</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>83</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>84</td>
</tr>
<tr>
<td>Department</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>85</td>
</tr>
<tr>
<td>Research</td>
<td>88</td>
</tr>
<tr>
<td>Human &amp; Clinical Anatomy</td>
<td>100</td>
</tr>
<tr>
<td>Overview</td>
<td>100</td>
</tr>
<tr>
<td>Staff</td>
<td>101</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>101</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>101</td>
</tr>
<tr>
<td>Research</td>
<td>102</td>
</tr>
<tr>
<td>Medicine</td>
<td>104</td>
</tr>
<tr>
<td>Overview</td>
<td>104</td>
</tr>
<tr>
<td>Staff</td>
<td>105</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>106</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>106</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>108</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>108</td>
</tr>
<tr>
<td>Research</td>
<td>112</td>
</tr>
<tr>
<td>Microbiology &amp; Immunology</td>
<td>122</td>
</tr>
<tr>
<td>Overview</td>
<td>122</td>
</tr>
<tr>
<td>Staff</td>
<td>123</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>123</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>124</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>125</td>
</tr>
<tr>
<td>Research</td>
<td>126</td>
</tr>
<tr>
<td>Nursing Services Directorate</td>
<td>132</td>
</tr>
<tr>
<td>Overview</td>
<td>132</td>
</tr>
<tr>
<td>Staff</td>
<td>133</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>133</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>135</td>
</tr>
<tr>
<td>Training Courses &amp; CNE Activities</td>
<td>136</td>
</tr>
<tr>
<td>Research</td>
<td>137</td>
</tr>
<tr>
<td>Nutrition &amp; Dietetics</td>
<td>140</td>
</tr>
<tr>
<td>Overview</td>
<td>140</td>
</tr>
<tr>
<td>Staff</td>
<td>141</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>141</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>142</td>
</tr>
<tr>
<td>Research</td>
<td>142</td>
</tr>
<tr>
<td>Department</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Obstetrics &amp; Gynaecology</td>
<td>144</td>
</tr>
<tr>
<td>Overview</td>
<td>145</td>
</tr>
<tr>
<td>Staff</td>
<td>145</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>145</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>146</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>147</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>147</td>
</tr>
<tr>
<td>Research</td>
<td>148</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>156</td>
</tr>
<tr>
<td>Overview</td>
<td>157</td>
</tr>
<tr>
<td>Staff</td>
<td>157</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>157</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>158</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>160</td>
</tr>
<tr>
<td>Research</td>
<td>162</td>
</tr>
<tr>
<td>Oral Health</td>
<td>166</td>
</tr>
<tr>
<td>Overview</td>
<td>167</td>
</tr>
<tr>
<td>Staff</td>
<td>167</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>167</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>168</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>168</td>
</tr>
<tr>
<td>Research</td>
<td>168</td>
</tr>
<tr>
<td>Pathology</td>
<td>170</td>
</tr>
<tr>
<td>Overview</td>
<td>171</td>
</tr>
<tr>
<td>Staff</td>
<td>171</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>171</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>172</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>173</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>173</td>
</tr>
<tr>
<td>Research</td>
<td>175</td>
</tr>
<tr>
<td>Pharmacology &amp; Clinical Pharmacy</td>
<td>184</td>
</tr>
<tr>
<td>Overview</td>
<td>185</td>
</tr>
<tr>
<td>Staff</td>
<td>185</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>185</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>185</td>
</tr>
<tr>
<td>Research</td>
<td>187</td>
</tr>
<tr>
<td>Department</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>194</td>
</tr>
<tr>
<td>Staff</td>
<td>195</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>195</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>196</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>196</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>197</td>
</tr>
<tr>
<td>Research</td>
<td>200</td>
</tr>
<tr>
<td>Physiology</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>202</td>
</tr>
<tr>
<td>Staff</td>
<td>203</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>203</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>203</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>204</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>204</td>
</tr>
<tr>
<td>Research</td>
<td>206</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>210</td>
</tr>
<tr>
<td>Staff</td>
<td>211</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>211</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>213</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>213</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>214</td>
</tr>
<tr>
<td>Research</td>
<td>214</td>
</tr>
<tr>
<td>Radiology &amp; Molecular Imaging</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>216</td>
</tr>
<tr>
<td>Staff</td>
<td>217</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>218</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>218</td>
</tr>
<tr>
<td>Clinical &amp; Diagnostic Services</td>
<td>219</td>
</tr>
<tr>
<td>Research</td>
<td>220</td>
</tr>
<tr>
<td>Surgery</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>224</td>
</tr>
<tr>
<td>Staff</td>
<td>225</td>
</tr>
<tr>
<td>Highlights of the Year 2012</td>
<td>226</td>
</tr>
<tr>
<td>Teaching Programmes</td>
<td>226</td>
</tr>
<tr>
<td>Training Courses &amp; CME Activities</td>
<td>226</td>
</tr>
<tr>
<td>Research</td>
<td>227</td>
</tr>
</tbody>
</table>
## SUPPORT DEPARTMENTS

### College
- Medical Library 232
- Medical Education Unit 234
- Sultan Qaboos University Medical Journal 238

### Hospital
- Development & Quality Directorate 241
- Information System Directorate 245
- Medical Supply Directorate 248
- Patient Services Directorate 250
- Public Relations & Information Directorate 252
- Technical Affairs Directorate 255
- Training & Continuing Professional Development Directorate 266
- Finance Department 269
- Housing Department 270
- Medical Records Department 271
- Transport Department 273

## APPENDICES

### Appendix I
- Surgery, Clinical Disciplines, Radiology, Anatomy, Psychiatry and Laboratory Sciences 274

### Appendix II
- Curriculum Information 275
Dean's Message

It is my pleasure to present to you the report of the College of Medicine & Health Sciences and the Sultan Qaboos University Hospital for the calendar year 2012.

The College of Medicine was founded in 1986 and became the College of Medicine & Health Sciences (CoMHS) in 2002 when the Nursing Program was added. From the beginning, the College and the Sultan Qaboos University Hospital (SQUH) have recognised teaching, research, training and clinical and community services as their core responsibilities. They aim for the highest standards of achievement in the quality of their medical and health education and services, in research and in their contribution to Omani society. They also aspire to become a role model for other medical and health science colleges and health care institutions in Oman and abroad.

In 2012, the College had a total of 87 faculty members including 18 Professors, 22 Associate Professors and 29 Assistant Professors. The CoMHS has grown and diversified, with well-established programmes in the preclinical and clinical departments. Student intake is around 125 per year and the total student numbers around 1,100. The College runs an M.Sc programme in Biomedical Sciences and Ph.D. programmes are now approved in 8 study areas.

In 2012 the SQUH had 73 senior consultants and 73 consultants. It has had ISO 9001/2000 certification since 2005 and has introduced an electronic patient records system. SQUH and the CoMHS have state of the art laboratories and equipment.

Prof. Omar Al-Rawas

Dean
College of Medicine & Health Sciences
Sultan Qaboos University
Executive Summary

The College of Medicine & Health Sciences (COM&HS) and the University Hospital (SQUH) continue to expand and develop their educational and clinical mission. This report documents their activities and achievements during 2012.

Education

In 2012, the COM&HS admitted into the B.Sc. Health Sciences a total of 134 students of which 60% were female. Following successful completion of the B.Sc. Health Sciences degree, 26 students joined the clinical MD programme in September 2012. A major contribution towards the training of B.Sc. Medical Laboratory Sciences students is also among the responsibilities of the COM&HS and SQUH, of whom 16 graduated in 2012, all of them female.

The College of Medicine and the SQUH graduated a total of 134 medical doctors in 2012. A total of 73 students have now graduated from the College’s Master’s programme in Biomedical Sciences, 7 of them in 2012. There are currently 15 Ph.D. students. The number of SQU trained medical doctors joining the Oman Medical Specialty Board (OMSB) for postgraduate training, under the academic supervision of the COM&HS and SQUH, was 145 in 2012. These postgraduates joined 15 training programmes in different specialties. In this year the University also sponsored full scholarships for 8 Ph.D. students, a Master’s student and a Bachelor’s student for between 1–5 years of training abroad (locations are Sweden, UK, Canada and Australia) and a total of 3 returned to Oman after such training.

The College has continued to expand its e-learning system, with many departments making their teaching and course materials available on-line.

Research

In 2012, the College saw a major increase in research activity. It undertook 189 research projects (compared to 179 in 2010–11) to a total value of OR 3,105,203.90 (131% increase). In 2012, staff of the College published a total of 309 research articles and 9 book chapters. In the same period, College staff made a total of 301 conference and seminar presentations (compared to 280 in 2010–11). Of these, 38 were international conference platform presentations and 121 were international poster presentations (compared to 100 in 2010–11). Also 9 Ph.D., 20 Master’s and 14 Bachelor’s theses were supervised. The COM&HS and SQUH organised 8 major conferences and 21 seminars or workshops in 2012 (compared to 9 and 5 respectively in 2010–11).

Clinical Activity

By the end of 2012, the Hospital was opened at full capacity after the following developments:

- Significant development and increase in the different clinical specialties and services.
• Nine highly specialised doctors had returned from abroad while 9 scholars proceeded abroad for their studies in 2012.
• Continuous professional development policy was established for doctors in fellowship and training.
• Purchase, commissioning, and installation of different types of new equipment.

The Hospital has continued to maintain ISO by bi-annual external review. It is now in the process of being accredited by Canadian Accreditation International.

By the end of 2012, the SQUH staff had increased to 2,636 employees including 430 doctors, 1,139 nurses, 425 technicians and 662 administrative/support staff. This is a major increase compared to 2011.

Clinical activity at SQUH expanded in all areas. Outpatient visits were 121,482 compared to 118,454 in 2011 and inpatient admissions were 32,044 compared to 30,745 in 2011. The average length of stay increased to 5 days, almost the same as in 2011. The number of day care patients was 12,969 compared to 12,999 in the preceding year. Finally, newborn live deliveries showed an over 10% increase from 3,337 in 2011 to 3,697 in 2012.

Dr. Kamlesh Bhargava
Chairperson, Annual Report Committee & Senior Consultant, Department of Family Medicine & Public Health

Thanks are due for the preparation of this report to the following College staff:

Meriel Carboni, Vice-Chairperson & Editor Annual Report, Editorial Office, College of Medicine
Jumana Saleh, Committee Member, Department of Biochemistry
Asma Al-Siyabi, Coordinator, Office of Postgraduate Studies & Research
Joy Biruar, Technical Editor Annual Report, Editorial Office, College of Medicine
Natasha Smith, Assistant Editor Annual Report, Editorial Office, College of Medicine
College of Medicine & Health Sciences - Overview

College Administration

The College Administration is the focal point of activities between the various departments and the main University Administration. It consists of the Office of the Dean, the Director of Administration, three Assistant Deans (Preclinical, Clinical and Research & Postgraduate Studies).

The College Board met 9 times during the academic year 2012. The following key issues were addressed:

[1] An overview of Research in the College
[2] Establishment of Core Laboratory Facilities
[3] Enhancing faculty research and career development
[4] Examination conduct
[5] General Foundation Program
[7] Introduction of a Ph.D. Programme in the Clinical Departments of the College
[8] Knowledge-sharing Day on World Federation for Medical Education (WFME) Standards for accreditation
[9] Proposal for Admission Interviews to the College
[10] Proposal for Allied Health Sciences Programs
[12] Proposal for the establishment of a Medical Research Centre in the College
[13] Proposal to transfer the ownership of B.Sc. Medical Laboratory Sciences Degree Course from College of Science to College of Medicine, SQU
[14] Report of ad hoc Committee on Review of SQU Scholarships Bye-Laws as they affect MD Scholars
[15] Research and Postgraduate Retreat
[16] Research Cadre at Sultan Qaboos University
[17] Revised criteria for admission to College of Medicine
[18] Student Admission and Progression Regulations
[19] Superintendent Positions in the Colleges
[20] Working in College Laboratories after working hours
Staff

Dean
Dr. Yayha Al-Farsi, Acting Dean, (up to March 2012)
Prof. Omar Al-Rawas, (from March 2012)

Assistant Deans
Dr. Omar Habbal, Preclinical Affairs
Dr. Arunodaya Gujjar, Clinical Affairs
Prof. Badreldin Ali, Research & Postgraduate Studies
Dr. Yahya Al-Farsi, Training & Community Service

College Administration

Administration Office
Badriyah Al-Hashar, Director of Administration (up to July 2012)
Mohamed Al-Bulushi, (from August 2012)
Mahmoud Al-Abri, Deputy Director
Safaa Al-Harasy, Administrative Assistant
Zakiya Al-Omairi, Follow-up & Communications Officer
Ahmed Al-Saadi, Clerk
Bakar Al-Hinai, Storekeeper

Dean’s Office
Sagar Hussain, Executive Assistant
Aisha Al-Senaidi, Clerk
Aisha Al-Wardi, Clerk
Amal Al-Jassasi, Coordinator for Follow-up

Examinations Office
Alphonsus Okoro, Examinations Officer
Nasser Al-Mufarji, Coordinator

Preclinical Affairs
Zulfa Al-Busaidi, Student Affairs Officer
Muna Al-Alawi, Student Services Officer
Shabbir Patel, Coordinator
Turkiya Al-Amri, Coordinator

Clinical Affairs
Glorio Almeida, Coordinator, Clinical Affairs

Medical Internship Programme Office
Ahmed Al-Wahaibi, Administrator
Education Programmes

PRECLINICAL PROGRAMME – B.SC. HEALTH SCIENCES
This is a 4-year programme in general and basic medical sciences. The B.Sc. Health Sciences degree is awarded to students after successful completion of 120 credit hours at the end of semester 8. Students who wish to obtain the MD have to complete all course requirements for the B.Sc. Health Sciences before entering the clinical years. The student intake is around 120 per year. See http://www.squ.edu.om/medicine-health/tabid/2455/language/en-US/Default.aspx for details of the curriculum.

CLINICAL PROGRAMME
This is a 3-year clinical programme during which the knowledge acquired during the B.Sc. in Health Sciences degree is applied to the clinical practice of medicine. An MD degree is awarded upon completion of this programme. See http://www.squ.edu.om/medicine-health/tabid/2455/language/en-US/Default.aspx for an overview of the MD programme.

CLINICAL ELECTIVE PROGRAMME
An 8-week Elective Placement Programme is part of the second year of the Clinical Programme and is essential as one of the requirements to qualify for the MD degree. The programme provides students with an opportunity to gain more experience and skills through working in a different environment mainly in a foreign country. This programme is sponsored by the University and different organisations nationally and internationally.

INTERNSHIP TRAINING PROGRAMME
This consists of 3 rotations of 4 months each in General Medicine, Surgery and either Child Health or Obstetrics/Gynaecology in hospitals approved for the purpose by the College of Medicine & Health Sciences. The programme involves not only SQU graduates but those of other medical programmes in Oman, and Omani medical graduates from institute abroad. Approximately 230 graduates take part in this programme each year.
POSTGRADUATE STUDIES
The College introduced a two-year Masters Programme in Biomedical Sciences in 2001. It has the following 8 specialisations: Biochemistry and Molecular Biology; Clinical Biochemistry; Clinical Pharmacy; Medical Microbiology; Epidemiology & Medical Statistics; Physiology; Radiology & Molecular Imaging, and Human & Clinical Anatomy.

The College now offers the following 8 Ph.D. programmes: Biochemistry & Molecular Biology; Medical Microbiology & Immunology; Epidemiology & Medical Statistics; Genetics; Pharmacology & Clinical Pharmacy; Physiology; Human & Clinical Anatomy, and Radiology & Molecular Imaging.

The Oman Medical Specialty Board (OMSB) was established in June 1994 and became an independent entity in November 2006. Its role is to train high calibre and internationally recognised Omani medical specialists in diverse disciplines. These specialists are to provide leadership in clinical, research and service endeavours and also boost the manpower resources of the Sultanate thus making an important contribution towards translating national health policies into reality.

The OMSB has representatives from the University, the Ministry of Health and the medical services of the Sultan’s Armed Forces and the Royal Omani Police. It supervises and coordinates postgraduate training programmes as well as providing guidelines to ensure that the training meets international standards. Specialty committees staffed by highly experienced professionals run these programmes on a day-to-day basis.

The OMSB Office sources overseas postgraduate residency placements, particularly in North American universities, Australia and the UK. Residents who have received residency and postgraduate training abroad are required to return to Oman to strengthen the country’s manpower development efforts by focusing on the training of junior colleagues and students.
Sultan Qaboos University Hospital - Overview

Sultan Qaboos University Hospital (SQUH), with a total of 675 beds, is the only teaching hospital in Oman. It currently has 661 of its beds in use with 89 beds in ambulatory areas such as day care and Emergency. The goals of SQUH are to provide teaching, research and high quality patient-centered care in an environment that supports continuous improvement.

During 2012, a number of developmental activities took place in SQUH. It is worthy of note that the renal transplantation service continued to provide patients with quality service. A total of 5 kidney transplants were done in 2012, as well as 28 bone marrow transplants. A total of 121,482 outpatients and 32,044 in-patients were seen in the course of 2012. The staff strength at the end of 2012 stood at 2,636 employees: 430 doctors, 1,139 nurses, 425 technical staff and 662 administrative/support staff.

HOSPITAL MANAGEMENT
The Hospital Management embraces the senior leadership of all the units in the hospital administration. The Hospital Director-General, Deputy Director-General (Clinical Affairs) and Deputy Director-General (Nursing Affairs) together with the Heads of Clinical Departments hold a monthly Medical Advisory Committee (MAC) meeting. The MAC, with representatives from all clinical departments, serves as a focal point for continued improvement of care, and reports to every meeting of the Hospital Board.

Similarly, the Hospital Board comprises of the top management team of the hospital and some senior doctors in the hospital, chaired by the Dean of the College of Medicine & Health Sciences, meets monthly during the academic year. Through the recurrent agenda items from the Hospital Director-General’s office, the members are kept informed about important matters in hospital management and developments in patient-related activities.

During 2012, much discussion was devoted to accommodating the significant increase in patient flow and the maintenance of standards of research, teaching and service in the face of continued budget constraints.

Staff
Dr. Ahmed Al-Mandhari, Hospital Director-General
Dr. Hilal Al-Sabti, Deputy Director-General (Clinical Affairs)
Mr. Ahmed Al-Kindi, Deputy Director-General (Admin. & Finance)
Ms. Shinoona Al-Harthi, Acting Deputy Director (Nursing Affairs)

DEVELOPMENTAL ACTIVITIES
SQUH is continuing the process of development and growth in order to fulfill its main aims, which are health education, research and clinical services. Furthermore, SQUH plays a significant role in the community and the Hospital Management is committed to providing high quality care services in collaboration with the College of Medicine & Health Sciences with the continued support of the University Administration.
PIONEER IN HEALTH CARE SERVICES

By the end of 2012, the Hospital was opened at full capacity after the following developments:

- Significant development and increase in the different clinical specialties and services.
- Nine highly specialised doctors had returned from abroad while 9 scholars proceeded abroad for their studies in 2012.
- Continuous professional development policy was established for doctors in fellowship and training.
- Purchase, commissioning, and installation of different types of new equipment such as:
  - Portable Heart Lung Machine
  - Visual Acuity Device
  - Nebulizer for the Cardiac Intensive Care Unit
  - Non-Invasive Cardiac Support Pump
  - High Resolution Manometry System
  - Ophthalmic Microscope for the Operating Theatre
  - Ambulatory PH Monitor
  - Cholangioscopy System

QUALIFIED HUMAN RESOURCES

The Hospital Management believes in the training of Omani professionals abroad in order to achieve the goals of SQUH. Therefore, 5–10 physicians are sent abroad yearly for higher education and fellowship training, making a total of over 100 doctors already sent to Canada, USA, Australia and UK. Three of these returned in 2011 and 9 in 2012. Also, SQUH has established and completed the CPD system for continuous professional development.

RECOGNITION

SQUH continued to be recognised as a centre of excellence by visiting experts and through receiving invitations from other health organisations in the community to conduct symposia and lectures in order to enhance the level of education services in other institutions. SQUH has continued to maintain ISO accreditation by bi-annual external review. Striving for better quality, the hospital decided to pursue accreditation by inviting Canadian Accreditation International to assess and implement the Canadian accreditation system.

WORK IN PROGRESS

Based on SQUH’s aims and vision, the Hospital Development Committee plans to develop/update the current services through the following projects already approved by the Hospital Board:

- Theatres/Radiology Extension
- Haematology Centre (6 floors)
Overview

- Emergency Department Extension
- Administration Building
- Extensions to the Intensive Care Unit (ICU), and Cardiac and Paediatric ICUs (20–40 beds)
- Extension to the Central Sterile Supplies Department
- Renal Dialysis Unit
- Outpatient Department Building plus Day Care Unit

**FUTURE DEVELOPMENT**

- Laboratory Building Extension
- Postgraduate Centre
- Seminar Rooms, Offices and On-call Rooms Complex
- Staff Residential Building
- Multi-Storey Car Park

**Clinical Activities**

The increase in patient activities over the years has relied on a strong commitment by all the medical, nursing, technical and administrative staff. The Hospital Management would like to acknowledge all their efforts towards continuous improvement. Such developments are unattainable without proper in-house and external training which has witnessed yet further improvement during the year 2012.

The role of SQUH as a major Omani health service provider continued in this period with a total of 121,482 outpatients and over 32,044 inpatients seen during the year. A total of 28 bone marrow transplants were also done as against 29 in 2011. The slight decrease was due to the fact that patients with more complicated conditions have longer hospital stays.

The number of day care patients in 2012 was 12,969 compared to 12,999 in 2011. The use of day care reflects a healthy trend as the encouragement of ambulatory care results in considerable savings in the cost of delivery as well as improved quality.

Inpatient admissions increased still further in 2012 to 32,044 surpassing the previous year’s figure of 30,675 (increase of 4.5%). The average length of inpatient stay in 2012 was 5 days, which was almost the same figure recorded in the previous year, i.e. 4.9 days.

Finally, newborn live deliveries stood at 3,697, comprising of 1,824 males, 1,873 females. This figure included 50 twins and 4 triplets. This was an increase of 10.8% over the 2011 figure of 3,337 total deliveries.
The Department of Anaesthesia, Intensive Care Unit & Pain Management is a dynamic and very productive department of Sultan Qaboos University Hospital (SQUH). Our key roles are in the operating theatre, anaesthetising patients for all surgical specialties and subspecialties and in the Intensive Care Unit, managing critically ill patients. The Department provides 24-hour elective and emergency anaesthesia services to the entire hospital, including referrals from other health institutions. We manage a 25-bed Intensive Care Unit. We are also involved in inserting venous access devices, both implantable and percutaneous, to patients from various clinical departments. Pain management is also part of departmental functions with acute and chronic pain management services. Cardiopulmonary resuscitation is a significant function of this Department and now cardiothoracic anaesthesia has also been added. The Department forms a solid part of SQUH Trauma and Disaster Management services.

The Pre-anaesthesia Assessment Clinic (PAC) has been fully functional since March 2009 and is open 5 days a week. Patients who have to undergo surgery are assessed here for surgical fitness at the Outpatient Department (OPD) level. This was initiated with the main aim of reducing in-patient cancellations—a key factor in improving hospital efficiency.
Staff

Acting Head of Department
Amarnath Shetty, Consultant

Deputy Head of Department
Mohammed Al-Ismaili, Consultant

Faculty
Karin Nollain, Senior Consultant
Suresh Chengode, Senior Consultant
Ram Narayan Rao, Consultant
Sinnakirouchenan, Consultant
Rajini Kausalya, Senior Consultant
Ali Al-Abady, Consultant
Nasser Al-Kemyani, Consultant
Intisar Al-Macki, Registrar
Jaswinder Sharma, Consultant
Binoy Zachariah, Senior Registrar
Rahul Shabadi, Senior Registrar
Pradeep K. Sharma, Senior Registrar
Jyoti Burad, Senior Registrar
Devaraj N. Dyamanna, Senior Registrar
Aravind Narayanan, Senior Registrar
Hatem Abd El Ghany, Registrar
Sanath Kumar, Senior Registrar
Rohit Date, Senior Registrar
Hussein Hamdan, Registrar
Chander Lal, Registrar
Nisha John, Registrar
Babji Kalapati, Registrar
Ajai K. Arora, Registrar
Pardeep Kumar, Registrar
Sonali Deoskar, Registrar
Abdur R. Abid, Registrar
Wael Riad, Registrar
Mohammed Hatab, Registrar
Sheebu PA, Registrar
Darsana Rathode, Registrar
Zahra G. Ahmed, Registrar
Nigel Kuriakose, Senior House Officer

Support Staff
Leena Chacko, Coordinator
Ibrahim Al-Farsi, Coordinator

Technicians
Mohammed Al-Badi, Technician
Maheswariamma, Technician
Bipin Aravind, Respiratory Therapist
Kingsly Prabhkaran, Respiratory Therapist
Sathyanarayan P. Bai, Respiratory Therapist
Anil Kalarickal, Respiratory Therapist
Jayachandiran, Respiratory Therapist
Praisemabel, Respiratory Therapist
Midhun Mohan, Respiratory Therapist
Carlos Gatdula, Respiratory Therapist

Highlights of the Year 2012

TRAINING PROVIDED
The Department organised a workshop on Ultrasound in Regional Anaesthesia in March 2012. It was facilitated entirely by the Anaesthesia faculty of SQUH. The response was positive and the workshop very successful.

Dr. Rajini Kausalya was an invited speaker for the International Quality & Risk Management Conferences. Dr. Rajini Kausalya and Dr. Sinnakirouchenan facilitated the workshop on Ultrasound-Guided Regional Anaesthesia along with the New York School of Regional Anesthesia (NYSORA) in Nairobi, Kenya.

NEW SERVICES
The service of ultrasound-guided peripheral nerve blocks is functioning very well and we are performing more than 500 blocks in one year. This has revolutionised the practise of regional anaesthesia. The Department is
proud to have introduced the new service of performing peripheral nerve blocks and vascular access under ultrasound guidance.

NEW MACHINERY
The new ultrasound machine, which incorporates the latest in portable ultrasound technology for clinical applications, has been of great help and has made it possible for this latest service to be initiated in the Department. This machine is being effectively put to use in the Intensive Care Unit for haemodynamic measurements and transthoracic echocardiograms.

NEW SUB-SPECIALTY
The sub-specialties of Neuroanaesthesia and Paediatric Anaesthesia are functioning well. In paediatric anaesthesia, we are doing several procedures even on extremely preterm babies and some of them are being done for the first time in Oman.

Teaching Programmes

JUNIOR CLERKSHIP PROGRAMME
During the one-week Anaesthesia rotation during the Junior Clerkship programme, students participate in the Department’s clinical activities and we teach topics relevant to critical and acute care of patients. The students are given ‘hands-on’ experience, on both manikins as well as patients, under the close supervision of anaesthesiologists. This is in order to witness and learn airway management, endotracheal intubation, intravenous cannulation, fluid management and monitoring of the anaesthetised patient. The tutorials are aimed at making the student understand the use of airway adjuncts, respiratory equipment, central venous and arterial cannulation, regional blocks, and drugs used in anaesthesia and cardiopulmonary resuscitation. The main topics of these lectures are: pre-anaesthetic evaluation; management of patients under anaesthesia; postoperative pain relief; the pharmacology of anaesthetic drugs; acid base and electrolyte disorders, and hypovolemic shock.

UNDERGRADUATE CLINICAL PROGRAMME – NEW CURRICULUM
The department is involved in Integrated Module, Pre-clerkship, Junior Clerkship and Senior Clerkship teaching. In Junior Clerkship, students come to us for the Anaesthesia Rotation and in Senior Clerkship we teach the ICU rotation.

POSTGRADUATE PROGRAMME

Oman Medical Specialty Board (OMSB)
A 4-year residency programme in anaesthesia was started in September 2007 under the OMSB. Two residents were enrolled in this programme. An exit examination is planned at the end of 4 years. After successful completion, the residents would do a further year of specialised training. The Department is actively involved in teaching the residents in the Anaesthesia programme, evaluating and assessing them on a regular basis.
Training Courses & CME Activities
The Department is actively involved in the teaching of training courses organised by the SQUH Directorate of Training and CPD. These include the Advanced Cardiac Life Support (ACLS) provider course; the ACLS Recertification course, the Basic Life Support (BLS) provider course; the BLS Recertification course, and the Central Venous Access Device course. Every Sunday there is a CME session in the Department covering topics of recent interest in anaesthesia and intensive care. Doctors of the Department present interesting topics for professional development and update the staff. Residents are encouraged to attend. Members of the Department are also part of the Oman Society for Anaesthesia & Critical Care (OSAAC) which is involved in regular CME activities and scientific sessions. Dr. Rajini Kausalya from the department is now part of the faculty of the Advanced Trauma Life Support in Oman course.

Clinical & Diagnostic Services
A total of 6,668 anaesthetic procedures were carried out in 2012 compared to 5,591 in 2011 (an increase of over 19%) and 4,761 in 2010. In 2012, a total of 4,575 elective cases were carried out as well as 2,093 emergency cases.

Figure 1: Anaesthesia Statistics 2012
RESEARCH

RESEARCH PROJECTS

Comparison of conventional and ultrasound-guided techniques for radial artery cannulation to find out a better technique in terms of number of attempts, ease of insertion, and time taken in various sub-groups of patients with different hemodynamic status

<table>
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<th>Project Code: MREC #644</th>
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<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Jyoti Burad, Dept. Anaesthesia &amp; ICU, SQU.</td>
</tr>
</tbody>
</table>

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


CONFERENCE & SEMINAR PRESENTATIONS

POSTER PRESENTATIONS

International

1. **Tawfic QA, Kausalya R, Sabri A.** The role of Ketamine in Sickle Cell pain. 31st Congress European Society of Regional Anaesthesia and Pain Medicine, Bordeaux, France, Sep 2012.


The Department of Behavioural Medicine strives, as an academic and clinical department, for excellence in learning, teaching and research, and to be the flagship department in its field in Oman and the region. ‘Behavioural’ in the context of medicine is defined here as all the disciplines that explore ‘behaviour’. Therefore, behavioural medicine is a scientific discipline, such as sociology, anthropology, or psychology, in which the actions and reactions of humans (and animals) are studied in order to appreciate the biological, social and cultural aspects of illness and wellbeing in the context of Oman. There is ample evidence to suggest that most illnesses, whether physical or psychiatric, are invariably influenced by biology, psychological and social factors and so this biopsychosocial approach is necessary. In this context, in the approach to learning, teaching and research, efforts are made to determine how biopsychosocial factors are central to the predisposition, onset, course and outcome of most disorders.

Whilst communicable diseases continue to be a source of attrition in a country like Oman, there is also the ‘silent epidemic’ of non-communicable diseases, often precipitated and exacerbated by an individual’s behaviour and lifestyle which can result in serious distress and often fatal diseases. Research in the Department has specifically focused on the psychosocial determinants of health and ill-health since biological sciences alone are not sufficient in the prevention of and intervention in matters related to disease. This has led Department researchers to establish cultural variations as a pillar of establishing psychological services in Oman. Research coming from this Department indicates that the incidence of psychological distress in Oman is common, with some minor differences in the incidence of the types of reaction.
We have come a long way since the time when the relevance of behavioural input in medical science was considered to be a ‘luxury’ only affordable in the industrialised part of the world. Now the question is not how relevant behavioural medicine is for Oman, but how Oman is implementing behavioural medicine in its healthcare infrastructure. Given the rising magnitude of non-communicable diseases, there is immense relevance in a scientific approach to the study of human behaviour.

Staff

Head of Department
Samir Al-Adawi, Professor

Faculty
Ala’Aldin Al-Hussaini, Professor
Ziad A. J. Zaidan, Associate Professor
Marwan Al-Sharbati, Associate Professor
Harith Ghassany, Assistant Professor
Rodger Martin, Senior Consultant
Ather S. Jafri, Senior Consultant
Amre El Guenedi, Consultant
Hamed Al-Sinawi, Consultant
Ahmed S. Amer, Senior Registrar
Yousif A. Obeid, Senior Registrar
Aziz Al-Naamani, Registrar
Nonna Viernes, Registrar
Amaal Ambusaidi, Registrar
Amira Al-Hosni, Registrar
Ibrahim Elzein, Senior House Officer
Zena M. Al-Sharbati, Clinical Psychologist
Samira Al-Hamdan, Psychologist
Salwa Al-Redha, Psychologist
Abdullah Al-Sulaimani, Social Worker
Ahmed Al-Salmi, Social Worker
Khamis Al-Balushi, Social Worker
Khoula Al-Wahaibi, Social Worker
Younis Al-Hashim, Social Worker

Support Staff
Ravindran Kozhapatil, Coordinator
Govindan Mundayadan, Coordinator

Highlights of the Year 2012
As in previous years, the year 2012 witnessed enormous growth and expansion in the Department. The psychiatric residency programme witnessed yet another year of substantial development. In line with changes in medical education, the Department has been instrumental in embracing the new curriculum with its integrated approach to teaching. This approach has been shown to be in the vanguard for the much needed holistic approach in learning medical skills.

The Department has been active in local and international research collaborations and published a number of papers on various aspects of health trends in Oman. For this particular period, a number of publications have emerged from the department on issues pertinent to child and adolescent emotional, cognitive and behavioural functioning. These timely studies fulfil a much needed database for the welfare of ‘tomorrow’s people in Oman, as the bulk of its population are either children or adolescents. Such a database is expected to provide an enlightened view to safeguard their development.

Road traffic safety is increasingly recognised as the ‘enemy’ of healthcare in Oman as many people are either maimed or killed in road accidents in Oman. In response to such challenges, the Department has secured a grant in collaboration with others to examine biopsychosocial issues that contribute to the prevailing epidemic of road mishaps. Some preliminary data, as well as a Ph.D. project, have been completed in order to lay the groundwork for evidence-based good practice to mitigating road traffic accidents and their aftermath in Oman.

As a testimony to its international stature, the Department has duly participated in the Classification of Mental and Behavioural Disorders in Arab Countries and the
World Health Organization Expert Consultation Group on Feeding and Eating Disorders in order to shape the content of forthcoming International Classification of Diseases, ICD-11.

The Department has been instrumental in the Anti-Stigma Campaign, known as ‘ALL FOR ONE’, at the national level in order to eradicate the social stigma associated with people with compromised cognitive and emotional functioning. Along with such initiative, the Aging and Dementia Research Group was formed in order to advance research on Alzheimer’s and dementia as well as provide a venue to contemplate care for those living with the disease and self-help groups for caregivers.

**Teaching Programmes**

The main thrust of the Department’s teaching approach is to equip future Omani doctors with the ability to prevent, diagnose and treat various mental illnesses in the community at large and to expose our students to the empirical evidence that distress, disease and treatment are experienced in the context of cultural and social processes, as well as to introduce the idea of integrating mental health in primary care. The academic component includes a regular seminar on the therapeutic skills of teaching and consultation; teaching on current issues in psychiatry; developmental psychology; psychological assessments; personality; bereavement; cross-cultural psychiatry; clinical clerkship in psychiatry; teaching psychiatry residents; teaching liaison psychiatry in hospital; clinical OPDs; ward rounds and ward work; the new liaison psychiatry service; eclectic approaches to psychological intervention, and behavioural medicine. To keep abreast with the development of psychiatry elsewhere, a regular Journal Club is held. External speakers are also part and parcel of this endeavour.

**DEVELOPMENT OF THE NEW MEDICAL CURRICULUM**

The Department has been active in developing its new curriculum for the new medical degree programme. Behavioural medicine lectures, tutorials and seminars are now fully integrated into the pre-clinical system modules of Phases 1 and 2 and the integrated modules. The Phase 3 clinical curriculum for behavioural medicine is being developed. Its primary focus is on the pre-clerkship and junior clerkship training although it will be a contributing theme throughout the senior clerkship and junior internship phases. The Department will be contributing specific lectures, case studies and training in the pre-clerkship stage on the topics of clinical assessment (young people, working adults and older adults); vulnerability for mental health (genetic versus environmental influences); models of stress and coping, and health psychology and chronic illness management. In liaison with other College departments, teaching is provided on specific clinical communication skills (e.g. working with psychotic patients) and clinical ethics (e.g. confidentiality and suicide management). The junior clerkship stage will focus on the advanced training of medical students in the clinical application of the basic skills learned within the pre-clerkship stage giving them clinical exposure to a wide range of psychiatric conditions and their medical and psychotherapeutic treatment.

**POSTGRADUATE PROGRAMME**

The Department continued in this period to train Family & Community Medicine residents and contributed to revising programmes for the examination for Membership of the Royal College of General Practitioners (MRCGP), the Arab Board of Psychiatry and the Oman Medical Specialty Board (OMSB) residency training programmes (including writing the curriculum, preparing for examinations and writing their programmes).
Training Courses & CME Activities

The Department conducted a number of workshops on various aspects of stress and coping; the psychology of chronic disease management; research methodology, and issues pertinent to social medicine.

Clinical & Diagnostic Services

On the hospital side, the combination of referrals from all part of Oman and prompt service delivery put the Department in the vanguard of psychiatric services in the country. The Department is one of the few in Oman which provides for specialist tertiary referrals. It has a multidisciplinary team approach designed for optimum treatment of patients and training of medical students. The Department has a support staff of psychologists, nurses, social workers and other clinicians.

The Department strives to offer comprehensive liaison psychiatry with other branches of medicine as well as psychosocial intervention and various social work services with its fully-functioning team of psychiatrists, psychologists and social workers. The Department offers unique clinical and diagnostic services—including a wide range of assessments relevant for the diagnosis of cognitive disorders, and personality testing. The assessments provided by our staff employ specialised testing procedures to integrate medical, neurological and behavioural data with the findings in order to answer any of a number of referral questions. Referrals to our services typically consist of, but are not limited to, questions concerning: a) differential diagnoses between functional and organic syndromes (e.g. depression versus dementia); b) the delineation of spared and impaired cognitive functions secondary to central nervous system dysfunction; c) the establishment of behavioural baseline measures to monitor the recovery or progression of central nervous system dysfunction; d) the comparison of pre- and post-pharmacological states, surgical, and behavioural interventions; e) the assessment of cognitive/behavioural functions for the formulation of rehabilitation, management strategies, and/or educational or employment placement, and f) the evaluation of neurocognitive status for the purpose of tests for disability, compensation and liability determinations. One of the new developments in this regard was the establishment, from September 2010, of an Old Age Psychiatry service. It provides services for the increasing ageing population in Oman. The major undertaking is to develop cognitive testing for the elderly population in Oman as well as to liaise with nuclear medicine and radiology to obtain neuro-imaging data.

Figure 1: Statistics Inpatients & Outpatients Clinic 2009–2011.
Research

RESEARCH PROJECTS

Effect of dietary supplementation of fruits grown in Oman on cognitive decline in Alzheimer’s dementia, mild cognitive impairment, vascular cognitive impairment and traumatic brain injury

Project Code: RC/AGR/FOOD/11/01  Dates: May 2011
Value: OR 300,000  Project Funder: The Research Council Oman
Investigators: Dr. Mohamed Essa, Dept. Food Science & Human Nutrition, SQU; Dr. Samir Al-Adawi, Dept. Behavioural Medicine, SQU.

Internet addiction in a sample of secondary and university Omani students

Value: OR 82,000  Project Funder: The Research Council
Investigators: Prof. Abdelmajid Bouazza, Dept. Information Studies, College of Arts, SQU; Dr. Marwan Al Sharbati, Dept. Behavioural Medicine, SQU.

A study of the nutritional and metabolic factors contributing to the occurrence of autistic spectrum disorder among children in the Sultanate of Oman

Project Code: IG/AGR/FOOD/10/01  Dates: January 2010–2013
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Dr. Mostafa Waly, Dept. Food Science & Nutrition, College of Agriculture & Marine Sciences, SQU; Dr. Marwan Al Sharbati, Dept. of Behavioural Medicine, SQU.

The effect of cultural differences between mental health clinicians and minority geriatric groups on the time spent in outpatient clinics

Project Code: MREC #601  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator: Prof. Samir Al Adawi, Dept. Behavioural Medicine, SQU.

Attitude of Sultan Qaboos University clinical students towards psychiatry

Project Code: MREC #566  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator: Dr. Hamed Al-Sinawi, Dept. Behavioral Medicine, SQU.
First episodes of psychosis admitted to Sultan Qaboos University, Psychiatry Department: Presenting symptoms by using ICD 10 DSM-IV definitions - Imaging study of these drug-naïve psychotic patients

Project Code: MREC #574  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator: Dr. Ziad Zaidan, Dept. Behavioral Medicine, SQU.

Burnout, perceived stress and coping style among nurses working at SQUH

Project Code: MREC #602  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator: Dr. Hamad Al-Sinawi, Dept. Behavioral Medicine, SQU.

Relationship between Depression Anxiety Stress Scale (DASS) and urinary hydroxyl proline and proline concentration among students and staff in higher learning centers in Oman

Project Code: MREC #638  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Prof. Samir Al-Adawi, Dept. Behavioral Medicine, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


BOOKS & BOOK CHAPTERS


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

National


**Poster Presentations**

*International*


**Seminar Presentations**

*National*


3. **Al-Sharbati M,** et al. Accepting Difference: Autism in Oman. SCRAPS, College of Medicine & Health Sciences, Sultan Qaboos University, Muscat, Oman, 18 Apr 2012.

### THESIS SUPERVISION

<table>
<thead>
<tr>
<th>Student name</th>
<th>Qualification</th>
<th>Title</th>
<th>Supervisor</th>
<th>Date of completion</th>
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</thead>
<tbody>
<tr>
<td>Maha Al-Khalili</td>
<td>M.Sc.</td>
<td>Nutritional factors in autism</td>
<td>Dr. Marwan Al-Sharbati</td>
<td>On-going</td>
</tr>
<tr>
<td>Samia Al-Fahdi</td>
<td>M.Sc.</td>
<td>The clinical correlate of autism in Oman</td>
<td>Dr. Marwan Al-Sharbati</td>
<td>On-going</td>
</tr>
<tr>
<td>Dr. Aziz Al-Naamani</td>
<td>Ph.D.</td>
<td>Neuropsychiatric syndrome in Oman among the victims of acquired brain injuries</td>
<td>Prof. Samir Al-Adawi</td>
<td>On-going</td>
</tr>
<tr>
<td>Tayyiba Almarri</td>
<td>Ph.D.</td>
<td>Investigating alcohol consumption patterns, associated cognitions &amp; behaviors of Arab nationals living in the Arabian Gulf countries</td>
<td>Prof. Samir Al-Adawi</td>
<td>On-going</td>
</tr>
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</table>
The mission of the Biochemistry Department is to maintain excellence in service, teaching and research. Biochemistry is involved in both pre-clinical and clinical teaching. In the pre-clinical years, teaching concentrates mainly on basic principles of biochemistry and metabolism. Teaching in the clinical years is devoted to clinical chemistry, including interpretation of biochemical data on patients. The Department is also engaged in teaching biochemistry to medical laboratory science undergraduates; biochemistry to nursing students, and offers a graduate programme leading to M.Sc and Ph.D. degrees in biochemistry. The Department also actively participates in the postgraduate training of doctors under the umbrella of the Oman Medical Specialty Board.

The Department’s research interests cover diverse aspects of biochemistry, as well as structural and molecular biology. Research focuses around the development of biochemical tests for detecting mutations and mapping various monogenic and polygenic disorders including hypertension, diabetes, deafness and hyperlipidemias.

The Department also provides a clinical biochemistry service to Sultan Qaboos University Hospital (SQUH) on a 24-hour basis and serves as a referral laboratory for hospitals all over the Sultanate. A total of 21 biomedical scientists serve the Department at SQUH.
Staff

Head of Department
Riad Bayoumi, Professor

Faculty
Nadia Al-Wardy, Associate Professor
Jumana Saleh, Associate Professor
Hamza Babiker, Associate Professor
Clifford Abiaka, Assistant Professor
Marit Delghandi, Assistant Professor
Yahya Tamimi, Assistant Professor
Yajnavalka Banerjee, Assistant Professor
Fahad Al-Zadjali, Assistant Professor
Khalid Al-Rassadi, Senior Consultant
Nafila Al-Riyami, Consultant
Khalid Al-Waili, Consultant
Maha Al-Riyami, Lecturer
Amani Al-Khaifi, Lecturer
Arwa Al-Kindi, Demonstrator

Support Staff
Mohammed Al-Kindi, Superintendent (College)
Halima Adnan, Superintendent (Clinical)
Mater Al-Maney, Chief Biomedical Scientist (Clinical)
Adil Al-Wahaibi, Chief Biomedical Scientist (Clinical)
Younis Al-Musafir, Senior Biomedical Scientist (Clinical)
Romulo Cipriano, Senior Biomedical Scientist (Clinical)
Suleiman Al-Riyami, Senior Biomedical Scientist (Clinical)
Hamed Al-Riyami, Senior Biomedical Scientist (Clinical)
Sameera Al-Harassy, Senior Biomedical Scientist (Clinical)
Hameeda Al-Barwani, Senior Biomedical Scientist (College)
Abdulrahim Al-Abri, Biomedical Scientist (College)
Sana Hasari, Biomedical Scientist (College)
Khalsa Al-Lamki (College)
Zainab Al-Hashami (College)
Hala Al-Baadi, (College)
Taruna Dutt, Coordinator (College)
Marina Bendecio, Coordinator (Clinical)

Highlights of the Year 2012
Dr. Fahad Al-Zadjali joined the Department after completing his Ph.D. at Karolinska University, Sweden. Ms. Maha Al-Riyami and Ms. Amani Al-Khaifi were both granted scholarships to study for Ph.D.s. Ms. Arwa Al-Kindi was granted a scholarship to study for a Master’s degree. Mr. Mohammed Al-Tobi was awarded a His Majesty’s Scholarship grant to study for a Ph.D. Dr. Khalid Al-Rassadi was promoted to Senior Consultant. Mr. Mohammed Al-Kindi was promoted to Superintendent and replaced Dr. George Khaukha. Ms. Khalsa Al-Lamki, Ms. Zainab Al-Hashami and Ms. Hala Al-Baadi joined the Department as Biomedical Scientists.

Teaching Programmes

UNDERGRADUATE MEDICAL PROGRAMME
The Department teaches biochemistry in the new MD curriculum on the following courses: Molecular Biology & Introductory Genetics, and Enzymology & Metabolism. The Department also participates in various system courses like the Hematopoietic System, Endocrine System, Respiratory System, Tissues, Urinary System, 7th year clinical rotations, the Integrated Lecture Series, and the student Research Projects.

B.SC. MEDICAL LABORATORY SCIENCES (MLS)
The Department is teaching 4 courses in the MLS degree in Semesters 6 through 10. They are: Molecular Diagnostics; Systems Pathophysiology; Investigations of Endocrine Diseases; Advanced Clinical Chemistry and Laboratory Operations.
**NURSING DEGREE**
The Department of Biochemistry is offering one course in Biochemistry for Nursing students.

**POSTGRADUATE PROGRAMMES**
In the postgraduate programme, the Department offers the following 4 courses: Biochemical Basis of Disease; Instrumentation and Biochemical Techniques; Molecular Biology, and Methodology in Clinical Biochemistry. During 2011/2012, the Department had 11 students registered for an M.Sc. degree and 5 students studying for their Ph.D.

**Clinical & Diagnostic Services**

**SERVICE PROVISION**
The Department of Clinical Biochemistry provides a wide range of routine and specialised investigations. Some of the specialised tests such as neonatal screening for inborn errors of metabolism are unique in Oman and hence the Department offers a referral laboratory service for such investigations. Service is provided to SQUH on a 24-hour basis. The number of tests performed from January to December 2012 was 1,493,199.

The Clinical Biochemistry Department also manages the Commercial Laboratory Services offered to some selected hospitals within the private sector, e.g. Muscat Private Hospital, Badar Al-Samaa Polyclinic and Hatat Polyclinic.

**NEW TESTS**
The Serum Tobramycin and Urine Metanephrines assays have been introduced in the laboratory.

![Figure 1: Clinical Biochemistry Diagnostic Services 2005–2012.](image)
EXPANSION OF THE METABOLIC SERVICES
The Department has acquired the following new equipment in order to improve the metabolic service and provide the associated tests locally: 1) High performance liquid chromatography (HPLC) for plasma/urine amino acids analysis; 2) Tandem mass spectrometry (TMS) for screening for acylcarnitine and amino acids on dried blood spots, and 3) a DELFIA system for the assay of some metabolic disorders; this includes biotinidase, total galactose, GALT and 17-OH progesterone assays.

POINT OF CARE TESTING (POCT)
The Department maintains the quality assurance of the blood gas analysers outside the laboratory, i.e. in the Emergency Medicine Department, the operating theatre, and Intensive Care and Neonatal units.

Research
RESEARCH PROJECTS

The clinical and genetic characterisation of type-2 diabetes mellitus in Omanis
Value: OR 87,300  Project Funder: The Research Council Oman
Investigators: Prof. Riad Bayoumi, Dept. Biochemistry, SQU; Prof. Mohammed Hassan, Dept. Physio-
ology, SQU; Dr. Sulayma Al-Barwani, Dept. Physiology, SQU; Prof. Nicolas Woodhouse, Dept. Medicine, SQU; Dr. Omayma El-Shafie, Dept. Medicine, SQUH; Dr. Mohammed Al-Shafaee, Dept. Family Medicine & Public Health, SQU.

The analysis of SCN5A as a candidate gene for heart pacemaker control in Oman Family Study
Project Code: IG/MED/BIOC/12/02  Dates: 2012–2013
Value: OR 4,736  Project Funder: SQU
Investigators: Dr. Marit P. Delghandi, Dept. Biochemistry, SQU; Prof. Riad Bayoumi, Dept. Biochem-
istry, SQU; Dr. Sulayma Al-Barwani, Dept. Physiology, SQU; Prof. Mohammed O. Hassan, Dept. Physiology, SQU.

Searching for the origin of human lactase persistence in the Southern part of the Arabian Peninsula
Value: OR 13,100  Project Funder: SQU
Investigators: Prof. Riad Bayoumi, Dept. Biochemistry, SQU.
A study of the effects of pregnancy-related thyroid autoimmunity and oxidative stress in Omani women from conception to parturition

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<tr>
<td>Value: OR 7,000</td>
<td>Project Funder: SQU</td>
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<tr>
<td>Investigators:</td>
<td>Dr. Clifford Abiaka, Dept. Biochemistry, SQU; Dr. Lovina Machado, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
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Lipids of minor physiological abundance as modulators of thrombin generation.

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<tr>
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<tr>
<td>Investigators:</td>
<td>Dr. Yajnavalka Banerjee, Dept. Biochemistry, SQU; Prof. Riad Bayoumi, Dept. Biochemistry, SQU; Dr. Jumana Saleh, Dept. Biochemistry, SQU; Dr. Khalid Al-Rasadi, Dept. Biochemistry, SQU.</td>
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Identification and characterisation of novel pharmacologically active proteins from the venoms of snakes native to the sultanate of Oman

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<tr>
<td>Value: OR 13,600</td>
<td>Project Funder: SQU</td>
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<tr>
<td>Investigators:</td>
<td>Dr. Yajnavalka Banerjee, Dept. Biochemistry, SQU; Prof. Riad Bayoumi, Dept. Biochemistry, SQU; Dr Khalil Al-Farsi, Dept. Haematology, SQU; Mr Sayed Farooq, Small Animal House, SQU.</td>
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Evolution of parasite reproductive strategy in the wild

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<tr>
<td>Value: GBP 60,000</td>
<td>Project Funder: Natural Environment Research Council (NERC), UK</td>
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<tr>
<td>Investigators:</td>
<td>Dr. Sarah Reece, Institutes of Evolution, Immunology &amp; Infection Research School of Biological Sciences, Edinburgh, UK; Dr. Hamza Babiker, Dept. Biochemistry, SQU.</td>
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Population genetics of malaria parasites in relation to geographical, transmission intensities

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<td>Value: SEK 1,500,000</td>
<td>Project Funder: Swedish International Development Cooperation Agency (SIDA), Sweden</td>
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<td>Investigators:</td>
<td>Dr. Gote Swedberg, Dept. Medical Biochemistry &amp; Microbiology, Uppsala University, Sweden; Dr. Hamza Babiker, Dept. Biochemistry, SQU.</td>
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</table>
The association of incretins with insulin resistance and lipid levels during late pregnancy

Project Code: MREC #535  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Jumana Saleh, Dept. Biochemistry, SQU.

The Cytokines Profile monitoring in a cohort of Omani population undergoing therapy for rectal cancer

Project Code: MREC #549  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Yahya Tamimi, Dept. Biochemistry, SQU.

Clinical usefulness of N-terminal Pro-B-Type natriuretic peptide (NT–pro BNP) in the diagnosis of heart failure: A cross sectional study in Oman

Project Code: MREC #558  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Khalid Al-Waili, Dept. Clinical Biochemistry, SQU.

Association of human taste perception with health status

Project Code: MREC #564  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Prof. Riad Bayoumi, Dept. Biochemistry, SQU.

Preliminary immunohistochemical analysis of liver biopsy of heaptic steatosis

Project Code: MREC #570  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Fahad Al-Zadjali, Dept. Biochemistry, SQU.

Assessment of psychological and behavioral factors for Obesity in Oman

Project Code: MREC #632  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Fahad Al-Zadjali, Dept. Biochemistry, SQU.
The association of bilirubin with basal oxidation status in Omani cardiovascular patients, and the effect of bilirubin on serum oxidation in vitro

Project Code: MREC #635  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Jumana Saleh, Dept. Biochemistry, SQU.

Vitamin D and bone mineral status in an Omani paediatric study population

Project Code: MREC #647  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Clifford Abiaka, Dept. Biochemistry, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


**CONFERENCE & SEMINAR PRESENTATIONS**

*Conference Presentations*

**International**


5. **Al-Zadjali F**. Role of growth hormone-SOCS2 axis in the dissociation between hepatosteatosis and insulin resistance. International Liver Congress, 47th Annual Meeting of the European Association for the Study of the Liver, Barcelona, Spain, 18–22 Apr 2012.
## THESIS SUPERVISION

<table>
<thead>
<tr>
<th>Student name</th>
<th>Sawsan Al-Sinani</th>
<th>Ph.D.</th>
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<tbody>
<tr>
<td>Qualification</td>
<td></td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Title</td>
<td>The clinical and genetic characterisation of type 2 diabetes mellitus in Omanis</td>
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<tr>
<td>Supervisor</td>
<td>Prof. Riad Bayoumi</td>
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<td>Date of completion</td>
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<thead>
<tr>
<th>Student name</th>
<th>Bashair Al-Riyami</th>
<th>Ph.D.</th>
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<tbody>
<tr>
<td>Qualification</td>
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<tr>
<td>Title</td>
<td>Hormonal regulation of acylation-stimulating protein production and receptor expression in rodent regional adipose tissue</td>
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<tr>
<td>Supervisor</td>
<td>Dr. Jumana Saleh</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>Amal Gadalla</th>
<th>Ph.D.</th>
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<tr>
<td>Qualification</td>
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<tr>
<td>Title</td>
<td>Factors influencing malaria parasites <em>Plasmodium falciparum</em> transmission strategies</td>
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<tr>
<td>Supervisor</td>
<td>Dr. Hamza Babiker</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>Amani Ahmed</th>
<th>Ph.D.</th>
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<tbody>
<tr>
<td>Qualification</td>
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<tr>
<td>Title</td>
<td>Genetic mapping of drug resistant <em>Plasmodium falciparum</em> in Sudan</td>
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<tr>
<td>Supervisor</td>
<td>Dr. Hamza Babiker</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>Najma Al-Kharusi</th>
<th>Ph.D.</th>
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<tr>
<td>Qualification</td>
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<tr>
<td>Title</td>
<td>Genetic susceptibility to CVD and related metabolic disorders.</td>
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<tr>
<td>Supervisor</td>
<td>Prof. Riad Bayoumi</td>
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<td>Date of completion</td>
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<tr>
<td>Student name</td>
<td>Faiqa Al-Nadabi</td>
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<tr>
<td>Title:</td>
<td>Comprehensive Examination (OMSB)</td>
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<tr>
<td>Supervisor:</td>
<td>Prof. Riad Bayoumi</td>
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<td>Date of completion</td>
<td>August 2012</td>
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<tr>
<th>Student name</th>
<th>Salama Al-Hamidhi</th>
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<tr>
<td>Qualification:</td>
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<tr>
<td>Title:</td>
<td>Genetic diversity of <em>Plasmodium falciparum</em> in Yemen and distribution of antimalarial drug resistance genotypes</td>
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<tr>
<td>Supervisor:</td>
<td>Dr. Hamza Babiker</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>Khawla Al-Masoudi</th>
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<td>Qualification:</td>
<td>M.Sc.</td>
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<tr>
<td>Title:</td>
<td>The association of bilirubin with basal oxidation status in Omani cardiovascular patients, and the effect of bilirubin on serum oxidation <em>in vitro</em></td>
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<tr>
<td>Supervisor:</td>
<td>Dr. Jumana Saleh</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>AbdulHakeem Al-Hinai</th>
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<tr>
<td>Qualification:</td>
<td>M.Sc.</td>
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<tr>
<td>Title:</td>
<td>Composition of urinary stones in Oman</td>
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<tr>
<td>Supervisor:</td>
<td>Prof. Riad Bayoumi</td>
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<td>Date of completion</td>
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<tr>
<th>Student name</th>
<th>Mohsin Al-Taqi</th>
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<tbody>
<tr>
<td>Qualification:</td>
<td>M.Sc.</td>
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<tr>
<td>Title:</td>
<td>The prevalence of vitamin D deficiency in type 1 diabetes mellitus children in Oman and the correlation between vitamin D deficiency and glycemic control</td>
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<tr>
<td>Supervisor:</td>
<td>Dr. Khalid Al-Rassadi</td>
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<td>Date of completion</td>
<td>On-going</td>
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</tbody>
</table>
Student name: Basma Hilal Al-Jabri
Qualification: M.Sc.
Title: Evaluation of vitamin D and bone analyte status in term pregnancy and spontaneous abortion
Supervisor: Dr. Clifford Abiaka
Date of completion: On-going

Student name: Ward Al-Muna Al Zidi
Qualification: M.Sc.
Title: Identification and characterisation of mutations in genes implicated in familial hypercholesterolemia in Omani families
Supervisor: Dr. Yajnavalka Banerjee
Date of completion: On-going

Student name: Elango Abbhirami
Qualification: M.Sc.
Title: Association of human taste variation with heath status
Supervisor: Prof. Riad Bayoumi
Date of completion: On-going

Student name: Afraa Al-Abri
Qualification: M.Sc
Title: Mutation status of EGFR, Kras and Braf genes in an Omani gastric cancer cohort
Supervisor: Dr. Yahya Tamimi
Date of completion: On-going
The Department of Child Health is one of the oldest departments in the College of Medicine & Health Sciences (COM&HS) and SQU Hospital (SQUH). The Department accounts for more than a third of total SQUH admissions and provides the best of patient care from birth to adolescence, encompassing all sub-specialties.

It has well-developed undergraduate teaching and training programmes, some in collaboration with other sister institutions nationally and internationally. Department members are actively involved in almost all of the College educational activities and committees including the Curriculum and Examination Committees. They have also contributed significantly to the development and implementation of the new curriculum. The Department trains many foreign undergraduate medical students during their elective rotations.

The Department also has a highly integrated postgraduate training programme and is equipped with excellent Clinical Teaching Units (CTUs) run by experienced teachers. Our Department started the first CTU in Oman and has been complimented on this by international medical educationists. Various departments have since followed our example. The Department teaches and trains junior doctors, preparing them for the various examinations affiliated to the Royal College of Paediatrics & Child Health (UK), the Royal College of Physicians and Surgeons of Glasgow and the Arab Board. The Department is the only centre in Oman offering sub-specialty training of pediatric residents in metabolic diseases, neurology, immunology and haemato-oncology. It also serves as the national referral centre for polio surveillance and various benign haematological conditions as well as leukaemia.
Finally, the Department conducts high quality research with state-of-the-art support from the genetic laboratories producing publications in high-impact peer-reviewed indexed journals. Collaboration with international centres of excellence in paediatrics has benefited a large number of sick children, especially those with haematological diseases.

The Department also takes great pride in continuing to serve the community by raising funds in various ways to serve children with all kinds of special needs. The School Health Education programme has been an innovative initiative from the Department addressing issues of healthy lifestyle, alcohol and drug abuse, obesity and the benefits of a healthy diet with children studying in various schools.

Lack of space, technological support and personnel have limited performance in both academic and clinical areas. Within the existing space, a lot of renovation work has been done and new duty rooms, isolation rooms and procedure rooms have been built in various paediatric wards. It is a long cherished dream of the Department to establish a world-class Institute of Child Health with great emphasis on research as a joint venture of SQUH and the COM&HS.

**Staff**

**Head of Department**
Yasser Wali, *Professor*

**Faculty**
Zakia Al-Lamki, *Professor*
Muna Al-Saadoon, *Assistant Professor*
Hussein Al-Kindy, *Senior Consultant*
Amna Al-Futaisi, *Senior Consultant*
Saif Al-Yaarubi, *Senior Consultant*
Ibtisam B. Elnour, *Senior Consultant*
Salem Al-Tamemi, *Senior Consultant*

S. N. Joshi, *Senior Consultant*
Roshan L. Koul, *Senior Consultant*
P. C. Alexander, *Senior Consultant*
Khalfan Al-Senadi, *Consultant*
Matthew Zachariah, *Consultant*
Siham Al-Sinani, *Consultant*
Reem Abdwani, *Consultant*
Mohamed Abdellatif, *Consultant*
Abduhakim Al-Rawas, *Consultant*
Anas Al-Wogud, *Consultant*
Hashim Javad, *Consultant*
Watfa Al-Mamari, *Consultant*
Asad Ur Rahman, *Consultant*
Azza Al-Shidhani, *Senior Registrar*
Irfan Ullah, *Senior, Registrar*
Masood Ahmed, *Senior Registrar*
Mohamed Elshinawy, *Senior Registrar*
Wafa Bashir, *Senior Registrar*
Kripail Mathew, *Senior Registrar*
Zenaida Reyes, *Senior Registrar*
Surekha Tony, *Senior Specialist*
Ismail Beshlawi, *Senior Specialist*
Mohammed A. El Naggari, *Senior Specialist*
Eiman Abdalla, *Registrar*
Aamir Qais M. H., *Registrar*
Maria F. Bataclan, *Registrar*
Cheryl Montemayor, *Registrar*
Mohammed Fazalullah, *Registrar*
Naga R. Dhanse, *Registrar*
Renjit Mani, *Registrar*
Rana Abelrahim, *Registrar*
Shafiq U. Rehman, *Registrar*
Fatma Elzharaa Amer, *Registrar*
Aldai M. Ahmed, *Registrar*
Ashfaq Khan, *Senior House Officer*
Ashraf A. Saad, *Senior House Officer*
Hilal N. B. Al-Riyami, *Senior House Officer*
Mazen A. M. Abuanza, *Senior House Officer*
Sharef W. Sharef, *Senior House Officer*
Ahmed B. Idris, *Senior House Officer*
Hatem M. M. Al-Rawah, *Senior House Officer*
Highlights of the Year 2012

COMMUNITY AND CLINICAL SERVICE
The Department members participate continuously in various external and internal committees, for example: Dr. Hashim Javad as Chairman of the Quality Development Committee dealing with the Canadian Accreditation (ACSI), a continuous commitment, which assures the quality improvement of the institution, together with his deputy Dr. Salem Al-Tamemi. The members of the various committees are: Dr. Wafa Bashir, Dr. Alex P. C. & Dr. Sharef Sharef, Dr. Salem Al-Tamemi, current members of the Immunization Committee, Ministry of Health; Dr. Amna Al-Futaisi, current member, Medical Promotion Committee, Diwan of the Royal Court; Prof. Yasser Wali and Dr. Abdulhakeem Al-Rawas, as current members of new Muscat Pediatric Committee; Prof. Yasser Wali and Dr. Roshan Koul as Technical Experts and Member of the High Medical Committee, haematology and oncology cases and National Polio Surveillance; Prof. Zakiya Al-Lamki, Technical Expert for haematology and oncology cases, and, Asst. Prof. Muna Al-Saadoon, member of the National Committee of Bioethics.

Under the leadership of Dr. Reem Abdwani, chairperson of the Outpatient Department (OPD) Committee of the Child Health Department, the Pediatric Outpatient Clinic and Daycare Unit at SQUH successfully obtained 15 additional rooms, while the new Pediatric Day Care Unit with 11 beds has become fully functional. The development of the OPD aims to follow-up children with chronic diseases and disabilities including patients with haematological malignancies. This is a very busy unit receiving annually over 500 children and their families for routine clinic visits, in addition to treatments such as regular blood transfusions, chemotherapy and invasive procedures such as bone marrow aspiration. During 2012, we agreed to expand and give all the subspecialties their own rooms for clinical services. This expansion will be completed by early 2013.

The Genetic-Metabolic Unit expanded in 2012 and moved to a dedicated building in order to cater to the overwhelming numbers and this is well supported by the Development Progress Clinic introduced by Dr. Watfa Al-Mamari. The cardiology services have expanded over the last year and the possibility of starting a Pediatric Interventional Cardiology Service is being explored. The long term follow-up clinics including the Post Bone Marrow Transplant clinic and the Cancer Survival Clinic are in full swing, along with the Chemotherapy Clinic. The Haemophilia Comprehensive Care Clinic and the Haemostasis Clinic have also been started.

SCHOLARLY AND ACADEMIC ACTIVITIES
In October 2012, the Department organised the 18th International Child Health Conference at the University.

Prof. Yasser Wali, Asst. Prof. Muna Al-Saadoon and Prof. Zakiya Al-Lamki served in this period on the Editorial Board of the SQU Medical Journal (SQUMJ). Dr. Amna Al-Futaisi, Dr. Saif Al-Yaarubi and Dr. Reem Abdwani served in this period on the Editorial Board of the Oman Medical Journal. Dr. Roshan Koul was a member of the International Advisory Board of the Journal of Pediatric Neurology.

Prof. Yasser Wali is a reviewer for the Journal of Pediatric Hematology/Oncology, the Postgraduate Medical Journal; SQUMJ; Oman Medical Journal; and the Alexandria Journal of Pediatrics. Dr. Roshan Koul was a reviewer for the Oman...

Teaching Programmes
The Department is actively involved in undergraduate and postgraduate teaching.

UNDERGRADUATE PRECLINICAL PROGRAMME
The Department is committed to the process of teaching undergraduate students the main concepts and principles of child health to help them to undertake their internship duties safely and also decide on their future postgraduate studies.

The Department has structured teaching activities for students under the responsibility of clinical year coordinators and the Education Committee of the Department. The students have different components of assessment during the rotations and at the end of the rotation, organised by the clinical coordinators and monitored by the Department’s Examination Committee.

NEW CURRICULUM
The new curriculum has been successfully implemented, starting with the pre-clerkship, followed by the junior clerkship. During the junior clerkship, the students are posted to the Clinical Teaching Units so that they get hands-on experience with patient management. They are allotted cases for which they are responsible under the adequate supervision of the consultants and the residents.

OLD CURRICULUM

7th Year Teaching
At any time, the Department has about 15 students on rotation. The teaching of the 7th year students is divided into theoretical, clinical elements and self-learning with guidance. The different teaching activities for this group of students accounts for about 1,400 hours per year.

In addition, there are other teaching modalities implemented in the last 3 years that require one-to-one interaction between the students and their tutors. This is the HOPE Evaluation in which each student present 2 cases to an SQU tutor. At the end of the one-hour session, students receive feedback with a grade. In total, the Department provides 1,540 contact hours of teaching and academic activities for 7th year students.

Preclinical Teaching
Members of the Department are involved in the following courses in the preclinical studies of the College: the Clinical Communication course and the Clinical Skills course.
Postgraduate Teaching

The morning meetings provide an hour of clinical teaching every day in the form of clinical meetings, case presentations, grand rounds, histopathology meetings and clinical radiological meetings. In addition to this, there are weekly presentations for interns, and a monthly journal club and mortality meetings.

The Department has on average 10–14 interns at one time for training. The Department is involved in teaching Oman Medical Specialty Board (OMSB) residents as follows. At any time of the year, the Department will have around 3–4 Child Health residents for training. There are 3 Department members invited yearly to give presentations to Family Medicine & Public Health residents on common childhood diseases. One of the Department members is invited yearly to deliver a clinical presentation to Emergency Medicine residents.

Prof. Yasser Wali is the convener of the new Clinical Ph.D. Program, a new degree programme of the COM&HS.

The Department conducts the examinations for the Membership of the Royal College of Paediatrics & Child Health (MRCPCH) and is the centre for the Diploma of Child Health (DCH) examination held yearly, in collaboration with the concerned international bodies.

Training Courses & CME Activities

The Department runs the following training courses: Neonatal Advance Resuscitation Course (3 times a year); Paediatric Advance Life Support (twice a year); The MRCPCH Course (once a year). It also contributes towards other courses offered by Omani hospitals such as Basic Life Support (BLS) and Pain Management courses.

Clinical & Diagnostic Services

Table 1: Paediatric Inpatients 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of admissions</th>
<th>Average bed occupancy (%)</th>
<th>Average length of stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4,179</td>
<td>66</td>
<td>4.1</td>
</tr>
<tr>
<td>2012</td>
<td>4,246</td>
<td>70.1</td>
<td>3.3</td>
</tr>
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</table>

Table 2: Paediatric Day Care Unit 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of admissions</th>
<th>No. of discharges</th>
<th>Average duration of stay (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3,820</td>
<td>3,702</td>
<td>5</td>
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<tr>
<td>2012</td>
<td>3,653</td>
<td>2,486</td>
<td>4–6</td>
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</tbody>
</table>
### Table 3: Paediatric Outpatients 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Booked</th>
<th>Total seen</th>
<th>Admitted</th>
<th>Discharged</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>14,370</td>
<td>11,690</td>
<td>323</td>
<td>959</td>
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<tr>
<td>2012</td>
<td>13,534</td>
<td>11,382</td>
<td>301</td>
<td>924</td>
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</table>

### Table 4: Neonatal Intensive Care Unit 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of admissions</th>
<th>Average bed occupancy (%)</th>
<th>Average length of stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>526</td>
<td>77</td>
<td>11.2</td>
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<tr>
<td>2012</td>
<td>457</td>
<td>85</td>
<td>14</td>
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</table>

### Table 5: Postnatal Ward 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of admissions</th>
<th>Average bed occupancy (%)</th>
<th>Average length of stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,320</td>
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<tr>
<td>2012</td>
<td>3,123</td>
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### Table 6: Paediatric Intensive Care Unit 2011–2012

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of admissions</th>
<th>Average bed occupancy (%)</th>
<th>Average length of stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>194</td>
<td>81</td>
<td>7.51</td>
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<tr>
<td>2012</td>
<td>129</td>
<td>80</td>
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### Table 7: Paediatric services provided to the Department of Clinical Physiology 2011–2012

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<thead>
<tr>
<th>Year</th>
<th>Services provided</th>
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<tr>
<td>2011</td>
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<td>2012</td>
<td>4,704</td>
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Research

RESEARCH PROJECTS

Genetic causes of congenital neutropenia

Value: OR 9,600  Project Funder: Sultan Qaboos University
Investigators: Dr. Yasser Wali, Dept. Child Health, SQU; Christoph Klein, Dept. Pediatric Hematology Oncology, Hannover Medical School, Germany; M. Al-Zalabany, Dept. Pediatric Immunology, Alexandria University, Egypt; Dr. Said Al-Yahyae, Department of Genetics, SQU; Dr. Ismail El-Beshlawi, Dept. Child Health, SQU; Dr. Naglaa Fawaz, Dept. Haematology, SQU; Dr. Aisha Alkhayat, Dept. Biology, College of Science, SQU; Dr. Salam Al-Tamemi, Dept. Child Health, SQU; Dr. Shafrina Daar, Dept. Haematology, SQU; Dr. Martin Zimmermann, Dept. Statistics, Hannover Medical School, Germany.

Towards understanding the genetics of familial bronchiectasis

Value: OR 12,541.9  Project Funder: Sultan Qaboos University
Investigators: Dr. Hussein Al-Kindy, Dept. Child Health, SQU; Dr. Mohamed Abdellatif, Dept. Child Health, SQU; Prof. Omar Al-Rawas, Dept. Medicine, SQU; Dr. Qasem Al-Salmi, Dept. Pediatric Pulmonology, Royal Hospital; Dr. Erik-Jan Kamsteeg, Dept. Human Genetics, University Medical Centre, St. Radboud, Netherlands.

Assessment of some novel urinary biomarkers in the diagnosis of acute kidney injury (AKI) in Omani children.

Project Code: IG/MED/CHLD/12/02  Dates: 2012
Value: OR 6,830  Project Funder: Sultan Qaboos University
Investigators: Dr. Ibtisam El Nour, Dept. Child Health, SQU; Prof. Badreldin H. Ali, Dept. Pharmacology & Clinical Pharmacy, SQU; Dr. David Dennison, Dept. Haematology, SQU; Dr. Muna Al-Saadoon, Dept. Child Health, SQU; Dr. Mohammed Atif, Dept. Child Health, SQU; Dr. Rana Ali, Dept. Child Health, SQU; Dr. Anas Al-Wogud, Dept. Child Health, SQU; Dr. Islam Elbarody, Dept. Child Health, SQU; Dr. Abdulhakim Al-Rawas, Dept. Child Health, SQU; Dr. Ahmed Al-Shukaili, Dept. Micobiology & Immunology, SQU.
Enuresis in children – biochemical and psychosocial associated factors

Project Code: IG/MED/CHILD/12/03  Dates: 2012–2014
Value: OR 5,000  Project Funder: Sultan Qaboos University
Investigators:
Dr. Muna Al-Saadoon, Dept. Child Health, SQU; Dr. Ibtisam El Nour, Ms. Sana Hasari, Dept. Biochemistry, SQU; Ms. Basma Al-Said, Dept. Behavioural Medicine, SQU; Ms. Salima Al-Badri, MLS student, SQU; Ms. Buthaina Al-Dhali, MLS student, SQU.

Genetics of familial systemic lupus erythematosus in Oman

Project Code: IG/MED/CHILD/12/04  Dates: 2012
Value: OR 5,021  Project Funder: Sultan Qaboos University
Investigators:
Dr. Reem Abdwani, Dept. Child Health, SQU; Dr. Fathiya Al-Murshidi, Dept. Child Health, SQU; in collaboration with the Pediatric Rheumatology International Trials Organization (PRINTO).

A multinational study of the epidemiology, treatment and outcome of childhood arthritis (EPOCA)

Project Code: MREC #624  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:
Dr Reem Abdwani, Dept. Child Health, SQU.

Mothers attitude to traditional medicine, and use of traditional medicines in children with chronic diseases

Project Code: MREC #586  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:
Dr. Muna Al-Saadoon, Dept. Child Health, SQU.

Pharmacovigilance in juvenile idiopathic arthritis patients (Pharmachild)

Project Code: Grant #260353  Dates: 2011–2014
Value: 2,973,976 EUR  Project Funder: European Union
Investigator:
Dr. Reem Abdwani, Dept. Child Health, SQU; in collaboration with the Pediatric Rheumatology International Trials Organization (PRINTO).
Incidence, aetiology and outcome of acute kidney injury among patients admitted to paediatric ICU, SQUH 2010-2011

<table>
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Prevalence of acute critical neurological disease in children: A global epidemiological assessment

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<tr>
<td><strong>Dr. Anas Al-Wogud</strong>, Dept. Child Health, SQU.</td>
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Hereditary spastic paraplegia in children

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<td><strong>Dr. Roshan Koul</strong>, Dept. Child Health, SQU.</td>
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Clinical and genetic characteristics of HbS in Oman: A severe unrevealed form of sickle cell disease

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<td><strong>Prof. Yasser Wali</strong>, Dept. Child Health, SQU.</td>
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Characteristics of liver involvement in hemophagocytic lymphohistiocytosis in omani children

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<td><strong>Dr. Siham Al-Sinani</strong>, Dept. Child Health, SQU.</td>
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Medical doctors’ use and attitude to the use of traditional treatment

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<tr>
<td><strong>Dr. Muna Al-Saadoon</strong>, Dept. Child Health, SQU.</td>
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<td>MREC #623</td>
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</tr>
<tr>
<td>MREC #630</td>
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Screening for autism spectrum disorders among Omani male and female children, an experience at Sultan Qaboos University Hospital

Project Code: MREC #639  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Watfa Al-Mamari, Dept. Child Health, SQU.

Assessment of systolic, diastolic function and development of pulmonary hypertension in children with sickle cell disease using conventional and tissue Doppler echocardiography

Project Code: MREC #660  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Khalfan Al-Senaidi, Dept. Child Health, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

National

Conference Posters

International


Ever since its establishment in 1986, the department has been the leader in Emergency Medicine in Oman. Our high standards of care have inspired other hospitals in the country. The Department is one of the major tertiary care facilities in the governorate of Muscat having its own helipad used by different national agencies in the event of a disaster or any emergency situation. We treat approximately 65,000 patients annually and receive patients from different parts of the country, as far south as Salalah.

The Emergency Medical Services (EMS) in Oman is based on the Anglo-American system of EMS. EMS brings almost all accident and most of the medical cases to our Department from the Seeb wilayat (district), one of the most densely populated wilayats of the Muscat region. These patients are managed with the highest possible care. The trauma team is geared up for major trauma cases. The team comprises emergency physicians, surgeons, anaesthetists and orthopaedic surgeons. After initial management all patients requiring surgery are immediately transferred to the operating theatre. The Department has very good patient survival rates.

Our highly skilled and energetic team of emergency care physicians and nurses provides treatment round the clock, every day of the year. At present, the department has 29 beds with a fully equipped triage desk having one doctor and two nurses to ensure prompt medical attention for all patients. The Department has the most modern equipment, including different types of ventilators, conventional and non-invasive, sonographic machines, and an arterial blood gas machine.
In order to fulfill the vision of the Department to be a national model for the development of emergency medicine of international standing, various training and learning activities are organised for the departmental healthcare personnel. In turn, a wide range of healthcare professionals receive training in the Department, including undergraduate and postgraduate medical and nursing students from Sultan Qaboos University’s colleges of Medicine & Health Sciences (COM&HS) and Nursing; SQU Hospital (SQUH) staff; students of the Oman Medical Specialty Board (OMSB), and medical staff of the Royal Court and Royal Affairs, the Ministry of Health, the Health Institute, the Royal Oman Police and interns of the Oman Medical College in Sohar.

The Department also actively participates in the SQUH and national-level clinical research and planning of disaster management. The Department regularly participates in all disaster drills organised by concerned government agencies along with various other government departments. These drills aim to familiarise participants with the procedures needed for real-time disasters and to eradicate any weaknesses in the national disaster plan. As SQUH is located at the junction of major roads connecting different governates, we activate the disaster plan to give quality care for the major incidents that occasionally happen in our surrounding area.

**Staff**

**Acting Head of Department**
Khalfan Al-Amrani, *Consultant*

**Medical Staff**
Nabil Al-Zadjali, *Senior Consultant*
Daniel O. Ogunjumo, *Senior Consultant*
Abdullah Al-Reesi, *Consultant*
Marwan Al-Raisi, *Consultant (Paediatric)*
Hilal Al-Barwani, *Consultant (Paediatric)*
Sabina Naz, *Registrar (Paediatric)*

Niranjan Lal, *Registrar (Paediatric)*
Yousef Al-Weshahi, *Senior Registrar*
Remanand Sudhir, *Senior Registrar*
Asma Al-Balushi, *Senior Registrar*
Awatif Al-Alawi, *Senior Registrar*
Amal Al-Shibli, *Senior Registrar*
Sabah Awad, *Registrar*
Ashraf Ali, *Registrar*
Mohammed F. Khilji, *Registrar*
Mohammed O. Mubashir, *Registrar*
Umar Shahzad, *Registrar*
Vinod Abraham, *Senior House Officer*
Mohammed Awaïs, *Senior House Officer*
Nowfai Sabri, *Senior House Officer*
Mohammed S. Khan, *Senior House Officer*
Bader Al-Amri, *Senior House Officer*
Quratulain, *Senior House Officer*
Asim Bilal, *Senior House Officer*
Mohammed R. Kabir, *Senior House Officer*
Aisha Al-Khamisi, *Senior House Officer (in training abroad)*
Suad Al-Abri, *Senior Registrar (in training abroad)*
Amal Al-Mandhari, *Senior House Officer (in training abroad)*
Aisha Al-Buraiki, *Senior House Officer (with OMSB as an Emergency Medicine resident)*

**Nursing Staff (total 69)**
Chief Nurse Level 1 (2)
Chief Nurse Level 2 (1)
Chief Nurse Level 3 (3)
Staff Nurse Level 1 (10)
Staff Nurse Level 2 (53)

**Support Staff**
Mercy Gandhirajan, *Coordinator*
Ayida Al-Hadhrami, *Coordinator*
Abdullah Al-Rawahi, *Coordinator (in ED clinical area)*
Sabeel Al-Zadjali, *Ambulance Attendant*
Florenda Sicat, *Emergency Medical Technician (Ambulance)*
Ahmad Al-Shaqsi, *Emergency Medical Technician*
Fahad Al-Abri, *Emergency Medical Technician*
Medical Record Clerks – 2 per shift
Medical Orderlies – 12

Highlights of the Year 2012

**GULF COOPERATION COUNCIL BEACH HANDBALL CHAMPIONSHIP, JANUARY 2012 AND VOLLEYBALL MEETING, JUNE 2012**
We were honoured to hold the task of providing 24-hour emergency medical care to all the teams and associated staff during these events. Our dedicated team of doctors, nurses and paramedics provided on-the-spot medical care during the games. If required, the patients were accompanied by our doctor to the nearby hospital for further care and management. A standby ambulance was held ready in case any incident should take place.

**EMERGENCY MEDICINE INTERNATIONAL DAY – OCTOBER 2012**
The Department celebrated the Emergency Medicine International day in October 2012. A stand was prepared to deliver a case presentation to visitors entitled non-invasive ventilation.

**INTERNATIONAL VISITORS**
In January, we received a visit from Dr. Ian Hastie who was the very first head of the Department. In November 2012, the Department welcomed two visiting consultants, one from Pakistan and one from the UK. During their stay, they delivered lectures for SQUH staff.

**SEMINAR PRESENTATION**
In December 2012, the Department’s paediatric emergency team conducted a SCRAPS presentation in the COM&HS entitled "Capturing Smoke – A case of child neglect".

**EXPANSION OF EMERGENCY DEPARTMENT FACILITIES AND NEW EQUIPMENT**
The Department’s expansion plan was approved by the SQUH management. The official formalities were started prior to the commencement of the construction work. In 2012, the Department added one new fully-equipped ambulance to the fleet of its ambulances.

**PROFESSIONAL EXAMINATIONS**
Two of our medical doctors achieved their Membership of the College of Emergency Medicine (MCEM) Parts A and Part B, and the Advanced Trauma Life Support examination and some of the doctors presented themselves for examinations.
PROMOTIONS AND FAREWELLS
Some of our doctors and nurses were promoted to a higher grade in recognition of their performance. In 2012, we said goodbye to the following staff: Dr. Reem Gaafar, Senior House Officer, Dr. Nafisah Al-Borhan, Senior House Officer, and Dr. Rasha Abdulhadi, Senior House Officer.

Teaching Programmes

UNDERGRADUATE CLINICAL PROGRAMME

*Emergency Medicine for 6th year Medical Students: Old curriculum*

The Department actively participates in the training and teaching of 6th year medical students. We receive 8 batches of students every year on a monthly rotation from August to May. Each batch is divided into 4 groups. Teaching sessions are held by consultants and include lectures along with bedside teaching. The teaching topics include basic life support, wound care, recognition and treatment of dynamic arrhythmias and the use of defibrillators. In addition to these sessions, problem-based tutorials were also held regularly by consultants on important clinical emergencies, like chest pain, shortness of breath, polytrauma, poisoning, etc. The student’s performance is assessed at the end of the rotation by a one-hour multiple-choice question examination based on the contents of the core curriculum. The Department received the last group of students in the old curriculum in April 2012.

NEW CURRICULUM

The Department has started to preparing the ground for receiving the new curriculum students, taking into consideration of the goal of the new curriculum to produce undifferentiated physicians who are ready to go and work in this field. To this end, the Department held several internal meetings and others with members of the curriculum committee of the COM&HS.

POSTGRADUATE PROGRAMME

*Teaching and Training of Interns*

Interns rotate through the Department on a one-month elective rotation during their General Surgery posting. Interns were given hand-outs and a one-day tour of the Department at the start of their rotation. During their rotation, the interns were exposed to real emergency cases like chest pain, polytrauma, poisoning, etc. They were taught procedures such as different types of suturing, foreign body removal, arterial blood gas testing, the basic know-how on intubations and central lines placement, etc. Bedside teaching and regular CMEs were also provided. All interns were assessed by the shift supervisor at the end of every call and final assessment was given on the basis of performance in all the shifts. Apart from assessing knowledge, the following were also taken into account: punctuality, overall behaviour as part of team, and the performance under pressure during busy shifts.

*Teaching and Training of Residents*

The residents participating in the Oman Medical Specialty Board (OMSB) programme of Emergency Medicine, Family &
Community Medicine and Surgery rotate through the Department at various stages of their training. They are exposed to real emergencies and given a full chance to handle patients independently as an active member of the team under the supervision of the shift supervisor. They were given chance to exercise and improve recently learned skills such as suturing and other simple procedures; they were also taught new skills like intubations, central line placement, basic bedside ultrasound, etc. Senior residents handle more critical patients in the bay area under supervision of the doctor in charge of the shift. Apart from the clinical activities, academic activities of a minimum of 4 hours per week are mandatory. These activities include case or topic presentations, Journal clubs, workshops, etc.

**Clinical Electives**
The Department welcomes international medical students doing electives. This year we received 4 students from 4 different countries for electives.

**Clinical Attachment**
The department regularly receives foreign medical graduates for clinical attachments. This year 9 graduates from 7 different countries joined us for their clinical attachment.

**Training Courses & CME Activities**
The Department participated in the Basic Life Support, Advanced Cardiac Life Support and Paediatric Advanced Life Support courses both with the SQUH Directorate of Training & CPD and OMSB.

**TRAUMA COURSE FOR NURSES**
This year the Department ran the Trauma Course for its nurses with the goal of enhancing staff knowledge and refining trauma management skills and thus improving patient outcomes. This course not only educated nurses but also contributed to the Department’s quality improvement initiative. Having to deal with various crises ranging from trauma to disaster crisis situations, the nurses are expected to act promptly and employ critical thinking. The mastery of the standardised emergency protocol promotes timely action, ensures patients safety and prevents any delays in managing cases and their sequelae. The courses attendance was about 30–35 participants from the Department, wards and other hospitals. There was positive feedback on the course so it has the potential to be conducted again in the near future. It was not just an interactive 3 days but also included a workshop where theory was balanced with practical activities. The trainers were high calibre nurses and physicians from SQUH and the Armed Forces Hospital.

**IN-HOUSE CME ACTIVITIES**
This year our CME activities took place every alternate Sunday. The CME consisted of with presentations on interesting topics and a journal club run by our staff with speakers from other departments. There was also hands-on training, e.g. the use of ultrasound and the maintenance of competence in different topics, as well as departmental social gatherings.
## Emergency Department Statistics January to December 2012

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<th>Apr</th>
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<td>5,380</td>
<td>5,817</td>
<td>5,611</td>
<td>5,720</td>
<td>4,980</td>
<td>5,271</td>
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<td>1,647</td>
<td>1,828</td>
<td>1,928</td>
<td>1,670</td>
<td>18,436</td>
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### Ambulance activities

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<th>ED</th>
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<th>Airport</th>
<th>Campus</th>
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<tbody>
<tr>
<td>Total</td>
<td>81</td>
<td>70</td>
<td>59</td>
<td>44</td>
<td>29</td>
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</table>

*B = blue category patients; R = red category patients; Y = yellow category patients; G = green category patients; W = white category patients; F/U = follow-up patients; SSU = short stay unit; DEF = deferred cases; LWBS = left without being seen; ADM = admission cases; TRANS = transferred to other wards/hospitals; DOA = dead on arrival; DAA = died after arrival; SCD = sickle cell disease cases; RTA = road traffic accident cases; ED = Emergency Department.*
Clinical & Diagnostic Services
In 2012, the Department received 66,777 patients compared to 66,494 in 2011. The details of these patients are shown in the table below.

Research
Dr. Abdullah Al-Reesi supervised the research projects of the following emergency medicine residents: Dr. Fatma Al-Alawi, Comparison between epinephrine and salbutamol in acute severe asthma, systematic review; Dr. Ibtisam Al-Haqani, Coronary CTA for acute coronary syndrome, systematic review; Dr. Abdulmunim Al-Farsi, Point of care electrolytes in comparison with laboratory electrolyte, prospective diagnostic study; Dr. Sulaiman Al-Hatmi, In-hospital cardiac arrest survival, predictors of successful return of spontaneous circulation.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications

CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International
1. Al Reesi A. How to start and monitor a research project. 3rd ICMM Pan Arab Regional Working Group Conference on Military Medicine, Abu Dhabi, United Arab Emirates, 9-12 Dec 2012.
ACADEMIC AND PATIENT CARE DEPARTMENTS

Emergency
Established in 1986, the Department of Family Medicine & Public Health is one of the major clinical departments in College of Medicine & Health Sciences (COM&HS) and Sultan Qaboos University Hospital (SQUH). The clinical services are provided through the University Health Center and the Student Clinic. The Department is involved extensively in teaching medical students at different levels and phases of the old and new curricula. The postgraduate programmes include the Master’s in Epidemiology & Medical Statistics, the Ph.D. in Epidemiology & Public Health and the Family Medicine Residency Program which has 72 postgraduate students. The Department conducts the MRCGP [INT] (Membership of the Royal College of General Practitioners - International) examination. The Department is also actively involved in research both independently and also in collaboration with other departments and external bodies.
Staff

Head of Department
Mohammed Al-Shafaee, Associate Professor

Faculty
Abdulaziz Al-Mahrezi, Senior Consultant, Deputy Head, Clinical Services
Yahya Al-Farsi, Assistant Professor & Assistant Dean (Training and Community Service)
Shyam S. Ganguly, Associate Professor
Randa Youssef, Associate Professor
Syed Rizvi, Assistant Professor
Abdullah Al-Muniri, Assistant Professor
Kamlesh Bhargava, Senior Consultant
Thord Theodorson, Senior Consultant
Mohammed Al-Azri, Senior Consultant
Zakiya Al-Busaidi, Senior Consultant
Ahmed Al-Waily, Consultant/Dermatologist
Harndan Al-Habbi, Consultant
Mustafa Al-Hinai, Consultant
Kawther El-Shafee, Consultant
Rahma Al-Kindi, Senior Registrar
Laila A. Ramadhan, Registrar
Aisha Al-Hinai, Registrar
Teodorico Diputado, Registrar
Nafisa Samir, Registrar
Imran Saad, Registrar
Hanaa Al-Sumri, Senior House Officer
Wahida Al-Maskeri, Senior Chief Dietician

Support Staff
Perpetua Gabor, Coordinator
Zulfa Al-Tobi, Coordinator
Bahiya Al-Siyabi, Coordinator

Highlights of the Year 2012
The Department offered the 11th diet of the MRCGP (INT) examination in October 2012. The examination was taken by 9 doctors. The Royal College of General Practitioners has appreciated and recognised the progress made in the development of this examination.

Teaching Programmes

UNDERGRADUATE PROGRAMMES
The Department offered courses in: Epidemiology & Medical Statistics: EPISTAT-2; Data Analysis using SPSS as an university elective; Epidemiology & Medical Statistics for MLS; Biostatistics for the College of Nursing; Principles of Epidemiology; Special Epidemiology & Health Management for Health Statistics for the College of Science; Nutrition & Health Education for the College of Agriculture; Research Project-1 for Phase II, and the Hospital & Community Attachment course for MD students in the new curriculum.

NEW CURRICULUM
The Department was involved in Phase II and Phase III of the new curriculum. In addition, the Department was involved in teaching students from the intercalated phase. In Phase III, the Department was currently involved in pre-clerkship and junior clerkship.

PRE-CLERKSHIP
The Department participated in the pre-clerkship programme by conducting 9 general assessment weeks and participated in the final examination. About 120 students, 15 students per group, get the chance to take a focused history and conduct a focused physical examination on real or simulated patients. The aim of this course is to prepare the student for their clinical years.

JUNIOR CLERKSHIP
About 113 students, in groups of 20, had a 5-week clinical rotation in the SQU Health Center and in 5 of the accredited Ministry of Health (MOH) Health Centres. The aim of
the rotation is for the students to practise focused history-taking and physical examinations, as well as making differential diagnoses and defining management plans. The emphasis is on the acquisition of knowledge that is required to manage a wide variety of health conditions (physical, social and psychological) in the context of family, culture, work and community. The rotation explores further the principles of patient-centered care; the holistic approach; taking account of the patient’s ideas, concerns and expectations; non-pharmacological and pharmacological treatments; recognition of risk factors; continuity of care; community medicine; health promotion, and preventive measures. The students also observe/perform common procedures typically conducted in family practice settings and participate in the different health services provided at the primary care level including: vaccination; antenatal care; the integrated management of childhood illness; school and community health, etc.

**SENIOR CLERKSHIP - OLD CURRICULUM**
In the final year of the MD Programme, the students come for a 7-week rotation. The emphasis is on the comprehensive management of the patient in the context of his/her family, culture, work and community. Daily clinical teaching takes place in the SQU Health Center as well as in a number of accredited MOH health centres. The course also includes a full week of lectures on public health programmes (communicable and non-communicable diseases) in the Ministry of Health. Students have afternoon presentations on various topics commonly seen in family medicine. Students are assessed daily for their performance in the health centre and for their afternoon presentation. At the end of the rotation, all students are additionally evaluated by a multiple-choice question test and an objective structured clinical examination.

**POSTGRADUATE PROGRAMME**

*Family Medicine Residency training program*
The Department, along with the Oman Medical Speciality Board (OMSB), is actively involved in the teaching, training and examination of the family medicine residents. There were 72 Residents in the programme in this period at various levels of training. The exit examination MRCGP (INT) is accredited by the Royal College of General Practitioners, UK.

*M.Sc. Programme*
The following postgraduate courses were conducted by the Epidemiology & Medical Statistics Unit for the Master’s Programme: Statistics & Computers; Advanced Principles of Epidemiology; Advanced Statistical Methods; Categorical Data Analysis; Applied Epidemiology, and Statistical Methods in Quality Control. A Research Methodology course was also offered and supervision of Master’s thesis research projects.

*Ph.D. Programme*
Three candidates have joined the Ph.D. programme in Epidemiology & Public Health.

**Training Courses & CME Activities**
The Department arranged continuing medical education through journal clubs, seminars and workshops. These activities are open to doctors, nurses and paramedics from the Department, the Ministry of Health (MOH) and also to SQUH personnel.
Clinical & Diagnostic Services

The SQUH Health Center is a pioneer primary care institution in Oman. It is the first health centre in the country which received international accreditation as a “model health centre” by the Arab Board and by the Royal College of General Practitioners (RCGP), UK, for clinical services and the teaching of family medicine. Our Health Center is the leading star in primary health care (PHC) in Oman as regards PHC ideology, quality, comprehensiveness of care and prevention.

Patient services are provided at the Health Center and the Student Clinic. A total of 40,709 patients were seen at the Health Center. The Department has separate diabetes, antenatal and postnatal clinics besides the birth spacing and MOH infertility programmes and the extended programme of immunisation for mother and child health. The Dermatology Clinic gets referrals from all departments in SQUH and different parts of the country for various procedures besides laser treatment. The Student Clinic serves all the University students for all of their primary health needs. It offers the following clinics: General Appointments; Walk-in; Diabetes; Antenatal & Postnatal; Immunisation/Well Baby; Birth spacing; Dermatology, and Counselling.

Table 1: Clinical workload in the Health Centre 2010–2012

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total patients seen</td>
<td>42,273</td>
<td>42,077</td>
<td>40,709</td>
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<td>Seen with appointments</td>
<td>21,165</td>
<td>18,393</td>
<td>15,711</td>
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<td>Walk-in patients</td>
<td>9,736</td>
<td>16,552</td>
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<td>Vaccinations</td>
<td>7,078</td>
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<td>10,739</td>
</tr>
<tr>
<td>Antenatal/PNC/BS clinics</td>
<td>1,111</td>
<td>1,336</td>
<td>1,599</td>
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<tr>
<td>Dermatology</td>
<td>4,704</td>
<td>5,414</td>
<td>4,673</td>
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<tr>
<td>Diabetic</td>
<td>253</td>
<td>301</td>
<td>322</td>
</tr>
<tr>
<td>Respiratory therapists</td>
<td>95</td>
<td>129</td>
<td>136</td>
</tr>
<tr>
<td>Dieticians</td>
<td>248</td>
<td>233</td>
<td>341</td>
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<tr>
<td>Treatment room services</td>
<td>2,005</td>
<td>1,885</td>
<td>1,953</td>
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Table 2: Clinical workload in the Student Clinic 2010–2012

<table>
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<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>Total patients seen</td>
<td>14,873</td>
<td>14,885</td>
<td>15,199</td>
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## Research

### RESEARCH PROJECTS

#### Autism in Oman: Epidemiology and aetiology

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<td>Value: OR 90,000</td>
<td>Project Funder: H. M. Sultan Qaboos Strategic Research Fund</td>
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<tr>
<td>Investigators: Dr. Yahya Al-Farsi, Dept. Family Medicine &amp; Public Health, SQU; Dr. Marwan Al-Sharbatyi, Dept. Behavioural Medicine, SQU.</td>
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#### An assessment of the application of LEAN thinking in the Omani healthcare sector

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<td>Value: OR 58,000</td>
<td>Project Funder: H. M. Sultan Qaboos Strategic Research Fund</td>
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<td>Investigators: Dr. S. Al-Balushi Dept. Operations Management and Business Statistics, SQU; Dr. A. Al Hajri, Dept. Operations Management and Business Statistics, SQU; Dr. P. Sohal, Dept. Management, University of Monash, Australia; Dr. A. Kumar, University of Melbourne, Australia; Dr. Y. Al-Farsi, Dept. Family Medicine &amp; Public Health, SQU.</td>
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#### Knowledge and practice of foot care among Omani adult type 2 diabetics in North Batinah Governorate

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<td>Investigator: Dr. Mohammed Al-Shafae, Dept. Family Medicine &amp; Public Health, SQU</td>
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#### Barriers to optimal care of patients with diabetes mellitus in primary health care in Muscat – Physicians’ perceptions

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<td>Investigator: Dr. Kamlesh Bhargava, Dept. Family Medicine &amp; Public Health, SQU</td>
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#### The prevalence of depression and its association with socio-demographic factors and academic performance among SQU medical students

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<td>Investigator: Dr. Zakiaya Q. Al-Busaidi, Dept. Family Medicine &amp; Public Health, SQU</td>
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<td>Title</td>
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<tr>
<td>Patterns and determinants of treatment compliance among patients with essential hypertension</td>
<td>MREC #534</td>
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<tr>
<td>Antepartum depression: Prevalence, outcome and risk assessment</td>
<td>MREC #568</td>
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<tr>
<td>Postpartum depression amongst Omani women: prevalence, risk factors, and association with antepartum depression</td>
<td>MREC #572</td>
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<tr>
<td>Correlates of contraceptive use among Omani women in Muscat</td>
<td>MREC #598</td>
</tr>
<tr>
<td>Dietary risk assessment in H. Pylori infected patients</td>
<td>MREC #606</td>
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<tr>
<td>Comprehensive health assessment of elderly people in Al Dakhliyah Governorate</td>
<td>MREC #621</td>
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Evaluation of risk factors for stroke in an Omani community

Project Code: MREC #636  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Shyam Ganguly, Dept. Family Medicine & Public Health, SQU.

Assessment of the quality of life of children with epilepsy attending Sultan Qaboos University Hospital, Muscat

Project Code: MREC #637  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Randa M. Youssef, Department Family Medicine and Public Health, SQU.

Patient related factors in initiation of insulin in Type 2 diabetes in the wilayat Bowsher (Oman)

Project Code: MREC #650  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Thord Theordorsson, Dept. Family Medicine & Public Health, SQU.

Factors that are associated with speeding behavior based on the theory of planned behavior (TPB) and health belief model (HBM)

Project Code: MREC #651  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigator:  Dr. Abdullah Al-Maniri, Dept. Family Medicine & Public Health, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


BOOKS & BOOK CHAPTERS

CONFERENCE & SEMINAR PRESENTATIONS

Poster Presentations

International


**Seminar Presentations**

**International**


**Oral Presentations**

**Local**


Genetics is at the heart of health sciences in Oman and the Arab World where genetic and congenital disorders are a serious health issue for many reasons: customary consanguineous marriage; high prevalence of haemoglobinopathies; high frequency of advanced parental age, and lack of public awareness and education about genetic disorders. Certain cultural traditions also restrict the efforts for the prevention and control of genetic disorders.

Genetics is a young department, with ample resources and potential, providing scientists and clinicians with unprecedented opportunities to make a difference to society. The mission of the Department is to provide state-of-the-art diagnostic services for patient care, education, research as well as public awareness raising about genetics. While serving as a focal point for routine clinical services, the Department is committed to updating the ongoing routine diagnostic tests in cytogenetics and immunogenetics and, in addition, to developing new molecular diagnostic tests for various genetic diseases, including cancer, cardiovascular and neurological diseases.

The Department has 4 specialised sections: Clinical Genetics; Cytogenetics; Molecular Genetics, and Immunogenetics. The research in the Department is currently focused on inborn errors of metabolism, rare genetic diseases, cystic fibrosis and cancer.
Staff

Head of Department
Allal Ouhtit, Associate Professor

Faculty

Clinical Genetics
Said Al-Yahyae, Associate Professor
Khalid Al-Thihli, Consultant
Fathiya Al-Murshed, Consultant
Adila Al-Kindy, Consultant
Zandre Bruwer, Human Genetics
Maha Al-Awadi, Registrar
Sara Said Al-Alawi, Social Worker
Lamya Al-Anbouri, Biomedical Scientist
Khalsa Al-Kharousi, Biomedical Scientist

Molecular Genetics
Patrick Scott, In Charge, Molecular Laboratory
Mariam Al-Nabhani, Biomedical Scientist
Aisha Al-Naamani, Biomedical Scientist
Feisal Al-Mahrizi, Biomedical Scientist
Samia Al-Rashdi, Biomedical Scientist
Rayhanah Al-Mjeni, Ph.D. Student

Cytogenetics
Udayakumar, Associate Professor
Robert Sigmani, Biomedical Scientist
Shoma S. Raj, Biomedical Scientist
Sami Al-Kalbani, Biomedical Scientist
Balaji Krishnan, Biomedical Scientist
Sultan S. Al-Salhi, Biomedical Scientist

Immunogenetics
Harnad Al-Riyami, Chief Biomedical Scientist, Superintendent
Varghese C. M., Senior Biomedical Scientist
Faiza Al-Yahyai, Senior Biomedical Scientist
Suriyan Mani, Biomedical Scientist
Iman H. Al-Hadhili, Biomedical Scientist

Support Staff
Ghadeer Al-Zadjali, Coordinator (College)

Soad S. Al-Muqaimi, Coordinator (Clinic)

Highlights of the Year 2012
The year 2012 witnessed significant developments in the Department of Genetics. One major milestone was the establishment of the Genetics and Developmental Medicine Clinic (GDM Clinic), which has been effectively serving patients and families since August 2011. The GDM clinic has also undergone parallel staffing growth as the Department welcomed highly qualified members who had completed their training abroad in clinical genetics. The GDM clinic is also the only clinic in the country with a qualified genetic counsellor.

An equally important development in the Department was the joining of Dr. Patrick Scott, a clinical molecular geneticist, who has taken over the primary responsibility of helping the Department to attain its goal of developing a qualified clinical molecular genetics diagnostic laboratory that meets international standards, with the capacity of implementing relevant developments in molecular diagnostic techniques in a cost effective way.

The Department continues to set a respected model for effective academic involvement and research growth and development. One reflection of this is seen in the number of publications in peer-reviewed journals and the number of poster and oral presentations given at international meetings.

Teaching Programmes
The Department of Genetics participates in teaching and training clinicians and medical science students.

UNDERGRADUATE PRECLINICAL PROGRAMME
The Department is involved in a significant amount of teaching and training in the College of Medicine & Health Sciences (COM&HS). It contributes to the Molecu-
lar Biology and Principles of Genetics undergraduate preclinical courses with lectures on molecular genetics, cytogenetics, as well as participating in the annual teaching rotations and training of doctors and students proceeding to the 2nd or 3rd year of their degree. This is done through two laboratory-based workshops; first, a biannual workshop for training in standard laboratory techniques in molecular genetics, and second, the rotation of students and doctors in our laboratories (Cytogenetics, Immunogenetics and Molecular genetics). This includes training and an observation course on genetic techniques organised in January and June of each academic year.

UNDERGRADUATE CLINICAL PROGRAMME
In 2012, the Department was involved in the following clinical teaching activities: 1) Clinical (bedside and outpatient) teaching for residents, senior house officers and registrars; 2) the Junior Clerkship Clinical Genetics & Counselling rotation, an intense course-format structured rotation that takes place every 6 weeks; 3) Two seminars on Approach to Metabolic Diseases for final year MD students; 4) A two-hour clinic lecture for nursing students from the Ministry of Health, and 5) A Genetics lecture for 7th year medical Obstetrics & Gynaecology rotation students, repeated every 6 weeks with 25–28 students in each batch.

The Department participates in the teaching of the following two courses in the Medical Laboratory Sciences (MLS) programme: Molecular Diagnosis and Biology of Disease, and provides lectures on cancer genetics and genetics.

Finally, the Department contributes to the teaching in the College of Nursing with lectures on genetics.

POSTGRADUATE PROGRAMME
The Department takes part in the senior house officer in-house training programme, and in the Oman Medical Specialties Board (OMSB) residents training programme in Haematology/Biochemistry with lectures on cytogenetics, molecular genetics and immunogenetics. The Department is actively involved in training rotating residents in the field of medical genetics and biochemical genetics (inborn errors of metabolism). Clinicians from the Department of Genetics are OMSB trainers associated with the Pediatrics Residency Training Program.

Training Courses & CME Activities
The Omani staff members of the Department are sent abroad for regular training in genetics (residency training, Ph.D.s and short training courses in genetics). There are regular in-house training activities for the staff and in courses on genetics for Omani graduates from SQU and abroad. Senior staff members are encouraged to participate actively in international meetings to ensure adequate CME credits are obtained for maintenance of certification previously attained.

Clinical & Diagnostic Services

CLINICAL GENETICS
The main objectives of the Clinical Genetics section is to provide a standard-of-care service for patients and families with genetic disorders including diagnosis, genetic counselling, management and social support, as well as teaching and re-
search. In 2012, the clinical genetics team was involved in the management of hundreds of patients including inpatient consultations and outpatient clinic referrals. In 2012, the four clinical geneticists combined saw a total of more than 1,100 patients/families for outpatient consultations, and the number of in-patient consultations competes with this number as well.

The Clinical Genetics team also contributed to the care of metabolic patients and in teaching MD and postgraduate students. Although no active grant proposals are linked to the clinical genetics section at present, current hypotheses are being explored for this potential, and self-funded clinical projects are presently underway. The clinical unit is actively involved in liaison with other clinical services in designing, arranging and facilitating clinical research that may have direct or indirect genetic implications. The Clinical Genetic services naturally imply dealing with rare disorders, and these are typically associated with ongoing research questions that are being explored on a family or individual basis as clinical needs merit. So far, there are a few families that have been involved in clinical research or are currently considering such an involvement.

**CYTOGENETICS**

This section provides routine cytogenetic investigations (karyotyping) to clinical departments of the University Hospital (SQUH) using conventional and fluorescence *in situ* hybridisation (FISH) techniques. A prenatal diagnostic service was started in 2010. The number of samples received for conventional karyotyping was 593, for prenatal cytogenetics 11 and 167 samples for FISH, making a total of 771 samples. The monthly statistics are shown in the table below.

**Table 1: Conventional Cytogenetics (Karyotyping) Monthly Statistics 2012**

<table>
<thead>
<tr>
<th>Month</th>
<th>Haematological</th>
<th>Non-haematological</th>
<th>Total no. of cases karyotyped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bone marrow</td>
<td>Blood</td>
<td>Amniotic fluid</td>
</tr>
<tr>
<td>Jan</td>
<td>16 - 34</td>
<td>34 2 - -</td>
<td>-</td>
</tr>
<tr>
<td>Feb</td>
<td>15 3 26 -</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mar</td>
<td>17 - 33 3 1</td>
<td>54</td>
<td>44</td>
</tr>
<tr>
<td>Apr</td>
<td>22 2 22 1 -</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>May</td>
<td>16 - 48 1 -</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Jun</td>
<td>11 - 39 2 -</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>Jul</td>
<td>31 - 42 1 1</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Aug</td>
<td>23 - 23 -</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Sep</td>
<td>20 1 26 1 -</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Oct</td>
<td>11 - 22 -</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Nov</td>
<td>16 - 15 -</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Dec</td>
<td>21 1 34 -</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>219 7 364 11 3</td>
<td>604</td>
<td>604</td>
</tr>
</tbody>
</table>

*FNA = Fine-needle aspiration.*
HISTOCOMPATIBILITY AND IMMUNOGENETICS LABORATORY

The National Histocompatibility Laboratory is the only laboratory of its kind in Oman. In 2012, it continued to serve the bone marrow and renal transplant programmes in the country. Although the laboratory is run by SQUH, it is located in COM&HS. This laboratory also serves the entire country by performing tissue-typing for the cord blood programme and disease associate patients.

The existing service includes the following: 1) Histocompatibility testing services (human leukocyte antigen [HLA], cross-match and panel reactive antibody [PRA]); 2) Serum screening for HLA and non-HLA antibodies; 3) Biological specimen storage including DNA, serum and blood; 4) Nucleic acid extraction and whole genome amplification services, and 5) the issue of reports and annual statistics.

The following tests are under development: 1) Flow cytometry. This test is used before and after transplantation to assess the specificity of anti-HLA antibodies that are not normally detected by less sensitive methods such as cytotoxicity. Single HLA antigen beads are used to determine specific HLA antibodies in high PRA containing sera; 2) Luminex (high-definition resolution), luminex is used before and after transplantation to monitor patients for presence or absence of anti-HLA class I and class II antibodies or to monitor the appearance or disappearance of antibodies over time. Positive sera are subsequently tested by luminex class I and class II identification assays to determine the HLA specificity of the antibodies.

The section is planning to introduce the following tests in the future: 1) High-resolution sequence-based typing (SBT). Due to the increased number of patients without matching relatives, it became necessary to establish a National Bone Marrow Registry Program (NBMR). In order to establish such a programme where high-resolution HLA is needed, the laboratory is considering introducing the SBT test and hopes it will be available in the near future. 2) KIR gene typing. Natural killer (NK) cells are the integral component of innate immunity, and kill infected cells, tumors and stressed cells without prior sensitisation. Further, they secrete inflammatory cytokines, which drive the antigen specific adaptive immunity, NK cells distinguish these abnormal cells from healthy cells through variable inhibitory and activating killer cell Ig-Like Receptors (KIRs). The inhibitory KIRs recognise determinants expressed on the surface of abnormal cells and subvert these unhealthy cells. Genes encoding KIRs and HLA ligands belong to polymorphic gene families located on different chromosomes, and feature variation in the number and type of genes. Since the integration of signals transduced from inhibitory and activating receptors help to balance the NK cell response between tolerance of healthy cells and killing of unhealthy cells, the combinations of KIR and HLA class I molecules play an important role in human immunity and disease. The KIR genotyping test identifies the presence and absence of 15 distinct KIR genes.

MOLECULAR GENETICS & GENOMICS LABORATORY (MGGL)

This laboratory aims to provide comprehensive genetic testing services for SQUH and the whole of Oman. Currently, the MGGL only accepts patient samples (blood lymphocytes) for the purpose of nucleic acid extraction with a clinical indication of either banking and/or DNA testing abroad.

Our short-term priorities towards establishing the service will be: 1) laboratory space reconfiguration; 2) equipment acquisitions; 3) staff training, and 4) documentation control system. The number of specimens for nucleic acid extraction in 2012 was 900.
Table 2: Molecular Genetics & Genomics Laboratory Statistics 2012

<table>
<thead>
<tr>
<th>Section</th>
<th>Type</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
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<td>4</td>
<td>8</td>
<td>4</td>
<td>82</td>
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</tbody>
</table>

The following tables summarise the number of tests performed by the National Tissue Typing Laboratory in 2012.

Table 3: Tissue Typing Tests Performed in 2012

<table>
<thead>
<tr>
<th>Tests</th>
<th>Mon</th>
<th>Serological Method</th>
<th>Extracted DNA</th>
<th>Molecular Method</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AB</td>
<td>X/M</td>
<td>PRA</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Jan</td>
<td>107</td>
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<td>Dec</td>
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<td>Total</td>
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</table>

X/M = renal crossmatch; PRA = lymphoscreen.
## Table 4: Tissue Typing Tests According to Patient’s Category/Donors 2012

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<tr>
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<th>BMP</th>
<th>BMD</th>
<th>RP</th>
<th>RD</th>
<th>Dis</th>
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<td>8</td>
<td>2</td>
<td>83</td>
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<tr>
<td>Oct</td>
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<td>33</td>
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<td>10</td>
<td>1</td>
<td>59</td>
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<tr>
<td>Nov</td>
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<td>582</td>
<td>105</td>
<td>100</td>
<td>30</td>
<td>962</td>
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</tbody>
</table>

*BMP = bone marrow patient; BMD = bone marrow donor; RP = renal patient; RD = renal donor; Dis = disease association.*

## Research

**RESEARCH PROJECTS**

From gene expression analysis of Omani breast tumours to biomarkers/candidate gene discovery

**Project Code:** SR/MED/GEN/10/01  **Dates:** 2010–2013

**Value:** OR 120,000  **Project Funder:** H. M. Strategic Research Fund, Oman

**Investigators:**

- Dr. Allal Ouhtit, Dept. Genetics, SQU; Dr. Yahya Al-Tamimi, Dept. Biochemistry, SQU; Dr. Mansour Al-Moundhri, Dept. Medicine, SQU; **Dr. Said Al-Yahyae**, Dept. Genetics, SQU; Prof. Madhwa HG Raj, Dept. Oncology, LSU Health Sciences Center, New Orleans, USA; Prof. Herlyn Meenhard, Dept. Dermatology, Wistar Institute, Pennsylvania, USA.
Novel Bardet-Biedl syndrome (BBS) locus in Omani patients: Identification of novel BBS gene(s)

**Project Code:** IG/MED/GENT/11/01  **Dates:** 2011–2012

**Value:** OR 8,000  **Project Funder:** Sultan Qaboos University

**Investigators:**  
Dr. Allal Ouhtit, Dept. Genetics, SQU; Dr. Aisha Al-Shehi, Dept. Biology, SQU; Dr. Anuradha Ganesh, Dept. Ophthalmology, SQU; Dr. Sana Al-Zuhaimi, Dept. Ophthalmology, SQU; Dr. Said Al-Yahyaee, Dept. Genetics, SQU; Ms. Rayhanah Al-Mjeni, Dept. Genetics, SQU.

From chemoprevention to biomarkers and target development for breast cancer

**Project Code:** IG/MED/GENT/12/01  **Dates:** 2010–2012

**Value:** OR 10,657.9  **Project Funder:** Sultan Qaboos University

**Investigators:**  
Dr. Allal Ouhtit, Dept. Genetics, SQU; Dr. Hamad Al-Riyami, Dept. Genetics, SQU.

Cytogenetic and molecular screening for subtelomeric chromosomal imbalance in Omani patients with idiopathic mental retardation

**Project Code:** IG/MED/GENT/12/02  **Dates:** 2012–2013

**Value:** OR 13,970  **Project Funder:** Sultan Qaboos University

**Investigators:**  
Dr. A. M. Udayakumar, Dept. Genetics, SQU; Prof. Samir Al-Adawi, Dept. Behavioural Medicine, SQU; Dr. Marwan Al-Sharbti, Dept. Behavioural Medicine, SQU; Ms. Aisha Al-Namani, Dept. Genetics, SQU; Ms. Shoma Raj, Dept. Genetics, SQU.

Knowledge of genetic diseases among SQU students

**Project Code:** MREC #643  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigators:**  
Dr. Said Al-Yahyaee, Dept. Genetics, SQU.

The investigation of the evolutionary history of the Omani population by analysis of HLA Class I polymorphism

**Project Code:** MREC #645  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigator:**  
Dr. Hamed Al-Riyami, Dept. Genetics, SQU.
RESEARCH PUBLICATIONS & BOOKS

Journal Publications


BOOKS & BOOK CHAPTERS


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International


**National**


**Poster Presentations**

**International**

The Department of Haematology is unique as it functions both as a major clinical and laboratory medicine department. It plays a central role in the teaching of haematology to undergraduate medical students (MD), postgraduate students of medicine who have opted to specialise in medicine, and haematology residents of the Oman Medical Specialty Board (OMSB), as well as medical laboratory technicians in the B.Sc. Medical Laboratory Sciences courses. The laboratory provides state-of-the-art haematology testing for the University Hospital (SQUH) and referral services to several other hospitals like Muscat Private Hospital. It is also the national centre for highly specialised testing such as flowcytometric and molecular haematological analysis for the diagnosis of haematological conditions for the whole of Oman.
Staff

Head of Department
Salam Alkindi, Associate Professor & Senior Consultant

Faculty
Shahina Daar, Associate Professor
Mohammed R. Boulassel, Associate Professor
Mariyam Al-Bakri, Clinical Lecturer
Muna Al-Maskari, Lecturer
David Dennison, Senior Consultant
Anil Pathare, Senior Consultant
Mohammed Huneini, Consultant
Khalil Al-Farsi, Consultant
Murtadha Al-Kabori, Consultant
Arwa Al-Riyami, Consultant
Bader Al-Rawahi, Senior Registrar (on study leave)
Zeba Zabeen, Senior Registrar
Hammad Khan, Senior Registrar
Fehmida Zia, Senior Registrar
Fauzia Wasim, Registrar
Nausheen Kamran, Registrar
Zaen Albideen, Registrar
Vinodh Panjwani, Senior House Officer
Najwa Abdulhameed, Senior House Officer
Mohamed Rehan, Senior House Officer
Moez H. A. Rhim, Senior House Officer
Rana I. El Fadil, Senior House Officer

Support Staff
Stuart Donaldson, Superintendent
David Gravell, Chief Biomedical Scientist
Heidi M. Davis, Chief Biomedical Scientist
Ali Al-Marhoobi, Chief Biomedical Scientist
Shakila Ashraf, Senior Biomedical Scientist
Hamood Al-Haddabi, Senior Biomedical Scientist
Rodrigo Villacrusis, Senior Biomedical Scientist
Maria Cicillia, Senior Biomedical Scientist
Abdulrehman N Rashid, Senior Biomedical Scientist
Bushra Al-Said, Senior Biomedical Scientist
Sahima Al-Mamari, Senior Biomedical Scientist
Karima Al-Falahi, Senior Biomedical Scientist
Deuel M. Labrador, Senior Biomedical Scientist
Enrique O. Pedoian, Senior Biomedical Scientist
Hamed Al-Gheitthi, Senior Biomedical Scientist
Sabah Al-Mahrooqi, Senior Biomedical Scientist
Sumaya Al-Hinani, Senior Biomedical Scientist
Qamariya Al-Abri, Senior Biomedical Scientist
Shoaib Al-Zadjali, Senior Biomedical Scientist
Maryam Al-Brashdi, Senior Biomedical Scientist
Julian Nesn, Senior Biomedical Scientist
Asma A. Musleb, Senior Biomedical Scientist
Badriya Al-Belushi, Biomedical Scientist
Saif Al-Hosni, Biomedical Scientist
Mohammed Al-Rawahi, Biomedical Scientist
Ishaq Al-Salmi, Biomedical Scientist
Jamal Al-Qasabi, Biomedical Scientist
Eufrosina Alvarez, Biomedical Scientist
Mohan Doraiswamy, Biomedical Scientist
Nestor Naniong, Biomedical Scientist
Rene Gabucay, Biomedical Scientist
Allan S. Aurelio, Biomedical Scientist
Adela Angeles, Biomedical Scientist
Melani Tauro, Biomedical Scientist
Malvin J. W. Li, Biomedical Scientist
Vardarajan Nelvoy, Biomedical Scientist
Lancy Henry, Biomedical Scientist
Jerry Macni, Biomedical Scientist
Rhea Misquith, Biomedical Scientist
Fatma Al-Hasmi, Biomedical Scientist
Ishaq Al-Omairi, Biomedical Scientist
Binny Sam, Head Staff Nurse -1
Rose Saly, Staff Nurse -2
Mary Kurian, Staff Nurse - ICH3
Victoria G. Menezes, Staff Nurse 2
Shiney Thomas, Staff Nurse 2
Silva Kumari, Staff Nurse 2
Bindu Shiyb, Staff Nurse 2
Shobha Sujith, Staff Nurse 2
Nuha Al-Kiyumi, Staff Nurse 2
Eman Al-Homaidi, Coordinator
Tomichan Varghese, Coordinator
Anisa Al-Belushi, Social worker
Ali Al-Kiyari, Medical Orderly
Highlights of the Year 2012

In 2012, the Haematology Clinical Unit treated patients with a vast range of haematological disorders, both as inpatients and outpatients. In addition, the Department runs a Thalassaemia Day Care Unit. In 2012, it offered comprehensive care for about 152 patients with transfusion-dependent thalassaemia. Of national interest is the successful bone marrow transplant program, run by this Department. By the end of December 2012, a total of 245 bone marrow transplants on 234 patients had been performed in this centre, with results as good as those from the best centers around the world.

The Department organised the 2nd Pan Arab Haematology Conference between 13–15 November 2012. The conference was a resounding success with a panel of National and International speakers. It was attended by over 250 delegates from all over the world, but especially from the Middle Eastern region.

Teaching Programmes

UNDERGRADUATE PROGRAMME

Old Curriculum
The Department participates in teaching the Haemato-lymph-vascular course to 3rd year students. It runs a 5-week course on case-based learning in haematology for the 5th year students in the Integrated Lecture Series. It participates in bedside clinical teaching for 7th year students and runs a one-week laboratory rotation for 6 groups of 7th year students. It provides seminars on Anaemia & Haemostasis in Pregnancy for 7th year Obstetrics & Gynaecology students. Finally, the Department runs a course in the B.Sc. Medical Laboratory Sciences.

New Curriculum
The Department developed and taught a new module on Haemato-lymphatic-immunology in phase 2 of the new undergraduate curriculum. It participated and coordinated the various courses in phase 2 in the new curriculum, in particular integrated modules I, II and III. It provided lectures on Introduction to Human Physiology in Phase 1. Further it participated in and coordinated the Junior Clerkship Respiratory course and participated in junior clerkship training with seminars on CBC, Sickle Cell Vaso-Occlusive Crisis, Systolic Murmur Examination, Haemostasis, Bone Marrow Aspirate/Trephine and Hepatosplenomegaly.

In Intercalated Medicine, it provided the Hematology Laboratory Rotation. The Department also developed and conducted senior clerkship phase 3 teaching in collaboration with child health department, as well as developing and conducting laboratory rotations for these students. Finally, it taught in Research Modules I, II and III.

POSTGRADUATE PROGRAMME
The Department has developed and taught the Haematopathology course along with the Royal Hospital, Ministry of Health (MOH), which is affiliated with the Oman Medical Specialty Board (OMSB). There are 6 residents at various stages of training in the programme. It also gave lectures to OMSB residents in Haematology, Pediatrics, Internal Medicine and Obstetrics & Gynaecology. Finally, it participated in the Communications Skills workshop for OMSB and delivered multiple lectures in various parts of the country as part of its CME activity.
Clinical & Diagnostic Services
The clinical services are provided in the following major areas; adult outpatients (one specialised and three general clinics); adult inpatients; bone marrow transplantation (4 beds in the Bone Marrow Transplantation [BMT] Unit), and the sickle cell anaemia programme (in- and outpatients—both diagnostic and research activities).

The Department provides state-of-the-art diagnosis and therapy—including BMT—in the leukaemia, lymphoma and myeloma programmes, and in the thalassaemia day care programme.

The laboratory services cover specialised areas including: haemostasis; flowcytometry; haemoglobinopathy; molecular diagnostics; stem cell processing laboratory, and general laboratory haematology. The blood transfusion service includes blood donation and storage; irradiation; plasmapheresis and exchange; apheresis facilities (including stem cells) as well as the blood grouping and cross matching laboratory.

Bone Marrow Transplantation Programme
The bone marrow transplant programme, established in the Department in 1995, serves the entire country and continues to provide curative treatment for patients with haematological malignancy, bone marrow failure and potentially fatal genetic diseases. In 2012, 27 transplants were performed on 26 patients, (22 allogeneic [3 haplo-identical, 1 with bone marrow, and 18 peripheral blood stem cell (PBSC)] transplantation and 5 autologous). This makes a total of 245 transplants for 234 patients since 1995. The results of this transplant centre are comparable with those of the best centres worldwide. Importantly, the cost per transplant is a fraction of what is charged in other countries. Additionally, we have also collected 17 PBSCs from 11 patients (2 T-cell depleted) and 6 bone marrow harvests and cryopreserved them in our liquid nitrogen storage facility for future use. Furthermore, we have also cryopreserved 162 cord blood units (siblings = 105; unrelated = 57).

Sickle Cell Programme
The Department looks after a large number of patients with sickle cell disease (SCD) providing acute medical care, as well as genetic counselling and preventive programmes (vis-à-vis cord blood testing), and organising and guiding the patients and the medical community in the care of SCD. Recently, the role of the Department has been highlighted through our community outreach programs via the Hereditary Blood Disorders Society. Furthermore, several patients with severe SCD have now benefited from the Department’s active role in transplanting these patients from sibling donors with good success.

Leukemia Lymphoma and Myeloma Programme
The Department is now an important tertiary care centre for most referrals for adult haematological malignancies particularly leukaemias, lymphomas and myelomas. The patients are able to receive state-of-the-art care in terms of both diagnostic and therapeutic modalities, including BMT and the advanced molecular diagnostics needed for proper work-up and follow-up.
THALASSAEMIA PROGRAMME
The Department has been looking after about 152 patients with thalassaemia, delivering comprehensive care including blood transfusions, chelation therapy and regular meticulous monitoring for the side effects and complications of the disease and its treatment. The unit is a centre of excellence in the region with heavy involvement in care and research including participation in an international drug trial (Exjade). The availability of the latest state of art MRI T2* equipment at the Radiology Department has improved the monitoring of the cardiac and liver iron overload status of these patients.

HAEMATOLOGY CLINICS AT THE NEW SOHAR HOSPITAL
The Department conducts a monthly haematology clinic at the new Sohar Hospital. The clinic is run on rotation basis by one of the Department’s haematology consultants. They are assisted locally by Dr. Ali Al-Madhani, from the Department of Medicine at Sohar Hospital.

OUTREACH CLINICS AT NIZWA HOSPITAL
The Department conducts a monthly haematology clinic at Nizwa Hospital as part of the Outreach Clinics programme. This has really benefitted the sickle cell patients living in and around the catchment area of Nizwa hospital as these patients do not have to travel all the way to our hospital for routine medications and consultations.

GENERAL LABORATORY SERVICES
The Haematology Laboratory caters for the entire hospital and additionally receives referral samples from all over Oman for routine and advanced haematology laboratory testing. The laboratory is subdivided into various sections including general haematology, haemoglobinopathy, haemostasis and special haematology, blood banking and donor room services, and the molecular division.

MOLECULAR RESEARCH AND DIAGNOSTIC LABORATORY
The Department now offers DNA diagnostic facilities for several thrombophilic disorders; haemoglobin disorders; immune deficiency syndromes, and malignant haematology, especially for acute and chronic leukaemia. The section is also involved in the monitoring of the transplant progress by chimerism studies in post-transplant patients. Finally it provides diagnosis of chronic myeloproliferative disorders.

CORD BLOOD BANK
The Department, in collaboration with Obstetrics & Gynaecology, has now set up a Cord Blood Bank. We have standardised the collection and storage of cord blood samples. Collection of cord blood is currently done under two programmes; a) sibling cord blood (SCB) and b) unrelated cord blood (UCB). Up to December 2012, we had collected a total of 105 SCB units and 57 UCB units. We have so far used 3 SCB units for sibling cord blood transplantation.

APHERESIS UNIT OF THE BLOOD BANK
The Department has now installed the Baxter Amicus, Optia and Cobe Spectra apheresis systems and our apheresis nurses and technicians are trained in their use. All these systems are now in routine use for harvesting stem cells from donors
in the Department’s BMT programme; plasma exchange; platelet apheresis, and leucocyte collection. We have performed bone marrow harvesting for the autologous backup of patients undergoing transplantation in 9 cases. Additionally, in 18 cases, we have done peripheral blood stem cell cryopreservation for patients undergoing autologous transplantations.

Furthermore, apheresis services are now available, in consultation with the attending haematologist on duty, to the SQUH wards and ICU units whenever the need for plasmapheresis or plasma exchange arises.

**BUSULPHAN PHARMAKOKINETICS**

Optimisation of busulphan dosage in patients undergoing bone marrow transplantation is recommended in order to reduce the toxic effects associated with high drug levels. The API 150 EX LCMS system which has been installed for the research project on intravenous versus oral busulphan in BMT for thalassaemia is now fully operational. The section looks after the busulphan pharmakokinetics in patients undergoing BMT to assess the blood levels of the drug in order to optimise the treatment protocols. We have thus far performed pharmacokinetic studies on 14 patients for this purpose.

**Table 1: Laboratory Activities 2008–2012**

<table>
<thead>
<tr>
<th>Year</th>
<th>Patients</th>
<th>% increase on previous year</th>
<th>Tests and procedures</th>
<th>% increase on previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>14,7799</td>
<td>+25.6</td>
<td>59,8309</td>
<td>+23.3</td>
</tr>
<tr>
<td>2009</td>
<td>17,7568</td>
<td>+20.1</td>
<td>71,2520</td>
<td>+19.1</td>
</tr>
<tr>
<td>2010</td>
<td>19,8109</td>
<td>+11.6</td>
<td>77,8662</td>
<td>+9.3</td>
</tr>
<tr>
<td>2011</td>
<td>21,3406</td>
<td>+7.7</td>
<td>84,0309</td>
<td>+7.9</td>
</tr>
<tr>
<td>2012</td>
<td>20,7708</td>
<td>-2.7</td>
<td>82,4099</td>
<td>-1.9</td>
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</table>

**Table 2: Clinical Workload 2008–2012**

<table>
<thead>
<tr>
<th>Year</th>
<th>Haematology inpatients</th>
<th>% increase on previous year</th>
<th>Haematology day care</th>
<th>% increase on previous year</th>
<th>Haematology outpatients</th>
<th>% increase on previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1,409</td>
<td>-0.5</td>
<td>3,035</td>
<td>-1.4</td>
<td>3,428</td>
<td>+21.3</td>
</tr>
<tr>
<td>2009</td>
<td>1,887</td>
<td>+33.9</td>
<td>3,127</td>
<td>+3.0</td>
<td>4,181</td>
<td>+22.0</td>
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<tr>
<td>2010</td>
<td>1,869</td>
<td>-1.0</td>
<td>3,271</td>
<td>+4.6</td>
<td>4,407</td>
<td>+5.4</td>
</tr>
<tr>
<td>2011</td>
<td>1,630</td>
<td>-12.8</td>
<td>3,773</td>
<td>+15.3</td>
<td>5,336</td>
<td>+21.1</td>
</tr>
<tr>
<td>2012</td>
<td>1,545</td>
<td>-5.2</td>
<td>3,769</td>
<td>-0.1</td>
<td>6,069</td>
<td>+13.7</td>
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</tbody>
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Research

RESEARCH PROJECTS

Establishment of a national facility in stem cell translation research for novel cellular-based therapies and tissue repair

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Value: OR 165,000</td>
<td>Project Funder: H. M. Strategic Fund, Oman</td>
</tr>
</tbody>
</table>

Investigators:

Dr. David Dennison, Dept. Haematology, SQU; Dr. Sultan Al-Maskari, Dept. Surgery, SQU; Dr. Anil Pathare, Dept. Haematology, SQU; Dr. Salam Alkindi, Dept. Haematology, SQU; Dr. Khalil Al-Farsi, Dept. Haematology, SQU; Dr. Mohammed Hunieni, Dept. Haematology, SQU; Dr. Naglaa Fawaz, Dept. Haematology, SQU; Ms. Qamariya Al-Abri, Dept. Haematology, SQU; Ms. Sahima Al-Maamaari, Dept. Haematology, SQU; Ms. Sabah Al-Mahrooqi, Dept. Haematology, SQU; Mr. Ali Al-Marhoobi, Dept. Haematology, SQU; Mr. Hamed Al-Gheithi, Dept. Haematology, SQU; Mr. Shoaib Al-Zadjali, Dept. Haematology, SQU; Ms. Melanie Tauro, Dept. Haematology, SQU; Dr. Yasser Wali, Dept. Child Health, SQU; Dr. Abdulhakeem Rawas, Dept. Child Health, SQU; Dr. Muhanna Al-Muslahi, Dept. Haematology, Royal Hospital, Oman; Dr. Hamoud Al-Dhuli, Dept. Radiology & Molecular Imaging, SQU; Dr. Rashid Al-Sukaiti, Dept. Radiology & Molecular Imaging, SQU; Dr. Shyam Ganguly, Dept. Family Medicine & Public Health, SQU; Dr. Helmut Schuster, Dept. Microbiology & Immunology, SQU; Dr. Adeeb Al-Zoubi, Jordan University, Jordan.

Molecular Genetics of alpha globin gene expression in native Omani Population: Towards understanding the molecular basis of alpha thalassaemia and impact on clinical expression of beta thalassaemia and sickle cell disease

<table>
<thead>
<tr>
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<tr>
<td>Value: OR 68,300</td>
<td>Project Funder: The Research Council, Oman</td>
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</table>

Investigators:

Dr. Salam Alkindi, Dept. Haematology, SQU; Dr. Mohammad Huneini, Dept. Haematology, SQU; Dr. Khalil Al-Farsi, Dept. Haematology, SQU; Dr. Anil Pathare, Dept. Haematology, SQU; Dr. Naglaa Fawaz, Dept. Haematology, SQU; Dr. Shoaib Al-Zadjali, Dept. Haematology, SQU; Mr. Hamood Al-Haddabi, Dept. Haematology, SQU; Dr. R. Krishnamoorthy, INSERM U 763, Paris, France.
Role of von Willebrand factor on the occurrence of vaso-occlusive crisis in patients with sickle cell disease


Value: OR 11,500    Project Funder: Sultan Qaboos University

Investigators:    Dr. Mohammad Huneini, Dept. Haematology, SQU; Dr. Anil Pathare, Dept. Haematology, SQU; Prof. Chao-Hung Ho, Dept. Haematology, SQU; Mr. David Gravell, Dept. Haematology, SQU; Mr. Shoaib Al-Zadjali, Dept. Haematology, SQU; Ms. Qamariya Al-Abri, Dept. Haematology, SQU; Dr. Vinod Panjwani, Dept. Haematology, SQU; Dr. Hammad Khan, Dept. Haematology, SQU.

Rhesus [RH] and Kell [KEL] alleles in sickle cell patients with alloimmunization


Value: OR 13,000    Project Funder: Sultan Qaboos University

Investigators:    Dr. Anil Pathare, Dept. Haematology, SQU; Dr. Salam Alkindi, Dept. Haematology, SQU; Dr. Nagalaa Fawaz, Dept. Haematology, SQU; Mr. Shoaib Al-Zadjali, Dept. Haematology, SQU; Mr. Ali Al-Marhoobi, Dept. Haematology, SQU; Ms. Sabah Al-Mahrooqi, Dept. Haematology, SQU.

Towards understanding the environmental and inherited basis of iron deficiency and iron deficiency anemia in the native Omani population: Molecular genetics of iron metabolism


Value: OR 16,700    Project Funder: Sultan Qaboos University

Investigators:    Dr. Nagalaa Fawaz, Dept. Haematology, SQU; Dr. Anil Pathare, Dept. Haematology, SQU; Dr. Salam Alkindi, Dept. Haematology, SQU; Dr. Vinodh Panjwani, Dept. Haematology, SQU; Mr. Shoaib Al-Zadjali, Dept. Haematology, SQU; Dr. R. Krishnamoorthy, INSERM U 763, Paris, France.

Assessing the accuracy of probe haemoglobin measurement in blood donors and thalassemia patients compared to haemoglobin by automated machines

Project Code: MREC #506    Dates: 2012

Value: Unfunded    Project Approval: Sultan Qaboos University

Investigators:    Dr. Murtadha Al Khabori, Dept. Haematology, SQU.
Genital ulcers as a unique complication of all trans retinoic acid used in patients with acute promyelocytic leukaemia (a case series)

<table>
<thead>
<tr>
<th>Project Code: MREC #513</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Mohammad Al Huneini, Dept. Haematology, SQU.</td>
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</table>

Investigation of anti-sickling effect of henna

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<th>Project Code: MREC #516</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
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<tr>
<td>Investigator:</td>
<td>Dr. Shakila Ashraf, Dept. Haematology, SQU.</td>
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</tbody>
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Establishment of eosin-5-maleimide fluorescence intensity reference range in Omani adult population

<table>
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<tr>
<th>Project Code: MREC #517</th>
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<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
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<tr>
<td>Investigator:</td>
<td>Dr. Salam Alkindi, Dept. Haematology, SQU.</td>
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Review of the indications for the use of activated factor VII (VIIa) and their adverse events in SQUH

<table>
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<tr>
<th>Project Code: MREC #523</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Murtadha Al-Khabori, Dept. Haematology, SQU.</td>
</tr>
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</table>

Comparison of HBF, HBA2 and HBS measurement using Bio-rad variant II by using high performance liquid chromatography (HPLC) in normal donors and sickle cell trait patients using two methodologies:- Bio-rad VII beta-thalassemia short program and Bio-rad dual program

<table>
<thead>
<tr>
<th>Project Code: MREC #529</th>
<th>Dates: 2012</th>
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<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Salam Alkindi, Dept. Haematology, SQU.</td>
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Gulf Thrombocytopenia Group – Immune Thrombocytopenia Registry (GTG-ITP registry)

<table>
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<tr>
<th>Project Code: MREC #531</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigators:</td>
<td>Dr. Salam Alkindi, Dept. Haematology, SQU.</td>
</tr>
</tbody>
</table>
Prospective, open-label, multi-center, phase III clinical study to investigate the efficacy and safety of human factor VWF/VIII concentrate (wilate) in subjects with inherited type 3 Von Willebrand Disease (VWD) who undergo major surgical procedures.

**Project Code:** MREC #532  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. Salam Alkindi, Dept. Haematology, SQU.

**Viability of peripheral blood stem cells and cord blood in short-term storage**

**Project Code:** MREC #548  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. David Dennison, Dept. Haematology, SQU.

**Assessment of iron status in patients with acute and chronic leukemia at the time of presentation using iron stain**

**Project Code:** MREC #551  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. Salam Alkindi, Dept. Haematology, SQU.

**Prevalence of pulmonary hypertension and ventricular diastolic dysfunction in sickle cell disease patients**

**Project Code:** MREC #554  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. Zeba Jabeen, Dept. Haematology, SQU.

**Low-dose versus ultra-low-dose acyclovir for the prevention of varicella zoster after hematopoietic stem cell transplantation**

**Project Code:** MREC #565  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. David Dennison, Dept. Haematology, SQU.

**Incidence of hepatitis B, hepatitis C, and HIV in patients with thalassemia intermedia and major**

**Project Code:** MREC #569  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
Dr. Murtadha Al-Khabori, Dept. Haematology, SQU.
**Causes of vitamin B12 deficiency at SQUH**

<table>
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<th>Project Code: MREC #582</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Khalil Al-Farsi, Department of Haematology, SQU.</td>
</tr>
</tbody>
</table>

**Anti-D alloimmunization in Rh negative pregnant females attending the antenatal care unit at SQUH**

<table>
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<tr>
<th>Project Code: MREC #595</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigators:</td>
<td>Dr. Arwa Al-Riyami, Dept. Haematology, SQU.</td>
</tr>
</tbody>
</table>

**Incidence of adverse events due to zoledronic acid in patients with multiple myeloma at Sultan Qaboos University Hospital: a retrospective-cohort study**

<table>
<thead>
<tr>
<th>Project Code: MREC #609</th>
<th>Dates: 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Murtadha Al-Khabori, Dept. Haematology, SQU.</td>
</tr>
</tbody>
</table>

**Prospective review of utilization and patterns of prescription of blood products at Sultan Qaboos University Hospital blood bank**

<table>
<thead>
<tr>
<th>Project Code: MREC #620</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
</tr>
<tr>
<td>Investigator:</td>
<td>Dr. Murtadha Al-Khabori, Dept. Haematology, SQU.</td>
</tr>
</tbody>
</table>

**RESEARCH PUBLICATIONS & BOOKS**

**Journal Publications**


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International


Poster Presentations

International


24. Da Fonseca S, El-Far M, **Boulssel R**, Routy JP, Sékaly RP, Chomont N. A role for negative regulators of T cell activation in the establishment and maintenance of the HIV reservoir. 21st Annual Conference of the Canadian Association for HIV/AIDS Research (CAHR), Montreal, Quebec, Canada, 19–22 Apr 2012.

**Seminar Presentations**

**International**

1. **Alkindi S.** Immune Thrombocytopenic Purpura. Thrombocytopenia Group African, Middle East, Asian ITP Registry, Dubai, United Arab Emirates, Jan 2012.

2. **Alkindi S.** 6 years’ experience with Exjade, Novartis Ltd., Dubai, United Arab Emirates, May 2012.


National


5. **Al Riyami A.** Massive transfusion. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.


8. **Al Zadjali S.** Molecular diagnostics in malignant hematology. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.

9. **Dennison D.** Allogeneic stem cell transplantation for hemoglobinopathies. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.


11. **Alkindi S.** Updates on Acute Chest Syndrome in SCD. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.

12. **Daar S.** MRI T2* in Homozygous Beta Thalassemia. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.

13. **Al Riyami A.** Workshop: Challenging and unusual diagnostic cases. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.


15. **Al Khaboori M.** Workshop: Research methodology and training in hematology. 2nd Pan Arab Haematology Conference, Muscat, Oman, 14 Nov 2012.


17. **AlKindi S.** Workshop: Dealing with SCD at Work. 8th International Scientific Conference for Medical Students in the GCC Countries (Gulf Countries), Muscat, Oman, 28 Jan–1 Feb 2012.

18. **AlKindi S.** TCD workshop. 8th International Scientific Conference for Medical Students in the GCC Countries (Gulf Countries), Muscat, Oman, 28 Jan–1 Feb 2012.

19. **AlKindi S.** Approach to SCD. Annual National Laboratory Symposium, Ibra, Oman, April 2012.

20. **AlKindi S.** Cases of bleeding disorders. Annual National Laboratory Symposium (Medicine), Sohar, Oman, Apr 2012.


THESIS SUPERVISION

Student Name: Sumaiya A. S. Al-Bulushi
Qualification: B.Sc. MLS
Title: Assessment of iron over load in the patients with haematological malignances
Supervisor: Dr. Salam Alkindi, Dr. Shakila Ashraf
Date of completion: May 2012

Student Name: Suhair S. J. Al-Hosni
Qualification: B.Sc. MLS
Title: Establishing normal ranges of A2 and Hb F using beta-thalassemia short program and dual kit
Supervisor: Mr. David Gravell, Mr. Hamood Al-Haddabi, Ms. Qamaryia Al Abri
Date of completion: May 2012

Student Name: Hawraa M. A. Al-Lawati
Qualification: B.Sc. MLS
Title: Antisickling effect of henna in sickle cell patients
Supervisor: Dr. Shakila Ashraf
Date of completion: May 2012
Student Name: Munira M. D. Al-Salmi

Qualification: B.Sc. MLS

Title: Setting a range for E5m fluorescence intensity using 100 EDTA blood donors samples of normal RBC induces

Supervisor: Dr. Salam Alkindi, Mr. Hamed Al-Gheithi

Date of completion: May 2012
The Department is concerned with the science of human anatomy, especially the relationship between structure and function, clinical applications and its use in interpreting images produced by modern radiographic techniques. The Department’s main teaching load is in the preclinical programme (B.Sc. Health Sciences). It shares this with other basic medical sciences departments in the delivery of integrated system courses. However, it also teaches a few department-based courses. The teaching focuses on gross anatomy, developmental anatomy and the study of the microstructure of tissues and cytogenetics. In addition to radiological anatomy, students study gross and topographical anatomy using prosections and anatomical models, histology and embryology. Living and surface anatomy is an important component of the course. Students taught include medical undergraduates and postgraduates preparing for higher examinations, e.g. Fellowship of the Royal Colleges of Surgeons (FRCS), and students from the College of Nursing.

In addition, the Department’s input includes teaching clinical and applied anatomy and applied cytogenetics to Oman Medical Specialty Board (OMSB) candidates. Postgraduate teaching involves the teaching of advanced histology and embryology to candidates specialising in histopathology and obstetrics & gynaecology. Candidates preparing for their FRCS examinations enjoy the teaching facilities provided by the Department. The Department also provides services to other clinical departments and students of the Institute of Health Sciences in Muscat. The Department makes modest contributions to the College’s Master’s programme.

Research continued to be pivotal to the academic activities of the Department. This embraces hypertension, immune response to pregnancy, calcifi-
cation and bone resorption, bone marrow cells and blood cells, medical education, medical informatics and curriculum development.

Research continued to be pivotal to the academic activities of the Department. This embraces hypertension, immune response to pregnancy, calcification and bone resorption, bone marrow cells and blood cells, medical education, medical informatics and curriculum development.

Staff

**Head of Department**
Ibrahim Inuwa, Associate Professor

**Faculty**
Omar Habbal, Associate Professor
Luben Tchakarov, Assistant Professor
Varna Taranikanti, Assistant Professor
Sadhana Roychoudhury, Assistant Professor
Maimouna Al-Rawahi, Senior Registrar
Halima Al-Balushi, Clinical Instructor
Ruqaya Al-Jabri, Clinical Instructor

**Support Staff**
Sulaiman Al-Khiyari, Acting Superintendent
Abdulgaffar El-Hag, College Superintendent
Nasser Al-Hashmi, Biomedical Scientist
Nawal Al-Mukheini, Biomedical Scientist
Talal Al-Hassani, Biomedical Scientist
Prem Tilaka, Biomedical Scientist
Indrani Arambewela, Biomedical Scientist
Alexander George, Coordinator

**Highlights of the Year 2012**
The Department was proud of the following achievements of its staff. Ms. Nawal M. Al-Mukheini, a Senior Biomedical Scientist, was selected for a 4-year Ph.D. scholarship. The University of Dundee, UK, conferred a Master's in Medical Education (MMEd) on Dr. Ibrahim M. Inuwa. He was also elected Fellow of the Academy of Medical Educators of United Kingdom (FAcadMed) and admitted to the Fellowship of Higher Education Academy of England (FHEA).

Dr. Sujata Jog was a visiting consultant in the Department during the 2012 spring semester. Dr. Luben Tchakarov, Assistant Professor, retired in June 2012. Sadly, Dr. Maimouna Al-Rawahi, Assistant Professor, passed away in November 2012.

Teaching Programmes

**PRE-CLINICAL PROGRAMME**
The Department offered several courses in the B.Sc. (Health Sciences) programme and contributed to most system-based courses in the old as well as in the new curriculum.

Courses offered in the old curriculum were: Alimentary System; Locomotor System; Urinary System; Respiratory System; Cardiovascular System; Head & Neck; Human Nervous System; Endocrine & Reproductive System, and the Clinical Skills Courses.

Courses offered in the new curriculum were: Introduction to Anatomy; Structure-Function Relationship; Growth & Development; The Integrated Module I; Cardiovascular System; Respiratory System; Haemo, Lymph & Immune Systems; The Integrated Module II; Alimentary System; Uro-reproductive System; Integrated Module III; Locomotor System, and the Nervous System & Special Senses Courses.

**B.SC. NURSING PROGRAMME**
The Department offered Anatomy and Physiology courses in the B.Sc. Nursing program in College of Nursing.
CLINICAL PROGRAMME
The Department provided teaching during the clinical program and contributed to cytogenetics and the 5th Year Integrated Lecture Series (ILS).

POSTGRADUATE TEACHING
The Department was involved in postgraduate teaching. The teaching of cytogenetics contributed to the Core Program of the Oman Medical Specialty Board (OMSB). The Department also contributed to the postgraduate programme (histopathology) and took part in the SCRAPS medical seminar programme in the College of Medicine & Health Sciences (COM&HS).

Research

RESEARCH PROJECTS

Effectiveness of Flexible digital media platform in Anatomy education

Project Code: RC/MED/ANAT/10/01
Dates: 2010–2012
Value: OR 16,900
Investigators:
Dr. Ibrahim M. Inuwa, Dept. Human & Clinical Anatomy, SQU.

Project Funder: The Research Council Oman

A study of the Role of Lymphangiogenesis in Breast Cancer

Project Code: IG/MED/ANAT12/01
Dates: 2012–2014
Value: OR11,561
Investigators:
Dr. Varna Taranikanti, Dept. Human & Clinical Anatomy, SQU; Dr. Adil Al Ajmi, Dept. Surgery, SQU; Dr. Ritu Lakhtakia, Dept. Pathology, SQU; Dr. Shyam Ganguly, Dept. Family Medicine & Public Health, SQU; Ms. Kawther Al-Adawi, Department of Pathology, SQU.

Project Funder: Sultan Qaboos University

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


**CONFERENCE & SEMINAR PRESENTATIONS**

**Poster Presentations**

**International**

The Department of Medicine endeavours to create an environment conducive for achieving excellence in learning for undergraduate and postgraduate students, to provide opportunities to conduct clinical research relevant to the region, and to be a centre of excellence providing specialised, state-of-the-art clinical care in a tertiary care pattern.

The major research themes include asthma, breast cancer, gastric cancer, HIV, Hodgkin’s lymphoma, non-Hodgkin’s lymphoma and cerebrovascular disease. Research areas include epidemiology, molecular characterisation, study of genetic polymorphisms and study of novel mechanisms of the aetiology of various diseases. Members of the Department are principal or co-investigators of several funded research projects.

The Department provides clinical services through a specialty-based system, and takes pride in providing continuous, comprehensive care to the patients in the area required. Consultants are on-call daily in 10 different sub-specialties: cardiology, endocrinology, gastrointestinal & liver diseases, general internal medicine, infectious diseases, nephrology, neurology, oncology, respiratory diseases and rheumatology. These subspecialties offer medical services to patients in the capital area and accept complicated referrals from all over Oman.
Staff

Head of Department
Ali Al-Mamari, Senior Consultant

Faculty
Omar Al-Rawas, Professor, Dean (College of Medicine)
Bazdawi Al-Riyami, Professor, Dean (College of Nursing)
Nicholas Woodhouse, Professor
Mansour Al-Moundhri, Professor
Arunodaya Gujjar, Associate Professor, Assistant Dean (Clinical Affairs)
Jamal Sallam, Assistant Professor
P. C. Jacob, Assistant Professor
Batool Hassan, Assistant Professor
Masoud Kashoob, Senior Consultant
William Johnston, Senior Consultant
Mehar Ali, Senior Consultant
Abdullah Al-Asmi, Senior Consultant
Ikram Burney, Senior Consultant
Muhammed Furrukh, Senior Consultant
Abdullah Balkhair, Senior Consultant
Hafidh Al-Hadi, Senior Consultant
Juma K. Al-Kaabi, Senior Consultant
B. N. Jayakrishnan, Senior Consultant
Dawood Al-Riyami, Senior Consultant
Omayma T. Elshafie, Senior Consultant
Mansour Sallam, Senior Consultant
Ammar Abdulrahman, Senior Registrar
Khalfan Al-Zeedy, Senior Registrar
Khawaja F. Zahid, Senior Registrar
Dawar M. Rizvi, Senior Registrar
Mohammed A. Khatri, Senior Registrar
Darshan Lal, Senior Registrar
Suneel Kumar, Senior Registrar
Mohammed Misbah, Senior Registrar
Kowthar Hassan, Registrar
Osama Hassan, Registrar
Saja M. Mohammed, Registrar
Mortad E. Mohammed, Registrar
Faroq M. Hussain, Registrar
Osama Tariq, Registrar
Yasser Waadallah, Registrar
Ali M. Al-Shemmari, Registrar
Fathima Aamer, Registrar
Abdullah Al-Alawi, Senior House Officer
Ahmed Al-Qassabi, Senior House Officer
Haifa Al-Abri, Senior House Officer
Jamal N. Al-Aghbari, Senior House Officer
Leena Bella, Senior House Officer
Nesreen Siddiq, Senior House Officer
Sara Aziz, Senior House Officer
Anjum Hassan, Senior House Officer
Waiel M. Mekki, Senior House Officer
Hashim BaTaher, Senior House Officer
Zaheer A. Siddiqui, Senior House Officer
Taha Dawood, Senior House Officer

Technologists
Sawsan Baddar, Respiratory Therapist
Saphia Al-Ajmi, Podiatrist

Support Staff
Rose Natividad, Coordinator
Ibrahim Al-Shoaibi, Coordinator
Ghaniya Al-Siyabi, Coordinator
Highlights of the Year 2012

In this period, a number of departmental staff received awards for their achievements. Prof. Omar Al-Rawas was appointed as Dean of the College of Medicine & Health Sciences (COM&HS). Dr. Mansour Al-Moundhri was promoted to Professor. Dr. William Johnston received an award for Best Trainer from the Oman Medical Specialty Board (OMSB) for the second time.

Dr. Said Al-Busafi returned from scholarship study in Canada, while the Department welcomed the following new staff: Dr. Viji Thomson, Assistant Professor; Drs. Muhammad Khatri, Darshan Lal and Suneel Kumar, Senior Registrars; Drs. Farooq Rehman and Mortada El-Tigani, Registrars, and Dr. Nasreen El-Fatih, Senior House Officer. The Department said goodbye to Dr. Paul George, Senior Consultant; Dr. Fatma Bin Abed, Registrar; Dr. Abubaker, Registrar, and Dr. Noon Abdulghaffar, Senior House Officer.

The 12th Advanced General Medicine Conference was organised by the Department from 22-23 February. It covered a wide range of advances in different topics in medicine. It was attended by the president of the Royal College of London and other experts from UK and Oman. Prof. Mansour Al-Moundhri, Dr. Samir Hussain, Dr. Bassim Al-Bahrani and Dr. Naima Al-Balushi presented their work in oncology and nuclear medicine.

The Department’s Annual Research Retreat was held on 17 May at the Crowne Plaza Hotel, Muscat, with the Dean in attendance. The Retreat provided an overview of the research productivity of the department and there were discussions of the relationship with the Research Council Oman and how to utilise its funding opportunities.

The Department organised 3 post graduate exams during the last year: MRCP (UK), MRCP (Ireland) and the Arab Board. The Department was complemented for its excellent organisation and for the way it handled all the issues related to the examination process.

The Department continues to attract undergraduate and postgraduate students from Oman and foreign universities for their electives; in 2012, we received about 20 such students. In addition, we provided clinical attachments for about 8 junior doctors as preparation for their postgraduate examinations and for further training.

The staff of the Department participated in a number of courses and workshop organised by the Medical Education Unit (MEU) of the COM&HS in order to improve teaching and assessment skills for undergraduate and postgraduate level courses. These included: Appraisal Skills Workshop; Certificate in Health Professional Education (CHPE); Student Assessment Workshop; Continuous Assessment of Clinical Skills and Professional Behaviour workshop, and Designing Integrated Questions Workshop.

Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME

The Department continued to play a major role in all levels of teaching.
**Integrated Modules**

Members of the Department participated in all phase II teaching modules including: Integrated Module I, which covers the cardiovascular, respiratory and locomotor systems; Integrated Module II, which covers the gastrointestinal system in addition to nutrition lectures, and Integrated Module III which covers the nervous, endocrine and locomotor systems.

Teaching activities took the form of lectures, tutorials and bedside teaching activities.

**PRE-CLERKSHIP PROGRAMME**

Pre-clerkship students (divided into 9 groups) were posted for a week in 9 different components of the programme. Three components (cardiovascular, central nervous and respiratory systems) were undertaken in the Department. Unlike other departments, 3 groups of students (n = 42) were posted together in Medicine at all points of time.

On day one, 3 tutors taught the physical examination techniques of their respective systems in the Skills Laboratory. This was done with the aid of pre-recorded videos and demonstrations of history-taking and physical examination using a healthy volunteer. The students were then allowed to practice on this simulated patient under supervision. For the following 3 days, the students had two clinical sessions every day in each of the 3 specialties. They took history from patients in the wards and later did the physical examination under the guidance of a tutor. A list of 9 symptoms given at the beginning of each week in each of these 3 systems formed the basis for a focused history and the clinical examination. On the last day the students were assessed by a 4-hour mini clinical evaluation exercise. The Cardiothoracic Unit, Neurosurgery Unit and the Anaesthesia Department were involved in the teaching with the Cardiology, Neurology and Respiratory units, respectively. In these 9 weeks all the students acquired basic skills, the knowledge and attitude to elicit history and perform physical examinations on patients with cardiovascular, neurological and respiratory diseases.

**Junior Clerkship**

This section of phase III phase consists of 10 weeks rotations per year. Our Department contributes heavily to 3 modules (cardiovascular and respiratory systems, and neurology), in addition to the musculoskeletal system module in collaboration with the Department of Surgery. Students scheduled to one of 9 groups to rotate through 9 weekly components with the 10th week reserved for assessment. Preparation for the first junior clerkship examination started early in the academic year as the Department is in a group with the Child Health, Biochemistry and Genetics departments.

**UNDERGRADUATE CLINICAL PROGRAMME**

**Senior Clerkship**

Documents and preparations for the Senior Clerkship started in 2011 and the course itself in January 2012. Dr. Batool Hasan is the Department’s coordinator for this module and is supported by the Education Committee members.

The 7th year clinical rotation in medicine, for the academic year 2011–2012 was from 30 July 2011 to 11 May 2012. This consisted of 127 students (112 from the main 2005 cohort and 15 from previous cohorts), who rotated for 7 weeks in medicine (3 weeks in Sultan Qaboos University Hospital [SQUH], 3 weeks in the Royal Hospital and 1 week for the end of rotation assessment). The 127 students were divided into 10 groups of 11–14 students each for these rotations. The Department received each group for 3 weeks with 4–5 students being allocated to each of the 3 General Medicine Units (GMUs) for this period.
During work with the GMUs, the students were expected and supported to achieve well-defined objectives of knowledge, skills and attitude. In addition, there were weekly long-case assessments and daily core presentations by students to cover the predetermined essential knowledge of medicine expected from 7th year students.

The final MD examinations in medicine—consisting of a written theory examination, an objective structured clinical examination (OSCE) and a clinical examination—were held in June. All 127 students passed in medicine, 27 securing Grade A including an impressive 15 distinctions.

POSTGRADUATE PROGRAMMES

OMSB Residency Programme
The Department is continuously receiving Oman Medical Specialty Board (OMSB) residents for training in internal medicine. Undergraduates and postgraduates are involved in many educational activities including the morning case report (morning meeting), grand rounds, radiology meetings and journal clubs, as well as the monthly mortality review meeting. CME sessions are held every alternate Monday morning and Wednesday lunch-time is used for presentations by outside guest speakers.

Members of the Department actively participate in the postgraduate teaching of interns, house officers and the OMSB residents in internal medicine, as well as residents from other subspecialties (such as family medicine, public health, dermatology, laboratory sciences and emergency medicine) rotating through the Department. Residents receive supervised training on ward rotations and during electives in different subspecialties of medicine. Members of the Department participate in organised teaching activities, such as lectures (twice weekly), radiology rounds (weekly) and grand rounds (weekly). In addition, members of the Department of Medicine are invited to deliver lectures to other subspecialty residency programmes, such as those in the Emergency Medicine and Family Medicine & Public Health departments.

Training Courses & CME Activities
Department staff members deliver lectures regularly at the Pain Management Course and the Chemotherapy Administration Course organised by the SQUH Directorate of Training & CPD in conjunction with the Directorate of Nursing Services.

Clinical & Diagnostic Services
In 2012, there were 2,170 dialysis sessions compared to 2,166 in 2011. The total number of procedures done by the Gastroenterology Unit in 2012 was 1,649, an increase of 234 (16.5%) over 2011. As for the bronchoscopies performed by the Respiratory Unit in 2012, there were 84 procedures compared to 54 in 2011.

Inpatient and outpatient numbers for 2012 are shown in the table below:
### Table 1: Inpatient and Outpatient Numbers 2012

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Inpatients</th>
<th>Outpatients</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>1,044</td>
<td>9,075</td>
<td>10,119</td>
</tr>
<tr>
<td>Clinical physiology cardiology</td>
<td>0</td>
<td>3,037</td>
<td>3,037</td>
</tr>
<tr>
<td>Clinical physiology neurophysiology</td>
<td>0</td>
<td>3,357</td>
<td>3,357</td>
</tr>
<tr>
<td>Clinical physiology respiratory</td>
<td>0</td>
<td>1,553</td>
<td>1,553</td>
</tr>
<tr>
<td>Diabetic</td>
<td>14</td>
<td>5,889</td>
<td>5,903</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>375</td>
<td>1,004</td>
<td>1,379</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>1,383</td>
<td>7,392</td>
<td>8,775</td>
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<tr>
<td>Infectious diseases</td>
<td>76</td>
<td>1,094</td>
<td>1,170</td>
</tr>
<tr>
<td>Lipid Clinic</td>
<td>0</td>
<td>2,086</td>
<td>2,086</td>
</tr>
<tr>
<td>Medicine</td>
<td>1,587</td>
<td>913</td>
<td>2,500</td>
</tr>
<tr>
<td>Nephrology</td>
<td>729</td>
<td>1,895</td>
<td>2,624</td>
</tr>
<tr>
<td>Neurology</td>
<td>473</td>
<td>7,335</td>
<td>7,808</td>
</tr>
<tr>
<td>Oncology</td>
<td>3,578</td>
<td>2,483</td>
<td>6,061</td>
</tr>
<tr>
<td>Pulmonology Clinic</td>
<td>372</td>
<td>5,288</td>
<td>5,660</td>
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<tr>
<td>Rheumatology</td>
<td>519</td>
<td>4,386</td>
<td>4,905</td>
</tr>
<tr>
<td>Thyroid</td>
<td>51</td>
<td>4,927</td>
<td>4,978</td>
</tr>
<tr>
<td>Total</td>
<td>10,201</td>
<td>61,714</td>
<td>71,915</td>
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</table>

### Table 2: Sources of Inpatient Referrals 2012

<table>
<thead>
<tr>
<th>Source of referral</th>
<th>Inpatients</th>
<th>Outpatients</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>37</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>131</td>
<td>8</td>
<td>139</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>74</td>
<td>2</td>
<td>76</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>98</td>
<td>0</td>
<td>98</td>
</tr>
<tr>
<td>Lipid Clinic</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>
### Table 3: Gastrointestinal Unit Procedures 2012

<table>
<thead>
<tr>
<th>Type of procedure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagogastroduodenoscopy (EGD)</td>
<td>901</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>438</td>
</tr>
<tr>
<td>Endoscopic retrograde cholangiopancreatography (ERCP)</td>
<td>101</td>
</tr>
<tr>
<td>ERCP and insertion of metal biliary stent</td>
<td>7</td>
</tr>
<tr>
<td>Push enteroscopy</td>
<td>5</td>
</tr>
<tr>
<td>Transnasal oesophagogastrroduodenoscopy</td>
<td>13</td>
</tr>
<tr>
<td>Percutanuos endoscopic gastric (PEG) tube insertion</td>
<td>21</td>
</tr>
<tr>
<td>Percutanuos endoscopic gastric (PEG) tube replacement</td>
<td>9</td>
</tr>
<tr>
<td>Colonic polypectomy</td>
<td>43</td>
</tr>
<tr>
<td>Gastric polypectomy</td>
<td>6</td>
</tr>
<tr>
<td>Esophageal metallic stent insertion</td>
<td>6</td>
</tr>
<tr>
<td>Duodenal metallic stent insertion</td>
<td>2</td>
</tr>
<tr>
<td>Gastric metallic stent insertion</td>
<td>1</td>
</tr>
<tr>
<td>Colonic metallic stent insertion</td>
<td>2</td>
</tr>
<tr>
<td>Oesophageal varices banding</td>
<td>16</td>
</tr>
<tr>
<td>Endoscopic oesophageal dilatation</td>
<td>8</td>
</tr>
<tr>
<td>Endoscopic clipping/injection for bleeders</td>
<td>47</td>
</tr>
<tr>
<td>Endoscopic argon plasma coagulation</td>
<td>23</td>
</tr>
<tr>
<td>Total procedures</td>
<td>1,649</td>
</tr>
</tbody>
</table>
### Table 4: Respiratory Procedures 2012

<table>
<thead>
<tr>
<th>Type of procedure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchoscopy</td>
<td>84</td>
</tr>
<tr>
<td>Pleural procedures</td>
<td>36</td>
</tr>
<tr>
<td>Pulmonary function tests</td>
<td>1,065</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,185</td>
</tr>
</tbody>
</table>

### Table 5: Cardiology Procedures 2012

<table>
<thead>
<tr>
<th>Type of procedure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective coronary angiography</td>
<td>651</td>
</tr>
<tr>
<td>Emergency coronary angiography</td>
<td>57</td>
</tr>
<tr>
<td>Elective percutaneous coronary intervention</td>
<td>222</td>
</tr>
<tr>
<td>Emergency percutaneous coronary intervention</td>
<td>33</td>
</tr>
<tr>
<td>Intra-aortic balloon pump insertion</td>
<td>10</td>
</tr>
<tr>
<td>Catheter aspiration of coronary thrombus</td>
<td>32</td>
</tr>
<tr>
<td>Fractional flow coronary reserve study</td>
<td>41</td>
</tr>
<tr>
<td>Temporary pacemaker</td>
<td>26</td>
</tr>
<tr>
<td>Permanent pacemaker</td>
<td>22</td>
</tr>
<tr>
<td>Pericardiocentesis</td>
<td>1</td>
</tr>
<tr>
<td>Right-side heart catheterisation</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,104</td>
</tr>
</tbody>
</table>

### Table 6: Non-invasive Cardiology Procedures 2012

<table>
<thead>
<tr>
<th>Type of procedure</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Electrocardiogram (ECG)</td>
<td>4,295</td>
</tr>
<tr>
<td>24-hour ECG Holter monitoring</td>
<td>544</td>
</tr>
<tr>
<td>24-hour blood pressure monitoring</td>
<td>73</td>
</tr>
<tr>
<td>Treadmill exercise test</td>
<td>312</td>
</tr>
<tr>
<td>Stress thallium scintigraphy</td>
<td>528</td>
</tr>
</tbody>
</table>
Research

RESEARCH PROJECTS

Prognostic and predictive biomarkers in diffuse large B-cell lymphoma


Project Funder: Sultan Qaboos University

Value: OR 10,000

Investigators: Dr. Ikram Burney, Dept. Medicine, SQU; Dr. Hamza Babiker, Dept. Biochemistry, SQU; Dr. Mansour Al-Moundhri, Dept. Medicine, SQU; Dr. Khalil Al-Farsi, Dept. Haematology, SQU; Dr. Shiyam Kumer, Dept. Medicine, SQU; Dr. Crystal Koh, Dept. Microbiology & Immunology, SQU; Dr. Khalil Al-Farsi, Dept. Haematology, SQU; Dr. Aisha Al-Hamdani, Dept. Pathology, SQU.

Pulse wave velocity as a predictor of failure to mature of arterio-venous fistula (AVF)


Project Funder: Sultan Qaboos University

Value: OR 2,445

Investigators: Dr. Dawood Al-Riyami, Dept. Medicine, SQU; Dr. Khamis Al-Hashmi, Dept. Physiology, SQU; Dr. Abdullah Al-Muniri, Dept. Family Medicine & Public Health, SQU; Dr. Khalifa Al-Wahaibi, Dept. Surgery, SQU; Dr. Jaafar Suliman, Dept. Surgery, Royal Hospital, Oman.

Dynamic changes of global DNA methylation patterns during neo-adjuvant chemotherapy treatment: In vivo and in vitro models


Funder: Sultan Qaboos University

Value: OR 7,164

Investigators: Dr. Mansour Al-Moundhri, Dept. Medicine, SQU; Dr. Sirin Adham, Dept. Biology, College of Science, SQU; Prof. Badereldin H. Ali, Dept. Pharmacology & Clinical Pharmacy, SQU; Mr. Manal Al-Khanbashi, Dept. Genetics, SQU.
Validation of predictive and prognostic biomarkers, and the development of novel technologies to aid in customizing treatment decisions: A biomarker analysis in Omani patients with lung cancer

Project Code: IG/MED/MEDE/12/03  Dates: 2012
Value: OR 7,000  Project Funder: Sultan Qaboos University
Investigator: Dr. Muhammed Furrukh, Dept. Medicine, SQU; Dr. Ikram Burney, Dept. Medicine, SQU; Dr. Mansour Al-Moundhri, Dept. Medicine, SQU; Dr. Chandu DeSilva, Dept. Pathology, SQU.

An international multi-center study evaluation of the correlation of IL28B genotypes with chronic hepatitis C disease characteristics and patient demographics

Project Code: MREC# 514  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Dr. Khalid Al-Naamani, Dept. Medicine, SQU; Ms. Haifa Saif Al-Zuhaibi, Dept. Nursing, SQU.

MV25599 (PegBase study) non-interventional cohort study on the utilization and impact of dual and triple therapies based on pegylated interferon for the treatment of chronic hepatitis C

Project Code: MREC# 515  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Dr. Khalid Al-Naamani, Dept. Medicine, SQU; Ms. Haifa Saif Al-Zuhaibi, Dept. Nursing, SQU.

Gulf Acute Heart Failure Registry (Gulf Care)

Project Code: MREC#522  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Dr. Aftab A. Siddiqui, Dept. Medicine, SQU.

Clinical and demographic features of diffuse interstitial lung diseases in Oman

Project Code: MREC#528  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators: Dr. B. N. Jayakrishnan, Dept. Medicine, SQU.
### The prevalence and prognostic significance of K-Ras in colorectal cancer patients

<table>
<thead>
<tr>
<th>Project Code: MREC#533</th>
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<tr>
<td>Investigators:</td>
<td>Prof. Mansour Al-Moundhri, Dept. Medicine, SQU.</td>
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### Relationship of hemodynamic profile in acute myocardial infarction with outcome: Prospective study with thoracic electrical bioimpedance

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<td>Investigators:</td>
<td>Dr. Arunodaya R. Gujjar, Dept. Medicine, SQU.</td>
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### Fluorouracil-based chemotherapy in Omani patients: A pharmaco-genomic and pharmaco-kinetic overview

<table>
<thead>
<tr>
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<tr>
<td>Investigators:</td>
<td>Dr. Hatem Farhan, Dept. Medicine, SQU.</td>
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</table>

### Assessment of quality of diabetes care at SQUH

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<tr>
<td>Investigators:</td>
<td>Dr. Ahmed Farqani, Dept. Medicine, SQU.</td>
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</table>

### Adherence to DVT prophylaxis in SQU medical patients

<table>
<thead>
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<tr>
<td>Investigators:</td>
<td>Dr. Abdulhakim Al-Hashim, Dept. Medicine, SQU.</td>
</tr>
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</table>

### Student research project: The incidence of lactose intolerance in 5 fluorouracil-induced diarrhoea cases

<table>
<thead>
<tr>
<th>Project Code: MREC#584</th>
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<td>Investigators:</td>
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<td>Project Code</td>
<td>Dates</td>
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<td>--------------</td>
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Comparative efficacy of clopidogrel and ticagrelor in patients with acute coronary syndrome in relation to platelet inhibition in Omani patients

<table>
<thead>
<tr>
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<tr>
<td>Value: Unfunded</td>
<td>Project Approval: Sultan Qaboos University</td>
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<tr>
<td>Investigators:</td>
<td>Dr. Viji Thomson, Dept. Medicine, SQU.</td>
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Trends and outcomes of DCIS in Omani breast cancer patients in a tertiary care hospital; A retrospective analysis

<table>
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<tr>
<th>Project Code: MREC#629</th>
<th>Dates: 2012</th>
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<tr>
<td>Investigators:</td>
<td>Dr. Muhammed Furrukh, Dept. Medicine, SQU.</td>
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Evaluation of use of vaccines in asthma, COPD, bronchiectasis and interstitial lung diseases

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<tr>
<td>Investigators:</td>
<td>Dr. Jojy George, Dept. Medicine, SQU.</td>
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Outcomes of Omani Lung Cancer Patients presenting at the Sultan Qaboos University Hospital

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<td>Investigators:</td>
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Anemia in heart failure

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<td>Value: Unfunded</td>
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<tr>
<td>Investigators:</td>
<td>Dr. Hatem Farhan, Dept. Medicine, SQU.</td>
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BOOKS & JOURNAL PUBLICATIONS

Journal publications


BOOKS & BOOK CHAPTERS


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International


National

1. Burney IA. The impact of research on healthcare outcomes in cancer practice. 3rd International Conference on Quality Management, Muscat, Oman, 6–8 Feb 2012. SQUMJ


Seminar Presentations & Workshops

National

1. Burney IA. Teaching and assessment in junior clerkship in Phase III. Curriculum Retreat, Muscat, Oman, 12 Jan 2012.

2. Burney IA. Neo-adjuvant chemotherapy and adjuvant radiotherapy. Nizwa Hospital, Oman, 1 Mar 2012.

3. Burney IA. Meeting etiquettes. Knowledge Forum, Sultan Qaboos University Hospital, Muscat, Oman, May 2012.

5. Nandhagopal R. Workshop on neuroanatomical localization. 8th International Scientific Conference for Medical Students in the GCC Countries, Muscat, Oman, 28 Jan–1 Feb 2012.


8. El-Shafie O. Management of thyroid disease. Sultan Qaboos University Hospital, Muscat, Oman, May 2012.

9. El-Shafie O. Cushing’s disease. Grand Rounds, Sultan Qaboos University Hospital, Muscat, Oman, Apr 2012.


12. Woodhouse N. DEM bones. Grand Rounds, Sultan Qaboos University Hospital, Muscat, Oman, Apr 2012.
The Department of Microbiology & Immunology has a significant contribution to teaching, research and community service. The Department takes part in the B.Sc. Health Sciences, MD (the old and new curriculum), the B.Sc. Medical Laboratory Sciences (MLS), Nursing, M.Sc. and Ph.D. programmes, and the Oman Medical Specialty Board (OMSB) residents’ teaching and training programmes.

The microbiology research interests include basic molecular virology and microbiology and the epidemiology of parasitic infections. The immunology research focuses on autoimmunity, immunity to HCV infection and immunodeficiency, both primary and acquired, including HIV and AIDS. There is active international research cooperation between the Department and scientists in the United Arab Emirates, Britain, Germany, France, Canada and the USA. The Department’s clinical divisions offer diagnostic services to SQU Hospital (SQUH) and other hospitals in Oman in field of bacteriology, virology, parasitology, mycology, and immunology.
Staff

Head of Department
Mohammed Idris, Professor

Faculty
Sharanjit Thukral, Professor
Ali Al-Jabri, Professor
Norbert Nowotny, Professor
Muhammad Al-Kobaisi, Assistant Professor
Basil Nzeako, Assistant Professor
Crystal Koh, Assistant Professor
Elias Said, Assistant Professor
Akbar Rafay, Senior Consultant
Zakariya Al-Muharrmi, Consultant
Munira Al-Siddiqui, Registrar
Khuloud Al-Ma’ari, Registrar
Badiya Al-Adawi, Registrar
Zaaima Al-Jabri, Clinical Instructor
Mohammed Al-Balushi, Research Associate

Support Staff
Sidqi Hassan, Superintendent (College)
Khazina Al-Harthy, Senior Biomedical Scientist
Khuloud Al-Rabhi, Senior Biomedical Scientist
Zamzam Al-Bimani, Senior Biomedical Scientist
S. Rajapakse, Senior Biomedical Scientist
Juma Al-Busaidi, Senior Biomedical Scientist
Amal Al-Hinai, Biomedical Scientist
Atika Al-Bimani, Biomedical Scientist
Ziaul Qamar Al-Qureshi, Coordinator, College

Hospital
Masoud Al-Khayari, Chief Biomedical Scientist & Acting Superintendent
Robert Toki, Chief Biomedical Scientist
Said Al-Hinai, Chief Biomedical Scientist
Frank Serebour, Chief Biomedical Scientist
Intesar Al-Balushi, Chief Biomedical Scientist
Safiya Al-Harthy, Chief Biomedical Scientist
Jacob George, Chief Biomedical Scientist
Fatma Al-Shihi, Senior Biomedical Scientist
Fathiya Al-Maskery, Senior Biomedical Scientist
Nasra Al-Harrasi, Senior Biomedical Scientist
Ruwaida Al-Lamki, Senior Biomedical Scientist
Sada Al-Harthy, Senior Biomedical Scientist
Amna Al-Balushi, Senior Biomedical Scientist
Sumayya Al-Hosni, Senior Biomedical Scientist
Sam George, Senior Biomedical Scientist
Ibrahim Kutty, Biomedical Scientist
Faiza Al-Naamani, Biomedical Scientist
Kiran Ali, Biomedical Scientist
Sahim Al-Ghaffari, Biomedical Scientist
Issa Al-Sansami, Biomedical Scientist
Manawar Al-Quraini, Biomedical Scientist
Fathiya Al-Maskery, Senior Biomedical Scientist
Nasra Al-Harrasi, Senior Biomedical Scientist
Ruwaida Al-Lamki, Senior Biomedical Scientist
Sada Al-Harthy, Senior Biomedical Scientist
Amna Al-Balushi, Senior Biomedical Scientist
Sumayya Al-Hosni, Senior Biomedical Scientist
Sam George, Senior Biomedical Scientist
Ibrahim Kutty, Biomedical Scientist
Said Al-Hinai, Chief Biomedical Scientist

Highlights of the Year 2012

During the academic year 2012, the Department continued to support its faculty members (immunologists, bacteriologists, a virologist and a parasitologist). Prof. Ali Al-Jabri, one of the academic staff members, was appointed as Dean of Postgraduate Studies. Mr. Ahmed Al-Badawi, Chief Biomedical Scientist, who was seconded to the National Ethics Committee, extended his duty until September 2015. Ms. Fatma Al-Shihi, a Senior Biomedical Scientist, left the Department to join the Ministry of Health in the Musandam region. During the same period 4 new biomedical scientists (Ms. Jawahar Al-Hinai, Ms. Huda Al-Ghaffari, Ms. Ishraq Al-Kindi and Ms. Suad Al-Ubaidani) joined the Department’s Diagnostic service at SQUH. Two biomedical scientists, Ms. Amal Al-Hinai and Ms. Atika Al-Bimani, joined the teaching laboratory of the Department in the College of Medicine & Health Sciences (COM&HS).
Teaching Programmes

UNDERGRADUATE PROGRAMME

Old Curriculum
The Department continued to offer its two main courses in the B.Sc. Health Sciences programme, namely Immunology and Microbiology, to the 3rd and 4th year medical students respectively.

New Curriculum
The Department continued to contribute and play a vital role in the new curriculum that was initially implemented in 2009–2010. The Department extended its participation to all semesters of Phase II which includes 10 different modules of core and system courses.

B.Sc. Medical Laboratory Sciences
As in the previous years the Department also contributed substantially to the B.Sc. MLS programme. There were 7 different courses were offered during 2012.

B.Sc. Nursing
The Department continued to offer a 3-credit Microbiology & Immunology course that is taught to 2nd year B.Sc. nursing students during the spring and fall semesters.

CLINICAL PROGRAMME (MD PROGRAMME)
The 5th year clinical students attended the integrated lecture series and case-oriented learning offered by the Department. Each of the 5 groups of the 7th year medical students undertook a one-week laboratory rotation that covered all the clinical microbiology and immunology laboratory sections. The students of each group were assessed on the final day of each rotation.

POSTGRADUATE PROGRAMME
There were two microbiology 1st/2nd year residents who did various rotations in clinical microbiology and immunology. The Department also participated in the training of some of the OMSB residents.

M.S.C. PROGRAMME
The Department continued to offer the Medical Microbiology programme for the M.Sc. students in 2012. There were 4 courses were taught in the M.Sc. programme.

PH.D. PROGRAMME
The Ph.D. program at the Department kept progressing with the student who was enrolled during 2009.
Clinical & Diagnostic Services
The Department, with its two major units, continued to offer diagnostic services primarily to SQUH, as well as to other government and private hospitals. The yearly expansion in the diagnostic services in molecular microbiology and immunology services paralleled the increased patient activity at SQUH. There was an increase in the number of samples (specimens) and tests during 2012. This increase was due to several factors including the increase in the work load of the hospital and in the number of staff who are therefore able to conduct more tests. This is shown in the figure below. It should be noted that during 2009–2010 there was a surge in the number of tests due to the increased requests of influenza virus testing during the H1N1 outbreak.

EXTERNAL QUALITY ASSURANCE
The Department continue to participate in the Royal College of Pathology of Australia External Quality Assurance Programme. According to these international standards, the diagnostic laboratories of the department scored reasonably well.

![Figure 1: Microbiology & Immunology specimens/tests 2001–2012.](image-url)
Research
In 2012, the Department had 4 research projects with a total value of OR 24,000. The main projects are genetic and immunological determinates of AIDS patients on HAART, the epidemiology of hepatitis A and the molecular and functional characterisation of gene polymorphisms associated with inflammatory diseases. A total of 16 articles were published in different journals in addition to two book chapters. During this year two Master’s degrees were awarded.

RESEARCH PROJECTS
Role of the microbial translocation and inflammatory cytokines in the immunological non-responsiveness in Omani HIV-infected patients on HAART (a pilot study).

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Dates</th>
<th>Value</th>
<th>Project Funder</th>
<th>Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC/MED/MICR/11/01</td>
<td>2011–12</td>
<td>OR 2,000</td>
<td>The Research Council Oman</td>
<td>Dr. Elias Said, Dept. Microbiology &amp; Immunology, SQU; Prof. Ali Al-Jabri, Dept. Microbiology &amp; Immunology, SQU; Dr. Sidgi Hasson, Dept. Microbiology &amp; Immunology, SQU; Dr. Crystal Koh, Dept. Microbiology &amp; Immunology, SQU; Dr. Mohammed Al-Balushi, Dept. Microbiology &amp; Immunology, SQU; Dr. Abdullah Balkhair, Dept. Medicine, SQU.</td>
</tr>
</tbody>
</table>

The anti-snake venom activity of the Phoenix dactylifera plant- Ajwa extract

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Dates</th>
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<th>Project Funder</th>
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<tbody>
<tr>
<td>IG/MED/MICR/11/01</td>
<td>2011-2012</td>
<td>OR 9,000</td>
<td>Sultan Qaboos University</td>
<td>Prof. Ali Al-Jabri, Dept. Microbiology &amp; Immunology, SQU; Dr. Crystal Koh, Dept. Microbiology &amp; Immunology SQU; Dr. Sidgi Hasson, MD, Dept. Microbiology &amp; Immunology, SQU; Dr. Munira Al-Rahman, Dept. Microbiology &amp; Immunology, SQU; Dr. Mohamed Al-Balushi, Dept. Microbiology &amp; Immunology, SQU.</td>
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The Role of toll-like receptors in progression and severity of systemic lupus erythematosus (SLE) in Omani population.

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Dates</th>
<th>Value</th>
<th>Project Funder</th>
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<tr>
<td>IG/MED/MICR/11/02</td>
<td>2011-2012</td>
<td>OR 11,000</td>
<td>Sultan Qaboos University</td>
<td>Dr. Crystal Koh, Dept. Microbiology &amp; Immunology SQU; Prof. Ali Al-Jabri, Dept. Microbiology &amp; Immunology, SQU; Dr. Munira Al-Rahman, Dept. Microbiology &amp; Immunology, SQU; Dr. Juma Al-Kaabi, Dept. Medicine, SQU; Dr. Yahya Al-Farsi, Dept. Family Medicine &amp; Public Health, SQU.</td>
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Characterization of Fcg RIIB expression on B cell subsets from patients with systemic lupus erythematosus (SLE) or rheumatoid arthritis (RA)

Project Code: MREC #505; Dates: 2012
Value: OR 2,000; Project Funder: Sultan Qaboos University
Investigators: Dr. Crystal Koh, Dept. Microbiology & Immunology, SQU; Prof. Ali Al-Jabri, Dept. Microbiology & Immunology, SQU; Dr. Elias Said, Dept. Microbiology & Immunology, SQU; Dr. Sidgi Hasson, Dept. Microbiology & Immunology, SQU; Dr. Mohammed Al-Balushi, Dept. Microbiology & Immunology, SQU; Dr. Batool Hassan, Dept. Medicine, SQU; Dr. Juma Al-Kaabi, Dept. Medicine, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


BOOKS & BOOK CHAPTERS


CONFERENCE & SEMINAR PRESENTATIONS

Poster Presentations

International


Seminar Presentations

National

THESIS SUPERVISION

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Qualification</th>
<th>Title</th>
<th>Supervisor(s)</th>
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<tbody>
<tr>
<td>Ms. Bushra Abdull-Hussain Al-Lawati</td>
<td>M.Sc. Medical Microbiology (completed)</td>
<td>Studies on prevalence and characterization of methicillin-resistant Staphylococcus aureus (MRSA) at Sultan Qaboos University Hospital (SQUH)</td>
<td>Prof. Sharanjit Singh Thukral</td>
</tr>
<tr>
<td>Salama Al Hamidhi</td>
<td>M.Sc. Medical Microbiology (completed)</td>
<td>Genetic diversity of Plasmodium falciparum in Yemen and spread of anti-malarial drug resistance genotypes</td>
<td>Dr. Hamza Babiker, Prof. Mohamed Idris</td>
</tr>
<tr>
<td>Fawziya Al-Yafei</td>
<td>M.Sc. Medical Microbiology (underway)</td>
<td>The association between SNPs in TLR4 and TLR7 and HIV pathogenesis</td>
<td>Dr. Elias Said</td>
</tr>
<tr>
<td>Marah Al-Tayab</td>
<td>M.Sc. Medical Microbiology (underway)</td>
<td>HLA class I &amp; II correlation with response to HAART among Omani patients with AIDS</td>
<td>Prof. Ali Al-Jabri</td>
</tr>
<tr>
<td>Noura Dawed Khalifah Al Saadi</td>
<td>M.Sc. Medical Microbiology (underway)</td>
<td>Seroprevalence of human herpes virus type 8 in patients and controls in Oman</td>
<td>Dr. Muhannad F. M. Al-Kobaisi</td>
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<tr>
<td>Student Name</td>
<td>Maryam Salim Al Adhoobi</td>
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<td>Title:</td>
<td>Prevalence of human enteric viruses in Oman</td>
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<td>Supervisors:</td>
<td>Dr. Muhannad F. M. Al-Kobaisi</td>
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<tr>
<th>Student Name</th>
<th>Samira Al Mahrooqi</th>
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<td>Qualification:</td>
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<tr>
<td>Title:</td>
<td>Genetic determinants of AIDS patients’ variable response to HAART: insight into CCR5 genotypes</td>
</tr>
<tr>
<td>Supervisors:</td>
<td>Prof. Ali Al-Jabri</td>
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<table>
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<th>Student Name</th>
<th>Asia Hassan Eidook Al Zadjali</th>
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<tr>
<td>Qualification:</td>
<td>M.Sc. Medical Microbiology (underway)</td>
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<tr>
<td>Title:</td>
<td>Identification of extended spectrum β lactamase producing clinical isolates of Escherichia coli and Klebsiella pneumoniae at SQUH</td>
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<tr>
<td>Supervisors:</td>
<td>Prof. Sharanjit Singh Thukral</td>
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</table>
The Nursing Directorate strives to be a model of excellence for all nursing services in the country and beyond. Guided by its vision and core values (i.e. people, compassion, respect, continuous improvement, excellence, integrity, teamwork, efficiency, commitment, innovation and creativity), it promotes evidence-based practice and aims to continue to grow and pursue its quest towards excellence. We continuously provide patient-based care that is individualised, compassionate and culturally appropriate, where patients and their families are treated with the utmost respect, care and dignity. We are committed to continuous improvement, performance measurement and leading the way in contributing value to the provision of quality and safe patient care and enhancing the patient experience.

The Nursing Directorate provides coordination of healthcare delivery across the continuum in line with international standards; demonstrates patient advocacy while providing comprehensive, mutually defined care; empowers nurses to exercise sound judgment which will promote their professional development, and support and complement teaching and training activities.
Staff

The Directorate of Nursing consists of a multi-national team responsible for the provision of the 24-hour nursing care services to the University Hospital (SQUH). As of December 2012, we have 1,240 approved grades with 1,146 in post as compared to 2011 with only 1,039 nurses in post.

Shinuna Al-Harthy, Acting Deputy Director
Ayna Al-Riyamy, Head (Nursing Affairs – on scholarship)
Yousuf Al-Hasani, Head (Ambulatory Services)
Zayana Al-Maskary, Head (Inpatient Areas)
Catherine Lausa, In Charge (Nursing Affairs)
Daniel Birru, In Charge (Training & Professional Development)
Fatma Al-Dhabari, Quality & Special Projects
Rose George, Coordinator
Robert Dimaiwat, Coordinator
Ranbindra Singh, Coordinator
Moey Pheng, Coordinator
Samira Al-Rasbi, Bed Flow Manager & In Charge, Clinical Nurse Specialist
Nancy V. Reyes, Head Nurse (Ward 1 Blue)
Norah Ngcamu, Head Nurse (Ward 2 Blue)
Thavamony Saravanan, Head Nurse (Ward 2 Red)
Sotinah Tariono, Head Nurse (Ward 2 Yellow)
Rahma Al-Mahrazi, Head Nurse
Zita Montesclaros, Head Nurse (Ward 2 Purple)
Megawati M. Nor, Head Nurse (Ward 3 Red)
Bader, Head Nurse (Ward 3 Yellow)
Lau P. Hoon, Head Nurse (Ward 3 Blue)
Koh C. Fong, Head Nurse (Ward 3 Purple)
Janet Ogonjumo, Head Nurse (Ward 4 Blue)
Suliaman Mahmoudi, Head Nurse (Ward 4 Red)
Umi K., Head Nurse (Ward 1 Purple)
Zairiyah Zainol, Head Nurse (Ward 4 Purple)
Salim Al-Sudairi, Acting Head Nurse (Emergency Department)
Sarala Kodamala, Head Nurse (Family Medicine & Public Health Clinic)
Haseena Saib, Head Nurse (Operating Theatres)
Sapiah Abbas, Head Nurse (Day Care Unit)

Parvi Ponambalam, Head Nurse (Neonatal Ward)
Barbara Swales, Head Midwife (Delivery Ward)
Michael Lee, Head Nurse (Psychiatry Ward)
Nooraini Yadi, Head Nurse (Intensive Care Unit/Cardiac ICU/Paediatric ICU)
Asila Al-Busaidy, Head Nurse (Outpatient Department)
Rabia Al-Saadi, Coordinator (Outpatients)
Yacoub Al-Mahrazi, Director for Support Services
Hafidh Al-Hashmi, Head, (Central Sterile Supplies Department)
The members of our Support Staff (coordinators, medical orderlies (167) and ward clerks) provide support for all areas.

Highlights of the Year 2012

The Nursing Directorate embarked on a journey of nursing excellence in 2012, making it an extraordinary year for the entire Directorate. Reflecting on the accomplishments of 2012, we have many things to be proud of. Our nursing team consistently demonstrated its commitment to the delivery of safe and quality patient care, to enhancing the patient experience, the work and the training/teaching environment. The patient intake increased noticeably in 2012 as total inpatient admissions reached 32,044 (up by 4% compared to 2011); outpatient services treated 121,482 patients (up by 3%); Emergency Medicine 66,787 patients; the Delivery Ward had 3,664 deliveries (up by 10%); oral health patients were up by 5%; there were increases in patients numbers in both the day and night Student Clinics, while the operating theatres and Day Care Unit dealt with 95,830 cases.

In 2012, the Nursing Directorate focused on creating a stronger culture of safety, quality care and a better learning environment. Our concern is not only about patient safety but includes also the safety of our staff and students.

A change in Nursing Leadership took place as Shinuna Al-Harthy was appointed as the Acting Deputy Director...
of Nursing, taking over from Yusriya Al-Akbary who retired from service in July 2012. Dr. Huda Al-Awaisi, formerly an Oncology Nurse, joined the team after the completion of her doctoral degree in the UK.

EVENTS AND ACTIVITIES
Patient & Family Education (PFE) is a nursing advocacy, and the PFE working group organised a “Walkathon Day” which was widely supported not just by the Nursing Directorate but also by the top SQUH management.

Considered by other institutions as a resource centre, the SQUH Nursing Directorate was selected in January 2012 as a member of the committee responsible for the Standardization of the National Guidelines for Paediatric and Neonatal Care in Oman.

The Phlebotomy Service was introduced to support the increasing demand for such service in the different key areas of the hospital. A total of 10 diploma graduate nurses were recruited and employed as the pilot group.

The Directorate was visited by students and the College of Nursing external examiners from the UK; WHO representatives came to discuss the prospects for training Advance Nurse Practitioners.

From May 2012, the Directorate implemented the new 140-hour working schedule.

DEPARTMENTAL STUDIES
This initiative, formed as a competition amongst wards, has been in place for the last 3 years. Each ward is assigned a topic which is then presented by the ward staff in the form of a study, audit or survey. The following studies were presented during 2012: “Identify factors contributing to effective breast feeding practices among primi para mothers”; “Study to assess knowledge and awareness of SQUH midwives and obstetrics and gynaecology nurses regarding the interpretation of CTG”; “Study of patient’s perception regarding their admission to 4 Blue Ward”.

QUALITY IMPROVEMENT
The Directorate comprises of almost 50% of the total hospital’s manpower. It provides direct patient care—the SQUH organisational culture enabling quality improvement and nurses’ roles in those activities. As SQUH faces increasing demands to participate and support in a wide range of quality improvement activities, the role and influence of nurses in these efforts has also increased.

The key performance indicators for the Directorate were finalised for 2012, as follows:

- Documentation of patient education on discharge by the medical wards
- Completion of the pre-operation checklist by surgical wards
- Staff retention & resignations
- Number of staff who have not attended mandatory courses
- Patient assessment within 24 hours of admission
• Staff deployment
• Patients falls
• Medication errors

In 2012 the preparatory stage for the Accreditation Canada International (ACI) accreditation was undertaken involving a review of standards in all areas. This was initiated by Nursing Quality & Special Projects.

A Nursing Quality Improvement Committee was set up in conjunction with the Quality Initiative of the Directorate of Quality. The Quality Champion Initiative was introduced to identify member(s) of the staff who introduced remarkable changes at the ward level.

The annual Quality Performance Audit was undertaken in November on all wards. This exercise is to motivate ward leaders to improve ward management, and educational and clinical practices. Each year the 3 best wards who meet the criteria are recognised. In 2012, the Psychiatry Ward, 2 Blue Ward and the Neonatal Unit gained the 3 awards.

The annual Patient Satisfaction Survey was undertaken and the results analysed by the working group. The Staff Satisfaction Survey was done in December 2012, and the analysis of results is in process. The online quarterly review of electronic patient record was undertaken by the link nurses of the Documentation Working Group. A survey to analyse telephone etiquette was undertaken in 2012.

The Annual Nursing Documentation Day, “Nursing Documentation Bridges the Gap in Patient Safety”, was held in July 2012 to repeat the call for promoting patient safety in all aspects of our work.

Teaching Programmes

UNDERGRADUATE CLINICAL ATTACHMENTS

As shown in the following table, a total of 860 undergraduate students, who were required to complete a certain number of hours in a clinical setting, were mentored in 2012 by the nursing staff from the different SQUH wards.

Table 1: Undergraduate Students Mentored by Nursing Staff 2012

<table>
<thead>
<tr>
<th>School/Institution</th>
<th>Category</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQU - College of Nursing</td>
<td>Advanced Clinical Students</td>
<td>155</td>
</tr>
<tr>
<td>SQU - College of Nursing</td>
<td>B.Sc. Level</td>
<td>398</td>
</tr>
<tr>
<td>SQU - College of Nursing</td>
<td>Administrative Students</td>
<td>68</td>
</tr>
<tr>
<td>Oman Nursing Institute</td>
<td>Diploma Nursing Students</td>
<td>195</td>
</tr>
<tr>
<td>Muscat Nursing Institute</td>
<td>Diploma Nursing Students</td>
<td>13</td>
</tr>
<tr>
<td>Hull University, UK</td>
<td>Advanced Clinical Nurses</td>
<td>1</td>
</tr>
</tbody>
</table>
POSTGRADUATE PROGRAMME
The intake for postgraduate courses is from the Oman Specialized Nursing Institute whereby Omani nurses who are being prepared for leadership roles and specialisation in nursing are attached to the SQUH Nursing Directorate. Theoretical and clinical teaching was conducted from the upper level down to the middle management for 34 students in 2012.

Training Courses & Continuous Nursing Education Activities

IN-HOUSE TRAINING – UNSCHEDULED COURSES
A total of 67 nurses attended the courses shown in the following table:

Table 2: Courses Attended by Nursing Staff 2012

<table>
<thead>
<tr>
<th>Course title</th>
<th>No. of nurses who attended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers Service</td>
<td>22</td>
</tr>
<tr>
<td>Modern Leadership</td>
<td>12</td>
</tr>
<tr>
<td>Interview Skills</td>
<td>5</td>
</tr>
<tr>
<td>Kaizen</td>
<td>2</td>
</tr>
<tr>
<td>Developing Skills for Creative Thinking</td>
<td>1</td>
</tr>
<tr>
<td>Patient Flow Management</td>
<td>20</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>4</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>1</td>
</tr>
</tbody>
</table>

IN-HOUSE TEACHING
Clinical and developmental courses, which support the clinical practice of the staff, were taught by different staff members from Nursing Directorate (administrative and head nurses) on the following topics:
• Chemotherapy Course – Najat Sawafi and Daniel Birru
• Nursing Assessment & Documentation Course – Cathy Lausa
• IV Therapy – Sapiah Abbas
• Wound Care Management – Fatma Al-Dhabbari
• Vascular Access Device Course – Nancy Reyes
• Preceptors Course – Thava Mony
• Baby Friendly Hospital Initiative – Galiza Pascua

CONTINUING NURSING EDUCATION
Staff members of the Directorate attended externally organised courses on the following topics:

• Management & Leadership – Video Conference with Methodist International, Texas, USA
• Midwifery Conference, USA
• Midwifery Conference, UK
• Critical Care Nursing Training – Frontier Hospital, India
• Critical Workshop – Oman Specialized Nursing Institute
• Patient Safety Workshop – Park Inn Hotel, Muscat
• Training in Peritoneal Dialysis, Royal Hospital, Muscat
• Management of Breast Cancer – Directorate of Training & CPD, SQUH
• Nursing Research – Watayah, Muscat
• Modern Leadership – Directorate of Training & CPD, SQUH
• Quality Management Training for Internal Auditors
• Stress & Management – Directorate of Training & CPD, SQUH
• Palliative Care Training – Park Inn Hotel, Muscat
• Nursing Trauma Workshop Training – SQUH Emergency Department
• Nursing Debate on 'Nursing License is Essential' – College of Nursing
• Nurses Court
Research

CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International
1. Lausa C. Shorter Isn’t Always Sweet. 3rd International Conference on Quality Management in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.

Poster Presentations

International
1. Al Mukhaini S. Legal Aspects of Nursing Documentation. 3rd International Conference on Quality Management in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.

Seminar Presentations

National
The Department of Nutrition & Dietetics has responsibilities in a range of areas including dietetic counselling to inpatients and outpatients, administration, health education and promotion through activities related to preventative medicine, and training. Several clinics are covered for both adult and pediatric patients. Adult clinics include diabetic, renal, obesity and gynaecology, whereas the paediatric clinics include pre-term babies, haematology, metabolic diseases, neurology, respiratory, general, endocrine and nephrology. The Department consists of two main divisions: Nutrition & Dietetics and Catering Administration.

NUTRITION & DIETETICS
Nutrition is the study of nutrients in food, how nutrients are used by the body, and the relationship between diet, health and disease. Nutritionists work mostly in food industries, media, health promotions, schools, sports or education. Dieticians, on the other hand, work mostly in hospitals; however, they can also work in the community as health promoters and educators, as well as in sports or media. They assess nutritional needs, diet restrictions and current health plans to develop and implement dietary management plans for patients mainly in the Hospital, and educate them on special diets as part of their medical treatment in several areas such as: Diabetes; Oncology; Renal conditions; Liver conditions; Gastroenterology; Paediatrics; Food Allergies; Obesity, and Nutrition Support.
CATERING ADMINISTRATION

The purpose of the catering administration service is to ensure a supply of safe, nutritious, well-presented food and to protect patients from contaminated, decomposed or injurious food. Continuous monitoring prevents the use of misleading labels. Further monitoring activities encourage healthier and safer food by better standards of quality control in receiving food products from suppliers, correct storage, food preparation, cooking and finally serving food to patients.

Staff

Dietetics
Salah Al-Shukaili, Head of the Department
Majda Al-Maamary, Deputy Head of the Department
Shadya Al-Harthy, Senior Dietitian
A’Shaima Al-Kindi, Senior Dietitian
Ayda Al-Ghadhee, Dietitian
Fatma Al-Hashmi, Dietitian
Salma Al-Mahrouqi, Dietitian
Shaima Al-Belushi, Dietitian
Halima Al-Syabi, Dietitian
Amal Hamed Al-Adwi, Dietitian

Catering
Razeen Hameed, Catering Administration Superintendent
Matar R. Al-Ruqaishi, Catering Supervisor
Thuraya Al-Abadi, Assistant Catering Supervisor

Support Staff
Ali S. Al-Farai, Coordinator

Highlights of the Year 2012
In 2012, catering policies were introduced (10 policies) to ensure that the catering operation is monitored and at documented policy level. Departmental Key Performance Indicators were developed.

Professional kitchen re-designing was carried out in 2012. Working in a professionally and internationally recognised catering unit will enable the Department to work according to the food safety standards: ISO 22000:HACCP.

In 2012, weekly food safety meetings were conducted to ensure that food is prepared and delivered hygienically. In 2012, there was a further improvement in general catering services. The numbers of received complaints reduced from 11 in 2011 to only 5 in 2012.

Patient meal recipes were introduced and updated to focus on meals prepared specifically for the University Hospital (SQUH) catering operation based on special patient meal menus. Improvements were made to the Inborn Error of Metabolism dietetic services.

Patient educational materials were created as well as an Omani Dietitians Facebook account

AWARDS
The Department was awarded 3rd place for the best poster at the 3rd International Conference on Quality Management in Healthcare, held at SQUH in February 2012.

RESEARCH AND STUDIES
The Department is successfully continuing conducting the World Wide Nutrition Day Research Project, supported by the European Society for Parenteral and Enteral Nutrition (ESPEN).

The patient satisfaction survey is conducted annually to identify the extensive patient needs and to be acquainted with patient’s suggestion/ comments in order to improve our catering services.
PATIENT AND COMMUNITY ACTIVITIES

The Maple Syrup Urine Disease (MSUD) Support Day was organised in October 2012 by Ms. Shaima Al-Belushi to create a circle of support for MSUD patients’ caregivers at the Genetics Clinic.

The Department participated in the SQUH Physiotherapy & Rehabilitation Week and the Health Education Day both in April 2012. It also participate in the Diagnostic Day at the Special Care Centre in nearby Al Khoud.

TEACHING PROGRAMMES

Training

In 2012, the Department delivered nutrition and dietetics training programmes to different national organisations in Oman such as for the dietitians at the Ministry of Health.

Catering personal from different institutes conducted on-the-job training for many SQU food science and nutrition students. In addition, the Department conducted ongoing training for Tawoos catering company staff with the aim of upgrading their knowledge and skills to ensure better final patient care.

An in-service training programme for Diet Clerks was also provided in 2012.

Teaching

Department staff taught nutrition and dietetics to 5th year SQU medical students, nutrition students of the College of Agriculture & Marine Sciences at SQU, speech and language therapists specialising in geriatrics, and to medical staff of SQUH.

Training Courses & CME Activities

The 1st Oman Hospital Catering Workshop was held in January 2012. The workshop was conduct by the Catering Unit.

In association with the International Forum for Public Health (IFPH), London, UK, the department conducted two intensive workshops on prevention and management of obesity and diabetes (9–12 April 2012).

The Department also coordinated and participated in the Baby & Infant Friendly Hospitals Initiative Course.

Research

CONFERENCE & SEMINAR PRESENTATIONS

Poster Presentations

International

1. **Al-Mahrouqi S.** The effect of malnutrition on patient recovery at SQU Hospital. 16th International Congress of Dietetics, Sydney, Australia, 5–8 Sep 2012.
National

1. **Al-Mahrouqi S.** Snapshot of nutrition care at SQUH. 3rd International Conference of Quality Management in Healthcare, Sultan Qaboos University Hospital, Muscat, Oman, 6–8 Feb 2012.

Seminar Presentations

National

1. **Hameed R.** Recent quality and food safety developments in the Catering Section of the Department of Nutrition and Dietetics at SQUH. Hospital Catering Workshop, Sultan Qaboos University Hospital, Muscat, Oman, Jan 2012.

2. **Al-Ruqaishy M.** Patients satisfaction survey at SQUH. Hospital Catering Workshop, Sultan Qaboos University Hospital, Muscat, Oman, Jan 2012.

3. **Al-Shukaili S.** Childhood obesity in Oman: Nutritional challenges in the Sultanate of Oman. Sultan Qaboos University, Muscat, Oman, Feb 2012.


5. **Hameed R.** Auditing and inspection in catering operations. Hospital Catering Workshop, Royal Oman Police Hospital, Muscat, Oman, Apr 2012.

6. **Al-Ruqaishy M.** Hygiene training for food handlers at teaching hospitals. Hospital Catering Workshop, Royal Oman Police Hospital, Muscat, Oman, Apr 2012.


9. **Al-Mahrouqi S.** Healthy diets for children. 18th International Pediatric Conference, Sultan Qaboos University, Muscat, Oman, 13–15 Nov 2012.

10. **Al-Ruqaishy M.** Patient satisfaction survey at SQUH. World Quality Day, Sultan Qaboos University Hospital, Nov 2012.


The Department of Obstetrics & Gynaecology is one of the major departments involved in teaching undergraduates, postgraduates and allied professionals. It produces trained leaders in women’s health as an academic subspecialty and research as well as for community practice. We take care of women of all age groups and believe that women are the nucleus of the family, the community and the nation. The goal of the Department is to provide excellent women’s health care through the academic subspecialties in the Department such as uro-gynaecology, infertility, endoscopic surgery, maternal fetal medicine and gynae-oncology. We value team work, intellectual curiosity, compassion and academic excellence. Our mission is to provide a structured educational environment in which dedicated teaching is integrated with graduated clinical responsibilities that promote intellectual growth in the operating room, delivery room, and in outpatient and inpatient settings. Our undergraduate and postgraduate programmes train students to provide comprehensive health care for women by applying an evidence-based approach to clinical management with a view to providing the best possible care to all our patients.
Staff

Head of Department
Vaidyanathan Gowri, Acting Head of Department, Associate Professor

Faculty
Lamya Al-Kharusi, Consultant, Deputy Head of Department
Mariam Mathew, Senior Consultant
Lovina Machado, Senior Consultant
Maha Al-Khaduri, Senior Consultant
Wadha Al-Ghafri, Consultant
Tamima Al-Dughaishi, Consultant
Nihal Al-Riyami, Consultant
Mariam Al-Shukri, Consultant
Moza Al-Kalbani, Consultant
Rahma Al-Haddabi, Consultant
Saniya El Tayeb, Assistant Professor/Consultant
Shahila Tazneem, Senior Registrar
Durdana Khan, Senior Registrar
Aneeta Bai, Senior Registrar
Majeda R. Al-Bash, Acting Senior Registrar
Silja A. Pillai, Acting Senior Registrar
Hazel Gonsalves, Registrar
Hana Al-Sayed, Registrar
Asha Nair, Registrar
Saba Mubbashir, Registrar
Jaikumari Perchani, Registrar
Sarya A. Bella, Senior House Officer
Farah Fathih, Senior House Officer
Seema Zulfikar, Senior House Officer
Musarrat Musarrat, Senior House Officer
Ayesha Salahuddin, Senior House Officer
Mayesa Tag Al-Din, Senior House Officer
Sara A. Zaid, Senior House Officer
Nooren Ishrat, Senior House Officer
Shahnaz B. Putul, Senior House Officer
Suhaila Al-Wahibi, Senior House Officer
Diya El Hussain, Senior House Officer

Support Staff
Philomena Sangameshwar, Coordinator
Kawthar Al-Abri, Coordinator
Aisha Amur Al-Musalam, Coordinator

Highlights of the Year 2012
The Department started the Recurrent Pregnancy Clinic and Adolescent Gynaecology Clinic in the Outpatient Department in addition to the existing specialty clinics of Urogynaecology, Oncology, Maternal Fetal Medicine, Intrauterine Growth Restriction, Infertility, Gestational Diabetes, Endoscopic Surgery and Recurrent Pregnancy Loss.

The ALSO (Advanced Life Support in Obstetrics) Provider and Training Course was organised by Dr. Moza Al-Kalbani and Dr. Lamya Al-Kharusi and was conducted twice a year under the Oman Medical Specialty Board (OMSB). This course is very important in training all the medical personnel involved in the management of the delivery ward. The aim is to improve the management of obstetric emergencies thus decreasing morbidity and litigation.

In 2012, new accessories for the existing laparoscopy instruments were purchased.

In the new curriculum, the Phase II departmental representative/coordinator was Dr. Mariam Mathew; the Phase III Pre-clerkship representative/coordinator was Dr. Lovina Machado, while the Senior Clerkship representatives/coordinators were Dr. Mariam Al-Shukri and Dr. Tamima Al-Dughaishi.

Dr. Lamya Al-Kharusi was Chairperson of the Obstetrics & Gynaecology Scientific Committee; Dr. Wadha Al-Ghafri was Programme Director of the Scientific Committee. Other active members were: Dr. Maha Al-Khaduri, Dr. Lovina Machado, Dr. Tamima Al-Dughaishi, Dr. Nihal Al-Riyami and Dr. Mariam Al-Shukri.
Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME (OLD CURRICULUM)
The Communication Skills programme was conducted by spending 2 hours in lectures followed by student exposure to the wards for 2 hours per week for 16 weeks. One lecture was given as an interdisciplinary activity to 5th year students.

UNDERGRADUATE CLINICAL PROGRAMME (OLD CURRICULUM)
In 2012, 127 students presented for the MD examination in Obstetrics & Gynaecology.

For 6th year students, we had 8 groups of students, with each group rotating for 4 weeks in the Department. Each student has to do 2 case write-ups and present one case at the bedside for formative assessment. Students are exposed to didactic lectures, outpatients, bedside teaching and operative procedures in the Department.

The 7th year students spend 7 weeks on placement: 3 weeks at Sultan Qaboos University Hospital (SQUH), 2 weeks at the Royal Hospital and 2 weeks at Khoula Hospital. They are exposed to problem-solving seminars and ward rounds with consultants. They also rotate to the operating theatre, outpatient clinic and wards. In the OPD, they are exposed to a wide spectrum of obstetrics and gynaecology patients, attend the high-risk pregnancy clinic and are exposed to ultrasound procedures.

NEW CURRICULUM (PHASE 2)
The Department takes part in lectures, tutorials and examinations in 4 modules in Phase 2 of the new curriculum as follows: one lecture in growth and development; one lecture and one tutorial in clinical nutrition; 3 tutorials in the uro-reproductive module, and a two-week integrated module on vomiting.

In the Pre-clerkship course about 120 students (in 9 groups), were taught basic clinics skills like history-taking and examination of obstetrics and gynaecology patients. Common symptoms and science in Obstetrics & Gynaecology were taught over 9 weeks from September to November in clinical skills laboratory. A formative assessment in the form of a mini clinical evaluation exercise (CEX) was conducted for all the students at the end each week in groups of 12–15 students.

The student guide booklet and portfolio for the Senior Clerkship objectives were finalised. The teaching program, time-tabling of the 7th Year and Senior Clerkship teaching was discussed at length in SQUH and also in the affiliated teaching hospitals. This facilitated the overlap of teaching of the 7th year in the old curriculum and the Senior Clerkship. The formative assessment methods for the Senior Clerkship were discussed and the decision was to implement: two mini-CEX, one case-based discussion, one observed long case and one KFQ.

POSTGRADUATE PROGRAMME
The OMSB programme first started in September 2007. A total of 6–7 residents are posted at a time in the Department where they are actively involved in patient care, the on-call rota and presentations such as the Journal Club.
Training Courses & CME Activities
The Department has a daily morning meeting that includes the handover and important announcements.

The CME programme consists of: a monthly Journal Club; monthly Pathology Rounds; monthly Fetal Anomaly Group meetings (multidisciplinary with the neonatal intensive care unit [NICU], Department of Genetics and paediatric surgeons); weekly residents’ presentations; weekly intern presentations; a weekly CME session aimed at senior house officers and registrars; a weekly inter-departmental meeting between the Department and the NICU, and a monthly departmental meeting attended by all departmental staff, midwives and OPD nurses as needed.

Clinical & Diagnostic Services

Table 1: Gynaecology Outpatient Department Statistics 2012

<table>
<thead>
<tr>
<th>Patient category</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients seen in general OPD</td>
<td>16,024</td>
</tr>
<tr>
<td>Antenatal patients</td>
<td>8,599</td>
</tr>
<tr>
<td>Gynaecological patients</td>
<td>5,935</td>
</tr>
<tr>
<td>Postnatal patients</td>
<td>90</td>
</tr>
<tr>
<td>Infertility Clinic</td>
<td>1,400</td>
</tr>
<tr>
<td>Diabetics Clinic</td>
<td>462</td>
</tr>
<tr>
<td>Urogynaecology Clinic</td>
<td>335</td>
</tr>
<tr>
<td>Colposcopy Clinic</td>
<td>88</td>
</tr>
<tr>
<td>Intrauterine Growth Restriction (IUGR) Clinic</td>
<td>21</td>
</tr>
<tr>
<td>Fetal Maternal Clinic</td>
<td>315</td>
</tr>
<tr>
<td>Amniocentesis Clinic</td>
<td>10</td>
</tr>
<tr>
<td>Recurrent abortion</td>
<td>127</td>
</tr>
<tr>
<td>Oncology</td>
<td>201</td>
</tr>
<tr>
<td>Adolescent</td>
<td>78</td>
</tr>
<tr>
<td>Combined infertility</td>
<td>95</td>
</tr>
</tbody>
</table>

In addition to these patients, the following procedures were performed: 4,260 ultrasound scans (abdominal and vaginal); 44 Mirena insertions (intrauterine device); 10,781 phlebotomies; 39 hydrosonographies; 153 endometrial biopsies; 1
Bartholin abscess incision; 1,669 non-stress tests; 59 bladder scans, and 50 uroflowmetry tests.

In the Labour Ward in 2012, a total of 5,595 (day cases 1,367 and admissions 4,228) patients were seen. The total number of deliveries were 3,512, of which 2,859 were normal vaginal deliveries, 479 were emergency Caesarean sections and 174 were elective Caesarean sections.

We had a total of 3,509 admissions in the Red 2 Ward (mainly postnatal ward). Of these, 1,434 patients who delivered were booked via the antenatal clinic and 2,075 were un-booked cases. There were 160 patients who underwent elective Caesarean sections, and 462 emergency Caesarean sections.

The total number of gynaecology patients admitted in Yellow 2 Ward was 1,374; of these, 1,646 were new cases and 1,521 were old cases, with 8 cases unclassified. The total number of antenatal patients admitted to this ward were 1,240; out of these, 114 were normal patients and 431 had postnatal problems.

## Research

### RESEARCH PROJECTS

**Association of the protein Z intron F G79A gene polymorphism with recurrent pregnancy loss**

- **Project Code:** MREC #501
- **Dates:** 2012
- **Value:** Unfunded
- **Project Approval:** Sultan Qaboos University
- **Investigator:** Dr. Wadha Ghafri, Dept. Obstetrics & Gynaecology, SQU.

**EVE-RISK: Evaluation of venous thrombo-embolism risk and adequacy of prophylaxis in high risk pregnancy in Arabian Gulf States**

- **Project Code:** MREC #504
- **Dates:** 2012
- **Value:** Unfunded
- **Project Approval:** Sultan Qaboos University
- **Investigator:** Dr. Lamya Al-Kharusi, Dept. Obstetrics & Gynaecology, SQU.

**Obstetric and perinatal outcome in teenage pregnant Omani girls**

- **Project Code:** MREC #510
- **Dates:** 2012
- **Value:** Unfunded
- **Project Approval:** Sultan Qaboos University
- **Investigator:** Dr. Lovina Machado, Dept. Obstetrics & Gynaecology, SQU.
Outcome of patients undergoing a trial of vaginal delivery after one previous caesarean section

<table>
<thead>
<tr>
<th>Project Code: MREC #544</th>
<th>Dates: 2012</th>
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<tr>
<td>Value: Unfunded</td>
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<tr>
<td>Investigator:</td>
<td></td>
</tr>
<tr>
<td>Dr. Asma Al-Ojali, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Sarah Abu Zaid, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Maryam Al-Shukri, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Tamima Al-Dughaishi, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
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</table>

Prevalence of group B streptococcus carrier in pregnant women delivering at SQUH and neonatal outcome with universal GBS screening

<table>
<thead>
<tr>
<th>Project Code: MREC #555</th>
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<tr>
<td>Value: Unfunded</td>
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</tr>
<tr>
<td>Investigators:</td>
<td></td>
</tr>
<tr>
<td>Dr. Shahila Tazneem, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Nihal Al-Riyami, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Tamima Al-Dughaishi, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Maryam Al-Shukri, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
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</table>

Long-term impact of childhood hepatitis B vaccine on the prevalence of hepatitis B infection among pregnant women delivering at tertiary hospital in Oman and compliance with preventative recommendations to neonates

<table>
<thead>
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<th>Project Code: MREC #556</th>
<th>Dates: 2012</th>
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<tr>
<td>Value: Unfunded</td>
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<tr>
<td>Investigators:</td>
<td></td>
</tr>
<tr>
<td>Dr. Maryam Al-Shukri, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Abdullah Balkhair, Dept. Medicine, SQU; Dr. Tamima Al-Dughaishi, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
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</table>

Use of intracervical foleys catheter for induction of labour in cases previous Cesarean section

<table>
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<th>Project Code: MREC #562</th>
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</tr>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td></td>
</tr>
<tr>
<td>Investigators:</td>
<td></td>
</tr>
<tr>
<td>Dr. Hazel Gonsalves, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Nihal Al-Riyami, Dept. Obstetrics &amp; Gynaecology, SQU; Dr. Tamima Al-Dughaishi, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
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</table>

A Prevalence of gynaecological malignancies other than uterine cervix in perimenopausal women with abnormal pap smears

<table>
<thead>
<tr>
<th>Project Code: MREC #579</th>
<th>Dates: 2012</th>
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<tbody>
<tr>
<td>Value: Unfunded</td>
<td></td>
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<tr>
<td>Investigator:</td>
<td></td>
</tr>
<tr>
<td>Dr. Vaidyanathan Gowri, Dept. Obstetrics &amp; Gynaecology, SQU.</td>
<td></td>
</tr>
</tbody>
</table>
### Prevalence of urinary and faecal incontinence among Omani women in the productive age attending obstetrics and gynaecology clinics in Oman

**Project Code:** MREC #618  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:** Dr. Moza Al-Kalbani, Dept. Obstetrics & Gynaecology, SQU.

### Retrospective analysis of the characteristics and outcome of all triplets pregnancies managed in the maternal fetal medicine clinic at SQUH

**Project Code:** MREC #625  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:** Dr. Tamima Al-Dughaishi, Dept. Obstetrics & Gynaecology, SQU.

### Incidence of toxoplasmosis infection in pregnancy in SQUH

**Project Code:** MREC #655  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:** Dr. Saba Mubbashir, Dept. Obstetrics & Gynaecology, SQU.

### STUDENT RESEARCH PROJECTS - APPROVED BY COMHS (UNFUNDED)

1. Postmenopausal bleeding among Omani women: descriptive analysis and risk factors evaluation. Supervisors: Dr. Maha Al-Khaduri, Dr. Yahya Al-Farsi.

2. Evaluation of diagnostic ability of novel techniques in endometrial biopsy. Supervisors: Dr. Maha Al-Khaduri, Dr. Yahya Al-Farsi.

### RESEARCH PUBLICATIONS & BOOKS

**Journal Publications**


**CONFERENCE & SEMINAR PRESENTATIONS**

**Conference Presentations**

**International**


4. **Mathew M,** Machado L. Early onset central precocious puberty: Successful outcome with leuprolide therapy. 6th International Conference in Obstetrics & Gynaecology, Muscat, Oman, 4–7 Dec 2012.

5. **Al Khaduri M.** In vitro fertilisation & pre-implantation genetic diagnosis in the Gulf Region. 1st International Conference on Consanguinity: Towards the discovery of genes predisposing to and protecting from disease. Muscat, Oman. 17–19 Mar 2012.


**National**

1. **Al Khaduri M,** Hirsutism. 15th National Dermatology Symposium on Hair & Nail, Al Khuwair, Muscat, Oman, 8 Nov 2012.

2. **Machado L.** Trauma in pregnancy – management issues. Trauma Care for Nurses, Sultan Qaboos University Hospital, Muscat, Oman, 20 Sep 2012.

3. **Machado L.** Basic Gynaecological ultrasound. Obstetric & Gynaecological Ultrasound Course at Sultan Qaboos Hospital, Salalah, Oman, 28–29 Mar 2012.

4. **Machado L.** Role of ultrasound in diagnosis and management of multiple gestation. Obstetric & Gynaecological Ultrasound Course at Sultan Qaboos Hospital, Salalah, Oman, 28–29 Mar 2012.

5. **Machado L.** Role of Doppler and US in IUGR pregnancies – Recent concepts. Obstetric & Gynaecological Ultrasound Course at Sultan Qaboos Hospital, Salalah, Oman, 28–29 Mar 2012.


**Poster Presentations**

**International**


National


Seminar Presentations

National

1. **Al Kharusi L.** Basic Procedural Workshop for FAMCO Residents. Simulation Centre, Muscat, Oman.

2. **Al Kalbani M.** Migrating masses. SCRAPS Seminar Series, College of Medicine & Health Sciences, SQU, Muscat, Oman, 2012.

3. **Al Shukri M.** Medical presentation of unwanted pregnancy. SCRAPS Seminar Series, College of Medicine & Health Sciences, SQU, Muscat, Oman, 2012.
The Department of Ophthalmology at the Sultan Qaboos University Hospital (SQUH) has long been recognised as a leader in patient care, research and education in the country. The Department’s staff of doctors, optometrists, orthoptists and ophthalmic technicians is committed to advancing the treatment and understanding of ocular disorders in Oman. Our subspecialties are general ophthalmology; cornea and external diseases; uveitis; medical retina; paediatric ophthalmology; ophthalmo-genetics, vitreoretina surgery and oculoplasty. The Department is proud to have the first electrophysiology diagnostic clinic unit in the country. As part of an academic health care system, the Department provides clinical experience for medical students and residents under the auspices of the Oman Medical Specialty Board (OMSB). The Department conducts a number of CME activities, participates in various conferences and meetings, and conducts research with ensuing publications. Overall we feel that the Department is active in all aspects of its work and every effort is made for continuous improvement.
Staff

**Head of Department**
Nadiya Al-Kharousi, Senior Consultant

**Faculty**
Sana Al-Zuhaibi, Senior Consultant (Paediatric Ophthalmology Unit)
Abdullah Al-Mujaini, Senior Consultant (Oculoplasty Surgeon)
Anuradha Ganesh, Consultant (Paediatric Ophthalmology Unit)
Ahmed Al-Hinai, Consultant (Vitreoretinal Surgeon)
Mohammed Al-Abri, Consultant (Vitreoretinal Surgeon)
Upender Wali, Senior Registrar
Archana Thakral, Senior Registrar
Nawal Al-Fadhil, Senior Registrar
Buthaina S. Al-Sabt, Senior Registrar
Shahab Agha, Registrar
Sitara Azeem, Registrar
Rana Al-Senawi, Registrar
Samia Al-Jabri, Registrar
Beena Harikrisna, Registrar
Tysser A. R. Basi, Senior House Officer
Dalal Al-Zahra, Senior House Officer
Nouf H. Al-Farsi, Senior House Officer

**Support Staff - College**
Mrs. Laila Al-Kindi, Coordinator

**Support Staff - Outpatient Department**
Mangu Thomas, Staff Nurse (Adult Team)
Priya Khora, Staff Nurse (Paediatric Team)
Habiba Al-Belushi, Chief Technician
Bushra Al-Jabri, Optometrist
Edgardo Go, Optometrist
Vidy Thomas, Optometrist (Paediatric Team)
Salim Al-Abri, Senior Technician
Raya Al-Mughery, Senior Technician
Sadika Al-Ajmi, Senior Technician
Harith Al-Hasani, Technician
Hanan Al-Harty, Technician
Eman Al-Hasmi, Technician
Iman Al-Harty, Technician
Melinda Manegdeg, Coordinator

**Support Staff (4 Blue Ward)**
Zaleha Bzaman, Senior Charge Nurse
Shirley Angsa, Senior Charge Nurse
Idawati Puteri, In charge Nurse 5
Marylin Dagle, In charge Nurse 5
Alice Abraham, In charge Nurse 6
Remedios Ganibe, Staff Nurse 1
Fahima Jilandani, Staff Nurse 1
Shafila Beevi, Staff Nurse 1
Bindhu P. Ravi, Staff Nurse 1
Jessy Jose, Staff Nurse 1
Sherly Varghese, Staff Nurse 1
Jincy Geevarghese, Staff Nurse 1
Fatma Al-Maskari, Staff Nurse 1
Rahma Al-Hadhrami, Staff Nurse 1
Minna Sunny (VIP), Staff Nurse 1
Bindu Biju, Staff Nurse 2
Jennifer E Farenas, Staff Nurse 2
Hema Jacob, Staff Nurse 2
Joanna Martis, Staff Nurse 2
Liza Linda, Staff Nurse 2
Bindu K Manuel, Staff Nurse 2
Sumaiya Al-Sarhani, Staff Nurse 2
Susan Jacob, Staff Nurse 2
Sunimol Mathew, Staff Nurse 2
Akhila Antoney, Staff Nurse 2
Raciele Balisi, Staff Nurse 2
Badriya Al-Ghazi, Ward Clerk

**Highlights of the Year 2012**

**NEW UNITS AND PROCEDURES**
In 2012, the Department established a state-of-the-art Retina Unit with two vitreoretinal Consultants, Dr. Ahmed Al-Hinai and Dr. Mohammed Al-Abri, equipped with up-to-date investigative, therapeutic and pharmaceutical items. Intravitreal anti-vascular endothelial...
growth factor therapy for age-related macular degeneration is run by the Retinal team.

In 2012, a Electroretino Physiology Clinic was opened and run by Dr. Sana Al-Zuhaibi and Mrs. Habiba Al-Belushi. This is the only clinic in Oman that can run investigative tests for the diagnosis of hereditary and other retinal diseases.

This year a Genetic Clinic was opened in collaboration with the Department of Genetics and run by Dr. Sana Al-Zuhaibi, Dr. Nadiya Al-Kharousi and Dr. Anuradha Ganesh.

Finally, Dr. Abdullah Al-Mujaini introduced laser-assisted surgical procedures in oculoplasty.

**NEW EQUIPMENT**
In 2012, a new fundus fluorescein angiography machine and a diode laser were received.

**AWARDS TO STAFF**
In May, Dr. Nadiya Al-Kharousi and Dr. Ahmed Al-Hinai were conferred the award of “Best Clinician of the Year”. Dr. Nadiya Al-Kharousi was awarded third place in Best Presenter in Health Education. Dr. Anuradha Ganesh received international recognition in November with a Research Fellowship in Ocular Genetics at the Wills Eye Institute, Jefferson University, Philadelphia, USA. In May, Dr. Mohammed Al-Abri was elected as Secretary of the Oman Ophthalmic Society and in September as a Member of the College SCRAPS seminar series Committee. In November, Dr. Abdullah Al-Mujaini was appointed as Director of the Directorate of Training & CPD.

**RESEARCH**
Work on a glaucoma project with the postgraduate student, Ms. Rayhana Al-Mujeini, is continuing. Members of the Department published 9 journal articles this year and made 2 conference presentations and 9 poster presentations. Dr. Sana Al-Zuhaibi conducted research on the correlation of central corneal thickness (CCT) with intraocular pressure (IOP) in Omani children: The importance of CCT in pediatric aphakic and pseudophakic glaucoma. Other departmental research topics include: 1) the use of propranolol for infantile haemangioma; 8 patient are undergoing the treatment and being followed-up, with others still being included in the study; 2) a study of the cycloplegic effect of atropine versus cyclopentolate in patients with accommodative esotropia; 3) ocular findings in thalassaemia patients attending the SQUH Thalassaemia Day Care Clinic, and 4) macular changes in retinal dystrophy.

**Teaching Programmes**

**UNDERGRADUATE CLINICAL PROGRAMME**
The main objective of the course run by the Department is to introduce students to ophthalmology as a branch of surgery and to provide them with core information which will allow them to recognise, diagnose and manage common diseases of the eye and the adnexa. Particular emphasis is laid on awareness of the most frequent blinding diseases and the largely preventable and curable maladies of the eye such as cataracts, glaucoma, trachoma, diabetic retinopathy, trauma and congenital anomalies.
The residency programme in ophthalmology was launched in 2009 under the umbrella of OMSB. A total of 14 residents are accepted at the Department. The most important courses given to residents are: Pediatric Ophthalmology; Corneal External Disease; Retinal Diseases, and an Optics & Refraction short course.

In the Pre-clerkship programme, the Department teaches new modules to 12–14 students per session for 2 days a week, 9 weeks a year followed by a clinical examination. Students are exposed to different clinical cases in the eye clinic and encouraged to examine and present the case. They also need to keep a record of clinical and practical skills learned during their rotation in the log books and in the student’s electronic patient record.

In the Junior Clerkship programme, students are divided in two groups, spending 7 days in SQUH and 8 days with Al-Nahda Hospital. During the first half of their rotation they have 5 presentations on: red eye, trauma, visual loss, diplopia and pupillary reaction. In the second half, students rotate again but by then they should have completed 5 modules and only necessary revisions are made.

POSTGRADUATE PROGRAMME
The Department had one Ph.D. student, Ms Rayhana Al-Mujeni, doing clinical and genetics studies of glaucoma in Oman.

CLINICAL ATTACHMENTS FOR THE YEAR 2012
In 2012, 7 ophthalmologists came to the Department for clinical attachments, 6 from Oman and one from the UK.

**Topic**
- Functional visual disorders exam and techniques
- Valsalva retinopathy
- Pathogenesis of roth spots
- Anterior segment dysgenesis
- Bilateral coats disease
- Acute orbital swelling hylduronase hypersensitivity
- Bevacizumab therapy for Omani Police
- Confoscan experience at SQUH
- Retinitis in a child
- Sympathetic ophthalmia
- Diode laser (application/demo)
- WOC overview
- Transcleral diode cyclophotocoagulation
- Scan ultrasound biometry
- Case presentation
- FF rounds case of BRU
- Endogenesis eudophthalmity
- Eye lid trauma management
- Fundus pathologies
- Bleb ass. endophthalmitis
- Exudative retinopathy in children
- Retinal vasculitis
- Special strabismus syndrome 2
- Sanjad Sakati syndrome
Clinical & Diagnostic Services

Table 1: Ophthalmology Outpatient Statistics 2012

<table>
<thead>
<tr>
<th>Statistics</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients booked</td>
<td>1,1605</td>
</tr>
<tr>
<td>Patients seen</td>
<td>14,044</td>
</tr>
<tr>
<td>Patients admitted</td>
<td>569</td>
</tr>
<tr>
<td>Patients DNA</td>
<td>2,635</td>
</tr>
<tr>
<td>Patients discharged</td>
<td>170</td>
</tr>
<tr>
<td>Patients for RX</td>
<td>913</td>
</tr>
<tr>
<td>Total</td>
<td>29,936</td>
</tr>
</tbody>
</table>

Table 2: Minor Operating Theatre Procedures 2012

<table>
<thead>
<tr>
<th>Procedure type</th>
<th>No. of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor operation</td>
<td>503</td>
</tr>
<tr>
<td>Blood Extraction</td>
<td>494</td>
</tr>
<tr>
<td>Sedation</td>
<td>107</td>
</tr>
<tr>
<td>Cannulation</td>
<td>130</td>
</tr>
<tr>
<td>Dilatation</td>
<td>5,933</td>
</tr>
<tr>
<td>Other</td>
<td>253</td>
</tr>
<tr>
<td>Total</td>
<td>7,420</td>
</tr>
</tbody>
</table>
### Table 3: Laser Procedures 2012

<table>
<thead>
<tr>
<th>Procedure type</th>
<th>No. of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>148</td>
</tr>
<tr>
<td>YAG</td>
<td>34</td>
</tr>
<tr>
<td>Photodynamic therapy</td>
<td>7</td>
</tr>
<tr>
<td>Avastin and lucentis injections</td>
<td>269</td>
</tr>
<tr>
<td>Fundus fluorescein angiography</td>
<td>142</td>
</tr>
<tr>
<td>Diabetic screening</td>
<td>505</td>
</tr>
<tr>
<td>Contact lens</td>
<td>39</td>
</tr>
<tr>
<td>Low vision service</td>
<td>2</td>
</tr>
<tr>
<td>Electrotetinogram and visual evoked potential</td>
<td>104</td>
</tr>
<tr>
<td>Orthoptic</td>
<td>322</td>
</tr>
<tr>
<td>Contact lens</td>
<td>59</td>
</tr>
<tr>
<td>Low vision service</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,595</strong></td>
</tr>
</tbody>
</table>

### Table 4: Patient Ward Statistics 2012

<table>
<thead>
<tr>
<th>Month</th>
<th>Patient census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>Adult: 39, Paediatric: 9</td>
</tr>
<tr>
<td>Feb</td>
<td>Adult: 43, Paediatric: 4</td>
</tr>
<tr>
<td>Mar</td>
<td>Adult: 48, Paediatric: 8</td>
</tr>
<tr>
<td>Apr</td>
<td>Adult: 57, Paediatric: 7</td>
</tr>
<tr>
<td>May</td>
<td>Adult: 44, Paediatric: 11</td>
</tr>
<tr>
<td>Jun</td>
<td>Adult: 48, Paediatric: 6</td>
</tr>
<tr>
<td>Jul</td>
<td>Adult: 37, Paediatric: 2</td>
</tr>
<tr>
<td>Aug</td>
<td>Adult: 16, Paediatric: 6</td>
</tr>
<tr>
<td>Sep</td>
<td>Adult: 44, Paediatric: 5</td>
</tr>
<tr>
<td>Oct</td>
<td>Adult: 40, Paediatric: 3</td>
</tr>
<tr>
<td>Nov</td>
<td>Adult: 50, Paediatric: 7</td>
</tr>
<tr>
<td>Dec</td>
<td>Adult: 44, Paediatric: 5</td>
</tr>
</tbody>
</table>

### Table 5: Technical Procedures 2012

<table>
<thead>
<tr>
<th>Procedure type</th>
<th>No. of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refraction</td>
<td>160</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>338</td>
</tr>
<tr>
<td>Pachymetry</td>
<td>110</td>
</tr>
<tr>
<td>Visual Field</td>
<td>224</td>
</tr>
<tr>
<td>Optical coherence tomography</td>
<td>2,031</td>
</tr>
<tr>
<td>Confoscan</td>
<td>14</td>
</tr>
<tr>
<td>Orbscan</td>
<td>525</td>
</tr>
<tr>
<td>Photo</td>
<td>645</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4047</strong></td>
</tr>
</tbody>
</table>

### Table 6: Main Theatre Surgeries 2012

<table>
<thead>
<tr>
<th>Surgery type</th>
<th>No. of surgeries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major surgeries</td>
<td>299</td>
</tr>
<tr>
<td>Intermediate surgeries</td>
<td>47</td>
</tr>
<tr>
<td>Minor surgeries</td>
<td>136</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>482</strong></td>
</tr>
</tbody>
</table>
Research

RESEARCH PROJECTS

Clinical and genetic studies of glaucoma in Oman

Project Code: IG/MED/GENT/10/01; Dates: 2010–2012

Value: OR 13,500; Funder: Sultan Qaboos University

Investigators: Dr. Nadia Al-Kharousi, Dept. Ophthalmology, SQU; Dr. Said Al-Yahyaee, Dept. Genetics, SQU; Dr. Anuradha Ganesh, Dept. Ophthalmology, SQU; Dr. Upender Wali, Dept. Ophthalmology, SQU; Ms. Rayhanah Al-Mujeni, Dept. Genetics, SQU.

Correlation of central corneal thickness (CCT) with intraocular pressure (IOP) in Omani children: The importance of CCT in pediatric aphakic and pseudophakic glaucoma

Project Code: IG/MED/GENT/10/02; Dates: 2010–2012

Value: OR 6,600; Funder: Sultan Qaboos University

Investigators: Dr. Sana Al Zuhaibi, Dept. Ophthalmology, SQU; Dr. Anuradha Ganesh, Dept. Ophthalmology, SQU; Dr. Rana N. Senawi, Dept. Ophthalmology, SQU; Dr. Seyed Rizvi, Dept. Family Medicine & Public Health, SQU; Mrs. Raya Al-Mugheiry, Dept. Ophthalmology, SQU; Mr. Harith Al-Hasani, Dept. Ophthalmology, SQU.

Ocular finding in thalassemic patients

Project Code: MREC #547 Dates: 2012

Value: Unfunded Project Approval: Sultan Qaboos University

Investigators: Dr. Agha S. Haider, Dept. Ophthalmology, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


**BOOKS & BOOK CHAPTERS**


**CONFERENCE & SEMINAR PRESENTATIONS**

**Conference Presentations**

*International*


**Poster Presentations**

*International*


The Oral Health Department provides dental, oral and maxillofacial services for the University community, hospital inpatients and referred outpatients. It also acts as a tertiary centre of referrals for oral and maxillofacial surgery and paediatric dentistry. The Department provides dental services including basic primary dental care, oral hygiene therapy, restorative, endodontic, as well as comprehensive paediatric dentistry and oral and maxillofacial surgery treatments.

The Department is also a member of the trauma team of Sultan Qaboos University Hospital (SQUH), and is therefore actively involved in the treatment of patients with facial injuries including the repair of facial bone fractures. In addition, the Department is also heavily involved in the diagnosis and treatment of a wide range of medically-compromised patients including those with haematological malignancies, sickle cell anaemias and bleeding disorders. The dental services are provided at the Department’s outpatient clinic or in the operating theatre for the inpatients or day care visitors.
Staff

Head of Department
Salim Al-Sudairy, Consultant (Oral & Maxillofacial Surgeon)

Faculty
Abdulaziz Bakathir, Deputy Head, Consultant (Oral & Maxillofacial Surgeon)
Amur Al-Hajri, Consultant
Ali Al-Mullahi, Consultant (Paediatric Dentist)
Awatif Al-Maskery, Senior Registrar
Muntasar T. Al-Hinai, Registrar
Sameera Al-Anqoodi, Registrar (Restorative Dentistry)
Hana Al-Raisi, Senior House Officer
Rasha Ahmed, Senior House Officer
Madelin Hernandaz, Senior House Officer
Mahboob Pasha, Senior House Officer

Other Staff
Nasriya Al-Harthy, Dental Hygienist/Therapist
Zahra Al-Ghafri, Dental Hygienist
Judy Mathew, In-Charge Nurse
Lovely Kuriakose, Senior Nurse
Ibrahim Al-Shizawi, Medical Nurse
Ibtisam Al-Ambusaidi, Medical Nurse
Blankaji Ouseph, Medical Nurse
Aftab Malik, Dental Surgery Assistant
Sulaiman Al-Maqimi, Dental Surgery Assistant
Mohammed Al-Alawi, Dental Surgery Assistant
Khamis Al-Mufargi, Dental Laboratory Technician
Sarah Al-Siyabi, Dental Surgery Assistant

Support Staff
Fatma Al-Siyabi, Central Sterile Supplies Technician
Nasra Al-Habsi, Medical Orderly (CSSD)
Khaled S. Al-Mahrizi, Medical Orderly
Khamis Al-Jabri, Medical Records Clerk
Nadia Al-Ghafri, Coordinator

Highlights of the Year 2012
The Department maintained a high standard of dental care to patients and continued to improve and expand its services. One of the main events of 2012 was the return of Dr. Muntasar Al-Hinai after finishing his graduate studies at the University of Illinois, USA. After obtaining his Master’s and Ph.D. degrees from that university, he then obtained his Certificate of Specialty in Orthodontics and Dentofacial Orthopaedics. Dr. Muntasar became the first Omani to be certified as an orthodontist by the American Board of Orthodontics and the first dentist specialised in craniomaxillofacial anomalies. Soon after Dr. Muntasar joined the Department he was appointed as clinic director with the aim of improving the services provided and increasing the number of patients treated by the Department. In addition, the Department provided continuous support to the expanding and specialised medical and surgical units of SQUH and continued to play an important role in the holistic multidisciplinary care of SQUH patients.

The Department’s clinical staff were actively involved in local scientific events and dental conferences conducted by the Ministry of Health in 2012. Dr. Muntasar was extensively involved in the organisation of the Oman International Dental Conference held in Muscat in 2013. He was a member of the Scientific Committee and presented a lecture at the conference, as well as conducting a workshop on Rotary Instruments Usage in Endodontics. He was also invited to present a paper at the 8th Gulf Dental Conference held in Qatar in April of 2012. Furthermore, our clinical staff participated in many dental conferences and workshops conducted in Oman, the United Arab Emirates, Dr. Aftab Malik, Dr. Madeline Lima, Dr. Rasha Hadi, Sameera Al-Anqoodi and Dr. Mehboob Pasha all attended the Preconference Workshops on Endodontics and Composite Application Techniques held as a part of the Oman International Dental Conference in 2013. Furthermore, Mrs. Nasriya Al-Harthy attended the International Dental Conference and Arab Dental Exhibition (AEEDC) in Dubai in 2013, as well as a seminar on professional dental surgery assistant.
In 2012 and 2013, the Department produced a series of educational leaflets for patients covering a range of dental and oral surgery conditions. This work was done by the Department’s dental hygienist, Zahra Al-Ghafri.

**Teaching Programmes**
The Oral Health Department continues to provide teaching support to MD degree students in the College of Medicine and Health Sciences (COM&HS) and the Institute of Health Sciences of the Ministry of Health. This included: 1) Regular teaching seminars during the Oral Health Rotation for 5th year MD students; 2) Examination of Oral Cavity course in the Clinical Skills Laboratory teaching for 4th year MD students; 3) Daily clinical teaching on room preparation and aseptic technique for surgical patients and infection control to the Dental Surgery Assistance (DSA) students during their oral health rotation; 4) Teaching of DSA students at the Institute of Health Sciences, Ministry of Health, and 5) Training doctors (intern dentists) from the Ministry of Health.

**Clinical & Diagnostic Services**
The Oral Health Department continued to provide primary dental treatment as well as specialised comprehensive pediatric dentistry, orthodontic treatment, craniofacial anomalies’ management and oral and maxillofacial surgical treatments. The number of patients treated at the Oral Health Department increased by more than 1,000 patients in 2012 compared to 2011, a reflection of the good quality and standard of the healthcare offered. The Department had a 5% increase in the number of patients attending the Outpatient Clinic in 2012 compared to 2011. This rise is a reflection of the increase in the number of referrals for specialised paediatric and maxillofacial care from various hospital departments as well as from other regional hospitals and local health centres. The waiting time for appointments dropped in 2012 from 4 months to one week. This improvement in the service provided was mainly due to a new appointment system implemented in the Department towards the end of 2012. The numbers of patient in the last quarter of 2012 significantly increased compared to the same period in 2011 and even since 2006. In 2012, the Department has also recorded an increase in the number of complex medically-compromised cases admitted for oral and maxillofacial surgery and dental treatment, especially in the paediatric group. The Department continued to be actively involved in a 24-hour on-call service in collaboration with the Emergency Department of SQUH.
Dr. Awatif Al-Maskary has been investigating 3 topics: the knowledge, attitudes, behaviour, and sources of information of Omani type 2 diabetic patients regarding their oral health; the knowledge, attitudes, behaviour, and sources of information of Omani university students at Sultan Qaboos University regarding their oral health, and the essential oil composition, antimicrobial and antioxidant activities of unexplored Omani basil.

CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International

1. Al Hinai M. Surgical and non-surgical class III treatment. 8th Gulf Dental Association Conference & 2nd Qatar International Dental Association Conference, Doha, Qatar, 12–13 Apr 2012.

Figure 1: Number of patients treated in the Oral Health Department in 2011 and 2012.
The Department of Pathology is fully committed to the College of Medicine & Health Sciences’ (COM&HS) and Sultan Qaboos University Hospital’s (SQUH) mission of teaching, research and patient service.

The Department’s teaching mandate includes the MD curriculum (new and old), and the B.Sc. Medical Laboratory Sciences programmes. It also participates in the Oman Medical Specialty Board (OMSB) residency programme in histopathology and other medical specialties. The postgraduate training programme is approved for Part I (FRCPth) of the Fellowship of the Royal College of Pathologists examination. The Department is sought after for training in specialised histopathology techniques (especially electron microscopy) by health professionals from Oman and abroad.

The Department provides specialist diagnostic services in histopathology, cytopathology, enzyme and immunohistochemistry, fluorescent microscopy and electron microscopy to SQUH. With a total of 7 academic and clinical faculty members (including 6 senior pathologists) and twenty-five biomedical scientists, it functions as a major referral centre for many of the Ministry of Health (MOH) hospitals, the Armed Forces Hospital (AFH) and the Royal Oman Police (ROP) Hospital as well as some of the private hospitals in the country. There are also 4 junior pathologists currently in rotation with other OMSB residents or completing their training abroad.

The Department is actively engaged in research in collaboration with other clinical departments of SQUH and other Colleges of SQU. Several new funded and unfunded research projects were initiated in 2012. The Electron Microscopy Unit, in particular, undertakes many research projects with

Pathology
other colleges within SQU as well as other institutions.

The Department is registered with and subscribes to international external quality assurance programmes in anatomic pathology, cytopathology and immunohistochemistry including both diagnostic and technical modules.

## Staff

### Head of Department

Ritu Lakhtakia, Associate Professor

### Faculty

Ibrahim Al-Haddabi, Acting Deputy Head (Clinical Affairs)

Aisha Al-Hamdani, Senior Consultant

P.A.M. Saparamadu, Consultant

Marwa Al-Riyami, Consultant

Asim Qureshi, Consultant

Shadia Al-Bahlani, Assistant Professor

Maiya Al-Bahri, Registrar

Radhiya A. Al-Ajmi, Senior House Officer

Aasmaa Al-Shihi, Senior House Officer

### Superintendents

Khalaf Al-Gharibi, Superintendent (COM&HS)

Kamla Al-Mawali, Superintendent (SQUH)

### Biomedical Scientists

Nasar Al-Wahaibi, Associate Researcher

Joseph Oguntifidimi, Chief Biomedical Scientist (Clinical)

Johannes K. Solomon, Chief Biomedical Scientist (Clinical)

Usha R. Bai, Chief Biomedical Scientist (Clinical)

Virgilio Cruz, Chief Biomedical Scientist (Clinical)

Virginia Uy, Chief Biomedical Scientist (Clinical)

Sameera Al-Rawahi, Senior Biomedical Scientist

Kawther Al-Adawi, Senior Biomedical Scientist

Shadia Al-Sinawi, Senior Biomedical Scientist

Shaikha Al-Harthy, Senior Biomedical Scientist

Mohammed Al-Kindi, Biomedical Scientist

Halima Al-Issaei, Biomedical Scientist

James Vijayan, Biomedical Scientist

Khalid Al-Hosni, Biomedical Scientist

Najat Al-Dairi, Biomedical Scientist

Yusra Al-Belushi, Biomedical Scientist

Amna Al-Shukeili, Biomedical Scientist

Bader Al-Sumri, Biomedical Scientist

Muna Al-Sarkhi, Biomedical Scientist

Horiya Al-Azri, Biomedical Scientist

Safaa Al-Rawahi, Biomedical Scientist

Saed Al-Jamoudi, Biomedical Scientist

Ahmed Al-Hinai, Mortuary Technician

### Coordinators

Edna B. Ranada, Coordinator (COM&HS)

Nadeera K. Ammu, Coordinator (SQUH)

Shamla Sheriff, Coordinator (SQUH)

Badriya Al-Hinai, Coordinator (SQUH)

## Highlights of the Year 2012

The year 2012 witnessed several changes in the Department staff. In April, Dr. Ritu Lakhtakia took over as Head of Department from Prof. Anand Date. She also assumed the Chair of the B.Sc. Medical Laboratory Sciences (MLS) Management Committee. Dr. Asim Qureshi joined the Department as Consultant. Dr. Shadia Al-Bahlani rejoined as Assistant Professor after completion of her Ph.D. in Canada and was also appointed the B.Sc. MLS Training Coordinator. Dr. Khalaf Al-Gharibi returned after completing his Ph.D. in the U.K. and was appointed Department Superintendent (College). Kamla Al-Mawali was appointed as Superintendent (SQUH). Ms. Amna Al-Shukeli rejoined the Cytology Laboratory after successfully completing certification as a cytoscreener in the USA.

Several staff members were acknowledged for their contributions: Dr. Shadia Al-Bahlani for her excellent research contribution through her Ph.D. and Edna Ranada for her long and meritorious service to SQU. Samira Al-Rawahi was recipient of a His Majesty’s Grant Scholarship in 2012 to pursue her Ph.D. abroad.

The Department is integral to the COM&HS’ effort for
Accreditation of the MD curriculum and members are actively supporting the core group engaged in this effort. In September, the Department was visited by the Internal Review team of the OMSB as a centre of training for the OMSB histopathology residency programme.

The diagnostic service saw a sustained rise in workload and referrals. Liquid-based cytology provided a new dimension of modernisation to the cytology services. A new extension to the Diagnostic Laboratory was completed providing space for the expanding immunohistochemistry section and the developing molecular pathology section. The histology/cytology research laboratories of the COM&HS are undergoing refurbishment and planned upgrading in preparation for providing core research facilities. The electron microscopy section has an ever increasing demand on its services with the modernised equipment catering to biological and material sciences. Several colleges from the University and outside organisations are pursuing research in this facility. This section also provides short training courses for young Omani biomedical scientists.

The Department attracts visits from school students as part of its community education programme. A total of 25 students from Naima Secondary School, Sohar, visited the Pathology Museum and the Electron Microscopy section in 2012.

Teaching Programmes

UNDERGRADUATE PROGRAMMES

MD Programme
The Department has been involved in the full implementation of the new MD curriculum with the following modules in the 4 semesters of Phase II: Response to Infection and Pathobiology, and systems modules including: Cardiovascular, Respiratory, Uroreproductive, Alimentary, Locomotor, Endocrine, Human Nervous System and the Integrated Module. Department faculty have guided undergraduate student research projects. The Locomotor module is being coordinated by Dr. Ritu Lakhtakia.

In addition to the integrated autopsy and gynaecology rotations for the 7th year students (old curriculum), 6 batches each of junior and senior clerkship students (new curriculum) undergo laboratory rotations in Pathology. These rotations orient them on basic and advanced laboratory techniques to improve their clinico-pathological correlation in an integrated format. The integration of pathology with clinical dermatology training is achieved by small group teaching in pathology during this rotation in addition to the previously mentioned laboratory exposure. These didactic exercises are further augmented through student attendance at the multidisciplinary meetings in Pathology with the departments of Surgery, Child Health, Obstetrics & Gynaecology and Haematology, as well as the Breast and Oncology units.

B.Sc. Medical Laboratory Sciences
In the B.Sc. Medical Laboratory Sciences (MLS) programme, the following courses were taught by the Department: Introduction to MLS, Biology of Disease, Applied MDLS, Cellular Pathology I, Cellular Pathology II, Biology of Cancer, Advanced Instrumentation in Cellular pathology and the Pathology Research Projects.
**Intercalated phase**
As part of the B.Sc. Health Sciences degree, a new course on histopathology is being taught.

**POSTGRADUATE PROGRAMMES**

**Residency programmes**
The Pathology Department is a training centre for the OMSB and is an approved centre for the Part I examination of the British Fellowship of the Royal College of Pathologists (FRCPath), UK. There are up to 3 residents posted at any one time in the Department for general pathology training and an elective in renal pathology. The Department also offers an elective rotation (4 weeks) for Dermatology, Haematology and Obstetrics & Gynaecology residents. This provides them with an opportunity to develop an understanding about dermatopathology, haematolymphoid diseases and gynaecological pathology, respectively. In addition to OMSB residents, there are 3 senior house officers employed by SQUH who rotate between surgical pathology and cytopathology and acquire basic training before they travel abroad for further studies. The training programme for postgraduate residents in pathology is 5 years. At present, there are 13 OMSB trainees who rotate between SQUH, the Royal Hospital, Khoula Hospital, Royal Oman Police hospital and the Armed Forces Hospital. All faculty members are trainers and members of various subcommittees of the Histopathology Scientific committee of the OMSB. The end of year practical assessment of all Pathology OMSB residents was conducted in COM&HS in June 2012.

**Training Courses & CME Activities**
Dr. Ibrahim Al-Haddabi ran a Thin Prep in Cytology workshop and cytology training programme in November.

The Department offers clinical attachments in laboratory medicine. The technical staff undertook the training of 3 Omani students from various hospitals and schools who are studying medical laboratory techniques. The Department also welcomed two staff from other laboratories of the MOH and AFH who came to train in special techniques in cytology, immunohistochemistry and electron microscopy. An international trainee from the Health Institute Sciences, International Islamic University, Malaysia, was also trained for two weeks.

Departmental staff attended numerous local and international workshops on topics such as student assessment, data analysis, cytology and cytotechnology, histopathology, accreditation, innovation, research and grant proposal writing.

**Clinical & Diagnostic Services**
With the expansion of clinical and surgical services offered by SQUH, the Department witnessed a surge in the number of biopsies and resection specimens received. This not only reflected the number but also the complexity of these specimens. The Department is also a centre for subspeciality reporting, particularly in haematopathology and renal pathology. It acts as a referral centre for the MOH Hospitals, the ROP Hospital, the AFH Hospital, Royal Hospital and clinics, Royal Diwan clinics, and private hospitals within Oman for expert opinions on difficult diagnoses.

The renal pathology service is organised and delivered by Dr. Marwa Al-Riyami providing comprehensive reporting of renal biopsies with light microscopic, ultrastructural and fluorescent inputs. Adult and paediatric multidisciplinary case
discussions for patient management are conducted with participating faculty from SQUH, the Royal Hospital and AFH.

The frozen section facility provided for SQUH and the AFH and urgent FNAC diagnostic support to the one-stop Breast Clinic provide vital inputs for intraoperative decision-making and the early diagnosis of breast cancer, respectively.

Well-established immunohistochemistry and fluorescent microscopy units provide the ancillary support for resolving diagnostic dilemmas. The electron microscopy unit supports problem-solving in renal, skin and muscle diseases.

Clinicopathological conferences are also playing an increasingly important role in patient management. The pathologists contribute to such meetings as core members, particularly in the breast and oncology MDTs held on a weekly basis. Monthly meetings are held with the departments of Surgery, Child Health, Obstetrics & Gynaecology and Haematology.

**Table 1: Histopathology/Cytology/Electron Microscopy Workload 2012**
The quality of diagnostic services of the Department are evaluated by departmental internal quality assurance programmes. The Department is also registered with and subscribes to international external quality assurance pro-

<table>
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<tr>
<th>Type of Test</th>
<th>Requests</th>
<th>Tests</th>
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<td>Histology</td>
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<td>30,951</td>
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<td>Immunohistochemistry</td>
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<td>13,543</td>
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<tr>
<td>Immunofluorescence</td>
<td>258</td>
<td>1,799</td>
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<tr>
<td>Enzyme histochemistry</td>
<td>3</td>
<td>74</td>
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<tr>
<td>Molecular pathology</td>
<td>56</td>
<td>181</td>
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<tr>
<td>Cytology-gynaecology</td>
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<td>2,232</td>
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<tr>
<td>Cytology-non-gynaecology</td>
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<td>4,986</td>
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<tr>
<td>Electron microscopy</td>
<td>685</td>
<td>2,368</td>
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grammes in histopathology, cytopathology and immunocytochemistry. We also subscribe to a technical module. The Department Quality assurance committee headed by Dr. Ibrahim Al-Haddabi is actively engaged in preparations for ACI accreditation of the hospital laboratory.
### Research

**RESEARCH PROJECTS**

**Expression and localization of cancer – testis associated antigens MAGE – 1 family in relation to CD8 +T lymphocyte in breast cancer**

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<td>Investigators:</td>
<td>Prof. Anand Date, Dept. Pathology, SQU; Dr. Jamal Sallam, Dept. Medicine, SQU; Dr. Ibrahim Al-Haddabi, Dept. Pathology, SQU; Dr. Anna Saparamadu, Dept. Pathology, SQU; Prof. Chandu De Silva, Dept. Pathology, SQU; Dr. Issa Al-Amri, Dept. Pathology, SQU.</td>
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**Studying prognostic and predictive gene signatures for colorectal cancer in Omani patients using whole genome expression microarray analysis**

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<td>Dr. Marwa Al-Riyami, Dept. Pathology, SQU; Prof. Mansour Al Moundhri, Dept. Medicine, SQU; Dr. Abeer Al-Sayegh, Dept. Genetics SQU.</td>
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**Expression of tumor necrosis factor-alpha and other cytokines in renal transplant patients and those with chronic renal disease**

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<tr>
<td>Investigators:</td>
<td>Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU; Prof. Anand Date, Dept. Pathology, SQU; Dr. Marwa Al Riyami, Dept. Pathology, SQU; Dr. Mohammed Al-Balushi, Dept. Microbiology &amp; Immunology, SQU; Dr. Ahmed Al-Shukaili, Dept. Microbiology &amp; Immunology, SQU; Dr. Abullah Al-Muniri, Dept. Family Medicine &amp; Public Health, SQU.</td>
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**Mast cells in chronic gastritis: a morpho-immunophenotypic study with clinicopathologic correlation**

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<td>Investigators:</td>
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### Comparison between thyroid papillary carcinoma and other thyroid carcinomas at SQUH

**Project Code:** MREC #511  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.

### Correlation between breast-FNA and breast biopsy at SQUH

**Project Code:** MREC #512  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.

### The role of Perls’ method in the diagnosis of liver biopsy

**Project Code:** MREC #519  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.

### Measurement of *Helicobacter pylori* in gastric biopsies

**Project Code:** MREC #520  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.

### Skin diseases in Oman: light and immunofluorescence microscopic investigation

**Project Code:** MREC #521  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.

### Expression of tumor necrosis factor-alpha and other cytokines in renal transplant patients and those with chronic renal disease

**Project Code:** MREC #538  
**Dates:** 2012  
**Value:** Unfunded  
**Investigator:** Dr. Nasar Al-Wahaibi, Dept. Pathology, SQU.
To study the immunohistochemical and morphologic profile of different types of sarcomas as seen in our clinical practice and correlate the morphology to clinical behavior and long term follow-up

<table>
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**Appendicectomy for acute appendicitis: pathological features of specimens which are histologically negative for acute inflammation**

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**Study of clinic-pathological features of papillary carcinoma of thyroid and morphologic evaluation of precursor lesions**

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**Comparative study of smears prepared by cytopsins and crush and pull method from the body cavity fluids and urine**

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**Evaluation of the diagnostic accuracy of breast fine needle aspirates reported in Sultan Qaboos University Hospital**

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**The aetiology of membranous nephropathy in the Omani population**

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<td>Investigator:</td>
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STUDENT RESEARCH PROJECTS–APPROVED BY COM&HS (UNFUNDED)
1. Mast cell density in Helicobacter pylori versus non-Helicobacter pylori gastritis. Zalkha A. Al-Kharousi and Dr. Ritu Lakhtakia.
2. The correlation of Mast cell density and histological severity of chronic gastritis. Amima M. Al Bulushi and Dr. Ritu Lakhtakia.
3. Correlation between the density of mast cells and severity of clinical symptoms in chronic gastritis. Amira M. Al-Qassabi and Dr. Ritu Lakhtakia.
4. Evaluation of the diagnostic accuracy of breast fine needle aspirates reported in SQUH. Sara A. A. Al-Maskery and Dr. Marwa Al-Riyami.
5. The etiology of membranous nephropathy in the Omani population. Anwar K. Al-Shanfari and Dr. Marwa Al-Riyami.
6. Appendicectomy for acute appendicitis: pathological features of specimens which are histologically negative for acute inflammation. Amal A. S. Al-Hinai, Prof. Chandu de Silva and Dr. Asim Qureshi.

COLLABORATIVE RESEARCH PROJECTS USING ELECTRON MICROSCOPY
Nine projects were carried out using TEM, SEM, EDX for 894 tests on 307 samples. Examples of these projects are:
1. The topography of otoliths of fish in Oman: The outcome of this project will be the addition of our images in a book written by Dr. Shama Zaki from The Marine Centre, on the different fish types in Oman.
2. The impact of different types of food on the ultrastructure of rat heart muscle with Dr. Mustafa Wali from the College of Agriculture.

RESEARCH PUBLICATIONS & BOOKS
Journal Publications


### CONFERENCES & SEMINAR PRESENTATIONS

#### Conference Presentations

**International**


**National**

1. **Lakhtakia R**. The morpho-immunophenotype and molecular characterization of breast cancer. Regional Breast Cancer Symposium, Nizwa Hospital, Oman, 1 Mar 2012.

2. **Lakhtakia R**. Experiences from the Department of Pathology. Symposium on Undergraduate Research Experience, Sultan Qaboos University, Muscat, Oman, 16 Oct 2012.

3. **Lakhtakia R**. The trip from a biopsy to diagnosis. Standing Committee on Medical Education Workshop, Muscat, Oman, 5 Nov 2012.


5. **Lakhtakia R**. Choice of a medical career after graduation: academic or service? Standing Committee on Medical Education Debate, 3 Dec 2012.

6. **Qureshi A**. Highlights of quality assurance practices in the Department of Pathology. World Quality Day Celebration, Muscat, Oman, 4 Nov 2012.

7. **Lakhtakia R**. Hark to a hairy tale: Intracranial dermoid cyst. SCRAPS seminar series, Sultan Qaboos University, Muscat, Oman, 4 Jan 2012.
Poster Presentations

International
1. Al Bahlani SM. The role of p73 in cisplatin-induced apoptosis in ovarian cancer. 2nd World Cancer Congress, Montréal, Quebec, Canada, 28 Aug 2012.

Seminar Presentations

International

THESIS SUPERVISION

Student name: Hafsah A. Al-Fahdi
Qualification: B.Sc.
Title: Correlation between breast-fine needle aspiration cytology and breast biopsy at SQUH
Supervisors: Dr. Nasar Al-Wahaibi, Mrs. Usha Bai
Date of completion: May 2012

Student name: Ghena K. M. Al-Abri
Qualification: B.Sc.
Title: Utility of immunofluorescence microscopy investigation of skin diseases in Oman
Supervisors: Dr. Nasar Al-Wahaibi, Miss. Shadia Al-Sinawi
Date of completion: May 2012

Student name: Jawhara S. Al-Salami
Qualification: B.Sc.
Title: Comparison between the incidence of papillary thyroid carcinoma and other types of thyroid carcinomas at SQUH
Supervisors: Dr. Nasar Al-Wahaibi, Mrs. Usha Bai
Date of completion: May 2012
<table>
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<tr>
<th>Student name</th>
<th>Qualification</th>
<th>Title</th>
<th>Supervisors</th>
<th>Date of completion</th>
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<tr>
<td>Badria M. A. Al-Mahrooqi</td>
<td>B.Sc.</td>
<td>The prevalence of <em>Helicobacter pylori</em> and association with gastric diseases in Oman.</td>
<td>Dr. Nasar Al-Wahaibi, Ms. Sameera Al Rawahi</td>
<td>May 2012</td>
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<tr>
<td>Azza S. K. Al-Khatri</td>
<td>B.Sc.</td>
<td>Efficiency of hematoxylin &amp; eosin stain in demonstrating hemosiderin in liver biopsy</td>
<td>Dr. Nasar Al-Wahaibi, Mr. Johannes K. Solomon</td>
<td>May 2012</td>
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<tr>
<td>Al Shaima Al-Jamalani</td>
<td>B.Sc.</td>
<td>The effect of aflatoxin B1 on <em>bursa of fabricius</em> chick embryo</td>
<td>Dr. Kawther Al-Adawi, Dr. Taher Ba Omar</td>
<td>2012</td>
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<tr>
<td>Meead Al-Lawati</td>
<td>B.Sc.</td>
<td>The effect of aflatoxin B1 on <em>liver of fabricius</em> chick embryo</td>
<td>Dr. Kawther Al-Adawi, Dr. Taher Ba Omar</td>
<td>2012</td>
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<tr>
<td>Fatma Al-Lawati</td>
<td>B.Sc.</td>
<td>The effect of aflatoxin B1 on <em>kidney of fabricius</em> chick embryo</td>
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<td>Student name:</td>
<td>Fatma Al-Shihri</td>
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<td>The impact of different concentrations of aflatoxin on the Ultrastructure of Chick embryo liver</td>
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<table>
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<tr>
<th>Student name:</th>
<th>Asila Al-Nabi</th>
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<td>Supervisors:</td>
<td>Dr. Kawther Al-Adawi and Dr. Taher Ba Omar</td>
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<tr>
<td>Date of completion:</td>
<td>2012</td>
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</table>
The Department of Pharmacology & Clinical Pharmacy plays an active teaching role in both the College of Medicine & Health Sciences’ (COM&HS) old and new curricula as well as in the College of Nursing’s educational programme. The Department also offers a Master’s degree in Clinical Pharmacy, a Doctoral degree in Clinical Pharmacy and contributes to the teaching of other Master’s courses. The Department coordinates the Research Method & Critical Analysis of Scientific Information course. In addition, the Department coordinates the Cellular Communication and Introduction to Drug Action, Integrated Module II and Alimentary System courses in the new curriculum, and offers two elective courses (in Arabic) entitled: Drugs, Nutrients & Narcotics and History of Medicine.

Research activities embrace different areas of experimental and clinical pharmacology and therapeutics. The areas under investigation encompass: pharmacogenetics of drugs, e.g. tacrolimus and pharmacoconomics, and the effect of several agents on experimental acute and chronic renal failure.
Staff

Head of Department
Mohammed Al-Za’abi, Assistant Professor

Faculty
Musbah Tanira, Professor
Badreldin Ali, Professor
Abdel Hamid Elhawary, Associate Professor
Ibrahim Al-Zakwani, Associate Professor
Ragini Vaishnav, Assistant Professor
Khalid Al-Balushi, Assistant Professor
Yousuf Al-Suleimani, Assistant Professor

Support Staff
Ikhlas A. Ahmed, Researcher
Mahfouda Al-Busaidi, Biomedical Scientist
Ahmed Al-Mahrouqi, Biomedical Scientist
Mercy Calma, Coordinator

Highlights of the Year 2012
In the old curriculum, the Department continued to teach in the pre-clinical B.Sc. (Health Sciences) programme as well as in the MD programme. With the implementation of the new curriculum in the College, the Department was given the responsibility to coordinate 3 courses, Cellular Communication, Introduction to Drug Action and Alimentary System, and participate in many system module courses. Also, the Department was involved in Phase III and in Pre-Clerkship Supportive Learning Topics (SLTs).

The staff level increased in 2012 with the addition of Ms. Mahfouda Al-Busaidi and Mr. Ahmed Al-Mahrouqi, Biomedical Scientists, who joined the Department in September. Dr. Ibrahim Al-Zakwani was promoted to Associate Professor and Dr. Ikhlas Ahmed also received promotion from Associate Researcher to Researcher.

During the year, the Department acquired the following equipment; pH meter, See-saw rocker, -80°C ultra-freezer, chloride meter and a learned helplessness machine for rats and mice. These are used for research activities and teaching.

The research output for 2012 consisted of 12 research projects, 12 international poster presentations, 26 publications in peer-reviewed journals and one book chapter. The Department also contributed to the world of medical science through its review and editorial activities in various medical journals. Staff members were involved in different research activities and participated in national and international conferences. The Department serves in several committees in the COM&HS, Sultan Qaboos University Hospital (SQUH) and the University, as well as those in other national institutions. Internationally, the Department has representation on the Executive Council of the International Union of Basic and Clinical Pharmacology (IUPHAR), Education Section.

Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME
The Department contributes to undergraduate teaching in the B.Sc. (Health Sciences), MD and B.Sc. Medical Laboratory Sciences degrees as well as in Phase I and Phase II of the new curriculum. The Department offers several courses in the B.Sc. Health Sciences programme and contributes to all system-based courses. In 2012, most of the courses in the old curriculum were phased out. However, courses like the Human Nervous System, Endocrine & Reproductive Systems and Applied Pharmacology were still offered to accommodate students who were behind in their studies. The courses for B.Sc. MLS are Biology of Disease, Diagnostic Toxicology and Therapeutic Drug Monitoring.

At the preclinical level, the teaching concentrated on the mechanisms by which drugs affect various biological systems and functions, as well as the actions of drugs on
pathological processes.

The pharmacology contribution is also designed to teach the students the basic concepts of the mechanisms of action, pharmacological effects and interactions of drugs and to apply this knowledge through case studies. Applied Pharmacology for Medical Students is run twice per year and fully delivered by the Department. The course is composed of lectures and case-based discussions.

The Department continues to contribute to the College of Nursing courses. Basic Pharmacology and Dosage Calculations and Pharmacology for Nurses are delivered in both semesters.

The Department also delivers the University elective courses, Nutrients, Medicines and Narcotics and History of Medicine. Both courses are under the coordination of the Department.

In the new curriculum, the Department was given the responsibility to coordinate Cellular Communication and Introduction to Drug Action in Phase I. This module introduces the physiological, biochemical and pathophysiological processes and control of cellular communication. In Phase II, the Department continues the responsibility of coordinating the Alimentary System course. In Fall 2012, another course, Integrated Module II was given to the Department to redesign and coordinate. The Department delivers lectures and tutorials for the following courses: Cellular Communication and Introduction to Drug Action; Response to Infection and Pathobiology; Alimentary System; Respiratory System; Haemopoietic Lymphoid Immune System; Cardiovascular System; Uro-reproductive System; Endocrine System; Locomotor System; Nervous System, and Research Project I & II. Also, the Department is involved in case tutorials for Integrated Modules I, II and III. The Department is also supervising 10 undergraduate research projects in the fields of diabetes, the rational use of antibiotics, and other experimental research on animals.

**UNDERGRADUATE CLINICAL PROGRAMME**

The Department is involved in teaching in the clinical programme. Pharmacology contributed to the Integrated Lecture Series (ILS) with courses on Gastroenterology, Nephrology, Neurology, and to clinical rotations in different clinical specialties.

The Department, solely, coordinates the Therapeutics Course which is provided for the 6th year medical students. Most of this teaching was based on the concept of case-based learning. However, with the implementation of the new curriculum, teaching in this course ceased in 2012.

In Phase III of the new curriculum, the Department continues to be involved in the Pre-clerkship programme. Topics for Supportive Learning Topics (SLTs) were delivered to the students in collaboration with the clinical pharmacists of the Department of Pharmacy at SQUH. During the year, in preparation for the Senior Clerkship teaching, the Department designed the SLT Therapeutics course which will be delivered in 2013.

**POSTGRADUATE PROGRAMME**

The Department plays an active role in the teaching in the Master’s programme in Biomedical Sciences. The Department also offers a Master’s degree in Clinical Pharmacy. Major courses delivered by the Department are: Clinical Pharmacokinetics and Therapeutic Drug Monitoring; Clinical Pharmacy I; Clinical Pharmacy II; Pharmacotherapeutics I and II. The
Department also introduced a new elective course, Introduction to Pharmacoeconomics.

The Department started the doctoral degree in Clinical Pharmacy and one student was accepted for enrolment in Spring 2012.

The Department was given the responsibility of coordinating the Master’s degree core course, Research Method & Critical Analysis for Scientific Information. The Master’s student numbers continuously increased so the course had to be offered in both semesters.

The Department is involved in the Pharmacy Working Group to establish a Pharmacy specialty for the Oman Medical Specialty Board (OMSB).

## Research

### RESEARCH PROJECTS

**Effect of gum arabic on an animal model chronic renal failure effect**

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**Pharmacogenetics of tacrolimus in Omani renal transplant patients**

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<tr>
<td>Investigators:</td>
<td>Dr. Khalid Al-Balushi, Dept. Pharmacology &amp; Clinical Pharmacy, SQU; Dr. Mohammed Al-Za'abi, Dept. Pharmacology &amp; Clinical Pharmacy, SQU; Dr. Dawood Al-Riyami, Dept. Medicine, SQU.</td>
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Experimental studies on the interactions between pulmonary exposure to particulate air pollution and acute renal failure: Pathophysiologic mechanisms and influence of protectant drugs.

**Project Code:** CL/SQU-UAE/12/01  **Dates:** 2012–2014

**Value:** OR 20,000  **Project Funder:** Sultan Qaboos University & UAE University

**Investigators:**  
Prof. Badreldin Ali, Dept. Pharmacology & Clinical Pharmacy, SQU; Dr. Abderrahim Nemmar, Dept. Physiology, UAE University.

Patient’s awareness of their medication in primary health centers outpatient clinics in Al Dahra region

**Project Code:** MREC #518  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigator:** Dr. Mohammed Al-Za’abi, Dept. Pharmacology & Clinical Pharmacy, SQU.

Doctors’ knowledge attitudes and perceptions of adverse drug reactions in Sultan Qaboos University Hospital (SQUH)

**Project Code:** MREC #527  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigator:** Dr. Ibrahim Al-Zakwani, Dept. Pharmacology & Clinical Pharmacy, SQU.

Fluorouracil-based chemotherapy in Omani patients: a pharmaco-genomic and kinetic overview

**Project Code:** MREC #540  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigator:** Dr. Mohammed Al-Za’abi, Dept. Pharmacology & Clinical Pharmacy, SQU.

The antidepressant effect of human and caprine amniotic fluid in rats: Effect of gender

**Project Code:** MREC #552  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigators:** Prof. Badreldin Ali, Dept. Pharmacology & Clinical Pharmacy, SQU.

Antibiotic prescribing pattern in the intensive care unit (ICU) at Sultan Qaboos University Hospital (SQUH)

**Project Code:** MREC #559  **Dates:** 2012

**Value:** Unfunded  **Project Approval:** Sultan Qaboos University

**Investigators:** Dr. Khalid Al-Balushi, Dept. Pharmacology & Clinical Pharmacy, SQU.
Drug utilization patterns in patients reporting to medical Emergency Department at Sultan Qaboos University Hospital (SQUH)

Project Code: MREC #560  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Khalid Al-Balushi, Dept. Pharmacology & Clinical Pharmacy, SQU; Dr. Ibrahim Al-Zakwani, Dept. Pharmacology & Clinical Pharmacy, SQU.

Drug prescribing patterns in the pediatric patients at Sultan Qaboos University Hospital (SQUH)

Project Code: MREC #567  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Khalid Al-Balushi, Dept. Pharmacology & Clinical Pharmacy, SQU; Dr. Ibrahim Al-Zakwani, Dept. Pharmacology & Clinical Pharmacy, SQU.

Prescribing patterns of anti-epileptic drugs in pediatric patients at Sultan Qaboos University Hospital (SQUH)

Project Code: MREC #571  Dates: 2012
Value: Unfunded  Project Approval: Sultan Qaboos University
Investigators:  Dr. Khalid Al-Balushi, Dept. Pharmacology & Clinical Pharmacy, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


**BOOKS & BOOK CHAPTERS**


**CONFERENCE PRESENTATIONS**

*Poster Presentations*

**International**


6. **Vaishnav R**, Al Buridi RSH. Early intervention of piperacillin/tazobactam in the Accident and Emergency Department at Sultan Qaboos University Hospital in Oman – A boon or an anathema? 52nd Interscience Conference on Antimicrobial Agents and Chemotherapy, San Francisco, California, USA, 9–12 Sep 2012.


Seminar Presentations

National


3. Al Zakwani I. Research methods. Continuing Professional Development (CPD), Sultan Qaboos University Hospital, Muscat, Oman, 4 Jul 2012.

4. Al Zakwani I. Applied examples on ANOVA, Kruskal Wallis, Pearson’s and Spearman’s correlations. Continuing Professional Development (CPD), Sultan Qaboos University Hospital, Muscat, Oman, 28 May 2012.

5. Al Zakwani I. Paired t-test, Wilcoxon signed-rank test and McNemar’s Chi-squared test. Continuing Professional Development (CPD), Sultan Qaboos University Hospital, Muscat, Oman, 23 May 2012.

6. Al Zakwani I. Applied examples on Student t-test, Mann-Whitney test, Chi-squared test and Fisher’s exact test. Continuing Professional Development (CPD), Sultan Qaboos University Hospital, Muscat, Oman, 16 May 2012.


THESIS SUPERVISION

Student name: Maram Abou Saleh

Qualification: M.Sc. Clinical Pharmacy

Title: Incidence, clinical and economic characteristics of chemotherapy-induced neutropenia at Sultan Qaboos University Hospital in Oman

Supervisors: Dr. Ibrahim Al-Zakwani, Dr. Ragini Vaishnav, Dr. Mohammed Al Za’abi

Date of completion: June 2012
<table>
<thead>
<tr>
<th>Student name:</th>
<th>Tariq Al-Saadi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualification:</td>
<td>M.Sc. Clinical Pharmacy</td>
</tr>
<tr>
<td>Title:</td>
<td>Effect of carvedilol versus carvedilol/ivabradine combination on heart rate, quality of life, morbidity and mortality in patients with stable ischemic heart failure</td>
</tr>
<tr>
<td>Supervisors:</td>
<td>Dr. Abdel Hamid Elhawary</td>
</tr>
<tr>
<td>Date of completion:</td>
<td>June 2012</td>
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<table>
<thead>
<tr>
<th>Student name:</th>
<th>Amna Al-Hashar</th>
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<tr>
<td>Qualification:</td>
<td>Ph.D. Clinical Pharmacy</td>
</tr>
<tr>
<td>Title:</td>
<td>The implementation of strategies that reduce ADEs in Sultan Qaboos University Hospital</td>
</tr>
<tr>
<td>Supervisors:</td>
<td>Dr. Mohammed Al-Za’abi, Professor Musbah Tanira, Dr. Ibrahim Al-Zakwani</td>
</tr>
<tr>
<td>Date of completion:</td>
<td>On-going</td>
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</table>
The Pharmacy Department at SQU Hospital (SQUH) is considered to be the centre of excellence in Oman for the provision of general and specialised pharmaceutical services, and the promotion of pharmaceutical research and teaching. The Department’s mission is to dispense the correct, most effective, safe and most economic medication to a properly identified patient at the appropriate time with sufficient written and verbal patient information and to disseminate appropriate and unbiased drug-, poison- and disease-related information to patients, medical, pharmacy, nursing and allied health care professionals.

The Department is divided into 6 major sections: Pharmacy Administration & Training; Outpatient Pharmacy; Inpatient Clinical Pharmacy; Manufacturing/Aseptic Preparations; Medicine Information, and the Pharmacy Sub-Store.

There has been a significant increase in the number of clinical services and patients in the last 5 years, however, the Department has maintained its high quality services and the outpatient waiting time has also been maintained below 30 minutes even in the busiest months.

The Department is recognised nationally and regionally as a training centre that supports a range of quality programmes. It is responsible for teaching healthcare providers and students from the colleges of Medicine and Pharmacy and for the provision of in-service training for pharmacy staff. It also provides individualised work experience placements for graduate pharmacy personnel.
The Department has carried out a number of research projects with the aim of further improving its services and the effectiveness of certain drug therapies.

Staff

Head of Department
Ibrahim Al-Zakwani, Associate Professor

Deputy Head & Training Coordinator
Aqeela Taqi, Clinical Pharmacist

Inpatient Clinical Pharmacy
Badriya Al-Zadjali, Clinical Pharmacist
Asmahan Al-Barram, Clinical Pharmacist
Maryam Al-Kindi, Pharmacist
Samiya Al-Ajmi, Pharmacist
Amal Al-Rahbi, Pharmacist
Mafiana Rose, Pharmacist
Anwar Al-Mahrizi, Pharmacist
Intisar Al-Riyami, Pharmacist
Bushara Mustafa, Pharmacist
Shireen Imam, Pharmacist

Outpatient Pharmacy
Issa Al-Rashdi, Pharmacist
Soud Al-Shabibi, Pharmacist
Janardhanan Nair, Senior Pharmacist
Bushra Al-Busaidi, Pharmacist
Manal Al-Hatrushi, Pharmacist

Family Medicine Clinic and Emergency Dept. Pharmacy
Nagwa Mohammed, Pharmacist
Safiya Al-Jabri, Pharmacist
Maryam Al-Riyami, Assistant Pharmacist

Medicine Information
Intisar Al-Busaidi, Senior Pharmacist
Nibu Nair, Pharmacist

Manufacturing/ Aseptic Preparations
Dawood Al-Salhi, Pharmacist
Felicidad Dizon, Pharmacist
Ali Al-Jabri, Assistant Pharmacist

Pharmacy Sub-Store
Khalid Al-Zadjali, Pharmacist
Azza Al-Harthi, Assistant Pharmacist

Pharmacy Computer System Management
Bruno Louis, Senior Pharmacist

Technical Services
Ahmed Al-Mahrqi, Pharmacist

Support Staff
Mahfoudh Al-Rawahi, Coordinator
Faiza Al-Zadjali, Coordinator

Highlights of the Year 2012

CONTINUING PROFESSIONAL DEVELOPMENT - STRUCTURED COURSES

The Department organised an 8-week online course on nephrology pharmacy in March 2012, with 17 pharmacists enrolled from SQUH and Ministry of Health (MOH) institutions. This course was in collaboration with the University of Auckland, New Zealand and supported by the SQUH Directorate of Training & CPD. It had enabled pharmacists to have a comprehensive understanding of the pathophysiology, pharmacotherapy and the management of acute and chronic renal diseases.

The Department also organised a series of lectures on Adverse Drug Reaction (ADR) Reporting for nurses, in collaboration with the SQUH Directorate of Nursing Services, with the aim of optimising nurses’ involvement in ADR reporting at SQUH. The programme started in June 2012.
EMERGENCY DEPARTMENT PHARMACY: EXPANDED ROLE
The Emergency Department Pharmacy’s role expanded in 2012 to function as an ambulatory care pharmacy where prescriptions from 6 different outpatient clinics are regularly dispensed. This reduced the number of patients waiting at the main pharmacy and ensured greater patient satisfaction.

CHEMOTHERAPY SAFETY
Chemotherapy safety was enhanced by the appointment of a Chemotherapy Verification Pharmacist, whose responsibility is to verify all chemotherapy prescriptions prior to processing for preparation. This is an additional precaution to detect any prescribing errors or justify any deviation from the standard management protocol. A total of 137 clinically significant interventions were documented over a 9-month period (Jan–Sep 2012), resulting in a direct cost saving of around OR 18,000.

PARTICIPATION IN WHO SURVEY ON PHARMACOVIGILANCE
The Department was visited by Dr. Olsson, Head of External Affairs at the Uppsala (Sweden) Monitoring Centre in the WHO Programme for International Drug Monitoring. Dr Olsson had conducted a regional survey on pharmacovigilance activities. He acknowledged the role of the Department in pharmacovigilance and ADR reporting. The Department was subsequently presented at the International Federation of Pharmacy (FIP) Conference as a role model in the region with around 570 ADR reports in 2012.

ELECTRONIC INVENTORY SYSTEM FOR SELECTED DRUGS
In 2012, electronic databases were created to maintain records of narcotics, psychotropic and non-formulary drugs received at the Pharmacy. This ensured accurate records and eliminated errors in the stock balances. It also facilitated the generation of statistics on consumption and aided in monitoring patients’ compliance to prescribed regimens.

Teaching Programmes
UNDERGRADUATE CLINICAL PROGRAMME
Staff of the Department participated in the following undergraduate teaching programmes: an English for Medicine course entitled ‘SQUH Pharmacy at a glance’ for 1st year medical students; a clinical nutrition course on total parenteral nutrition for 5th year medical students; a lecture on asthma inhaler devices for 7th year medical students (during their child health rotation), and a lectures on ‘Patient adherence to prescribed medications’ and ‘Talking to patients about their medications’ for Pre-clerkship medical students.

Training Courses & CME Activities
In 2012, staff of the Department contributed to CPD activities by teaching the following topics/ courses:

• Pain Management Course - Pharmacotherapy and Pain Management;
• Chemotherapy course
• Central Sterile Supplies Department Course - Chemical Agents and Antiseptics.
• Therapeutic Drug Monitoring - Nursing Perspectives. Presentation to ICU nurses.
• Medication Errors - CPD Programme of the Directorate of Nursing Services.

Training was also provided for students from Nizwa University, Oman Medical Collage (OMC), the Oman Assistant Pharmacist Institute and the Higher College of Technology.

Additionally, 20 CPD/CME sessions were organised in the Department and delivered by pharmacy staff.

Clinical & Diagnostic Services

OUTPATIENT PHARMACY (OP)

Dispensing prescriptions to ambulatory patients is the major activity of this section. This service is offered at 4 different locations: the main hospital pharmacy, the Family & Community Clinic, the Emergency Department Pharmacy (which offers a 24-hour service) and the Student Clinic Pharmacy. At the main Hospital Pharmacy, one room is dedicated for counselling patients. In 2012, more than 400 patients received detailed counselling on the use of their medications. During 2012, the OP pharmacies dispensed a total 228,108 prescriptions, giving a total of 560,612 items.

Despite of the steady increase in the number of prescriptions, the high satisfaction rate was maintained over the previous 6 years.

![Figure 1](link)

**Figure 1**: Total number of prescriptions and items dispensed from all outpatient pharmacies over 5 years.
INPATIENT CLINICAL PHARMACY

Clinical pharmacy is a service provided by qualified clinical pharmacists to promote rational drug therapy that is safe, appropriate, and cost-effective. Clinical pharmacists work in teams with other healthcare providers to achieve this goal. The review of discharge prescriptions by the clinical pharmacists continues to be an important and major requirement before dispensing medications to the patients. Clinical pharmacists perform a number of clinical activities and interventions in their day-to-day work.

The development of clinical treatment guidelines and patient educational material is a major activity of clinical pharmacists. In 2012, the following guidelines were produced or updated: Guideline for the management of veno-occlusive disease (VOD) of the liver in haematopoietic stem cell transplantation; Protocol of intralipid (fat emulsion 20%); Guidelines for the ICU on intravenous anti-arrhythmics and antihypertensives dosing and preparations - prescribing and administration guide; Guidelines on the use of interferon in multiple sclerosis; IV electrolyte information (Ca, Mg and Ph) for clinicians and nurses; Guideline on the administration of anti-thymocyte immunoglobulin (equine); Guideline on the administration of “Brentuximab Vedotin; Guideline on the use of tPA (alteplase) for patients with ischaemic stroke. Prescription guide for colistin doses in critically ill patients; Review of protocol for dexmedetomidine - SQUH-ANA-ICU-PROTOCOL-01 (2004); Preparation guide for cyclophosphamide, and Thalassaemia medications identification booklet for prescriptions in the OPD.

This year, the Department was able to support two pharmacists for specialised clinical placement in paediatrics and ICU care. The paediatric placement was at the Evelina London Children’s Hospital and Kings College London over 6 weeks; the ICU placement was at the Bloomington Medical Hospital, Indiana, USA.

In 2012, clinical interventions documentation doubled compared to 2011. This was due to the availability of the interventions form in electronic format as part of EPR.

Figure 2: Satisfaction rates 2006–2012.
MANUFACTURING - ASEPTIC PREPARATIONS
This section is responsible for the preparation of total parenteral nutrition (TPN), chemotherapy preparations, sterile and non-sterile products and the repackaging of medicines. The following table shows details of manufacturing activities (2010–2012):

Table 1: Manufacturing Activities 2010–2012

<table>
<thead>
<tr>
<th>Activity</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPN Bags</td>
<td>3,030</td>
<td>3,388</td>
<td>3,627</td>
</tr>
<tr>
<td>Cytotoxic doses</td>
<td>9,928</td>
<td>10,659</td>
<td>10,093</td>
</tr>
<tr>
<td>Sterile and non-sterile preparations</td>
<td>2,740</td>
<td>2,886</td>
<td>3,029</td>
</tr>
<tr>
<td>Repackaged items</td>
<td>322</td>
<td>238</td>
<td>242</td>
</tr>
</tbody>
</table>

MEDICINE INFORMATION SERVICES (MIS)
MIS provides unbiased, evidence-based and critically-evaluated information about medicines, poisons and diseases in order to improve patient care. The following table shows the number of documented enquiries, ADR and poisoning reports from 2010 to 2012.

Table 2: Enquiries, Adverse Drug Reaction Reports and Poisoning Reports 2010–2012

<table>
<thead>
<tr>
<th>Year/Number</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enquiries</td>
<td>621</td>
<td>681</td>
<td>558</td>
</tr>
<tr>
<td>Adverse drug reaction reports</td>
<td>603</td>
<td>549</td>
<td>571</td>
</tr>
<tr>
<td>Poisoning reports</td>
<td>118</td>
<td>128</td>
<td>140</td>
</tr>
</tbody>
</table>

MIS also provides essential medicine information for the SQUH’s Pharmacy & Therapeutics Committee. Information was provided on more than 26 drugs, which led to the addition of 11 drugs to the formulary.

Pharmacy Journal Club sessions were organised with the participation of pharmacy staff, during which papers selected from more than 50 medical and pharmaceutical journals were critically appraised.

PHARMACY SUB-STORE
The Pharmacy Sub-store is the link between the hospital main stores and the Pharmacy Department. It plays an important role in ensuring the availability and smooth distribution of general pharmaceuticals, IV fluids, narcotics and psychotropic drugs to hospital wards and units. It facilitates the control of expiries and helps in the estimation of the quantities of pharmaceuticals to be purchased. The Pharmacy Sub-store aims to ensure the availability of all critical items as soon as possible in co-operation with the main store and the Procurement Department. The Pharmacy Sub-store is responsible for the supply of medicines on requisitions for other satellite pharmacies and different clinics and units in the Hospital.
Research

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

National


4. Intisar R. To crush or not to crush? 2nd Izki Pharmacy Symposium, Nizwa University, 8 Mar 2012.


The Department of Physiology has two divisions: Basic Physiology and Clinical Physiology located in the College of Medicine & Health Sciences (COM&HS) and the University Hospital (SQUH), respectively. The Department teaches basic and clinical physiology, and also familiarises medical students with various clinical physiological procedures. Physiology teaching is coordinated with other basic science departments in an integrated and multidisciplinary fashion. The curriculum is further fortified by live models as well as simulated basic and clinical case demonstrations at different levels of medical training. Clinical students are taught hands-on the diagnostic skills of the most common clinical measurements that they are like to encounter after graduation.

The Department of Clinical Physiology provides advanced clinical diagnostic services for SQUH and also for the whole of Oman. It is the only Department of its kind in the country where such procedures are carried out under one roof, with fully digital equipment, good quality assurance, and cost effectiveness.

The Department lays major emphasis on cardiovascular research, both basic and clinical, and has strong links with the universities of McMaster and Toronto in Canada; Oxford, UK; Wisconsin, USA; Graz, Austria, and Groningen in the Netherlands as well as with the US National Heart & Lung Institute and the Southwest Foundation for Biomedical Research, San Antonio, USA. Researchers from the Department interact regularly with these universities through exchange programmes. Technical and medical staff members receive regular training and are audited to meet international standards.
Staff

Head of Department
Mohan B. Dikshit, Associate Professor (to June 2012)
Khamis Al-Hashmi, Assistant Professor (from July 2012)

Faculty
Mohammed Hassan, Professor
Sulayma Al-Barwani, Associate Professor
Abdul A. Khan, Assistant Professor
Hajar Al-Rajaibi, Assistant Professor
Ammar A. Boudaka, Assistant Professor
Sami Al-Rawas, Consultant
Mohammed Al-Abri, Senior Consultant
Deepali Jaju, Senior Registrar
Talal Al-Mashkani, Registrar (on study leave)
Amira Al-Kharusi, Clinical Lecturer (on study leave)

Support Staff
Adila Al-Tooqi, Superintendent (CPH)
Mariam Al-Hooti, Senior Technologist (CPH)
Susan Al-Nabhani, Senior Technologist (CPH)
Isehaq Hussaini, Biomedical Scientist
Farid Al-Dhuhli, Biomedical Scientist
Hajar Ba-Omar, Superintendent (Physiology) (on study leave)
Sultan Al-Siyabi, Research Assistant (on study leave)
Jessy George, Coordinator
Iluminada Calupig, Coordinator (CPH)

In addition, there are 28 technicians (of which 19 are Omani) in the support staff team working in the sections of Cardiology, Pulmonology and Neurophysiology, and in the Sleep Disorders laboratories.

Highlights of the Year 2012
Several research projects were carried out in physiology and clinical physiology in 2012 in collaboration with other departments. Cardiovascular research is the high point of departmental research expertise and activity. It spans topics from membrane and vascular physiology to genetics and clinical research. Research on sleep physiology and disorders and its association with other metabolic disorders is also one of the active research areas in the Department.

Apart from the addition of new diagnostic procedures, the number of existing clinical tests increased in all specialties, with some having shown a substantial increase. Medical research has also increased and results from various projects have been published.

Dr. Ammar Boudaka joined the Department in August 2012 as an Assistant Professor. Dr. Mohan Dikshit, Head of Department and Associate Professor, left the University June 2012.

Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME
The old teaching curriculum has now been almost completely replaced with the new curriculum. The first cohort of students in the new curriculum has now progressed to phase III (Clinical phase). The Department has contributed extensively to the development and delivery of various systems modules which have been incorporated into the new curriculum. The Department of Physiology offers one departmental course and takes major contributions in: Structure-function relationship; Alimentary System; Uro-reproductive System; Cardiovascular System; Respiratory System; Human Nervous System; Endocrine System, and the Integrated Module I, II and III. Each of these courses has approximately 150 students. The Department also teaches the following courses in the Nursing degree programme: Anatomy & Physiology courses I & II and Pathophysiology for Nursing. The Integrated Module courses is a problem-based course shared with all clinical departments. There are 7 academic staff of the department now involved as module coordinators in the new curriculum.
Most of the above courses have relevant clinical applications. Case presentations and the appropriate clinical procedures are taught to the students during these courses and elaborated upon during the clinical years. Students are evaluated in their theoretical and practical components as well as in their basic clinical skills.

**UNDERGRADUATE CLINICAL PROGRAMME**
In the clinical program, the Department is heavily involved in the Integrated Lecture Series teaching in the Cardiovascular System; Alimentary System; Respiratory System; Family & Community Medicine courses, as well as providing Clinical Physiology rotations for 5th and 7th year students of the MD program.

**POSTGRADUATE TEACHING**
The Department contributes to the core programme of the Oman Medical Specialty Board (OMSB) and to the preparation of trainees for the Membership of the Royal College of Physiologists (MRCP) and Fellowship of the Royal College of Surgeons (FRCS) examinations. Clinical Physiology senior house officers spend one year rotating in two units of Medicine of their choice and one year training in clinical physiology before going abroad for further training and higher qualifications.

There are currently two Ph.D. students registered in the Department and working in two different fields towards achieving their degree. One student is working in basic science research and the other one more towards the clinical side.

**Training Courses & CME Activities**
Regular in-house training is conducted for newly recruited technicians. As a part of this course, the technicians attend the Anatomy & Physiology course for nursing students. Continuing medical education sessions are held on a monthly basis. Support staff members are all actively involved in the training, teaching and research activities of the Department in both the College and Hospital programmes. The Department’s cardiology technicians have been accepted for specialised training courses at Texas Heart Institute, USA, under a memorandum of understanding between SQU and THI. The first batch of technicians has completed their training. Evaluation of the training and planning for next batch is in process.

**Clinical & Diagnostic Services**
The Department of Clinical Physiology (CPH) offers diagnostic services which cover most of the spectrum of neurophysiology, cardiology, pulmonology, sleep medicine and other discrete tests. All critical CPH diagnostic services along with the newly-added sleep laboratory and Cardiac Catheterization Laboratory are fully functional to date. Many of the diagnostic areas have further improvised their services. In the year 2012, CPH has implemented a new policy of reconfirming the referral reasons. The reconstruction of the electromyography area meant that the Sleep Clinic and nursing room and some diagnostic services like audiometry and autonomic function tests were not available for 6 months from July 2012.

The total number of patients attending Clinical Physiology clinics during 2012 was 21,752. This is only 0.7% more than those who attended in 2011. The reason is reconstruction of some areas of CPH and also the filtering applied by reviewing the referral reasons. The monthly distribution of patients is shown in Figure 1. The greatest number of patients attended in April followed by September 2012.
Cardiology showed the largest number of procedures (10,467), followed by neurology and pulmonary function tests [Figure 2]. The highest number of CPH procedures were in non-invasive cardiology (5,785), followed by audiometry and newborn screening (4,595), invasive cardiology (1,202), ECHO (4,531), pulmonary function tests (965), and polysomnography (448). Figure 3 shows the comparative distribution of invasive cardiology per month in the year 2011 and 2012.

Out of the total procedures (21,752) during the year 2012, outpatients accounted for 10,623 (3.3% increase on 2011) and there were 8,332 inpatients (2.3% increase on 2011). A total of 2,767 patients were referred from hospitals other than SQUH (13% decrease compared to 2011) [Figure 4].
Figures 5 and 6 depict the total number of patients investigated in CPH as a department and in each section of CPH since 2009. There has been significant and consistent increase in the number of patients investigated in CPH in all sections.
The impacts on structural and functional characteristics of blood vessels in dyslipidaemic patients; a randomized clinical trial comparing simvastatin alone *versus* simvastatin plus ezetimibe.

**Project Code:** IG/MED/PHYS/10/01; **Dates:** 2010–2012

**Value:** OR 16,250; **Project Funder:** Sultan Qaboos University

**Investigators:**
- Dr. Khamis Al-Hashmi, Dept. Physiology, SQU
- Dr. Mohammed Al-Abri, Dept. Clinical Physiology, SQU
- Dr. Deepali Jaju, Dept. Clinical Physiology, SQU
- Dr. Omar Al-Rawas, Dept. Medicine, SQU
- Prof. Mohammed Hassan, Dept. Physiology, SQU
### Estimation of reference values for arterial stiffness indices in normotensive adult subjects and assessment of lifestyle effect

**Project Code:** IG/MED/PHY/10/03  
**Dates:** 2010–2012  
**Value:** OR 2,000  
**Project Funder:** Sultan Qaboos University  
**Investigators:**  
- **Prof. Mohammed Hassan,** Dept. Physiology, SQU;  
- **Dr. Khamis Al-Hashmi,** Dept. of Physiology, SQU.

### An investigation into lethal ischaemia/reperfusion injury and anti-apoptotic therapies (caspase inhibitors) in the human myocardium

**Project Code:** IG/MED/PHY/10/04  
**Dates:** 2010–2013  
**Value:** OR 14,600  
**Project Funder:** Sultan Qaboos University  
**Investigators:**  
- **Dr. Hajar Al-Rajaibi,** Dept. Clinical Physiology, SQU;  
- **Dr. Hilal Al-Sabti,** Dept. Surgery, SQU;  
- **Dr. Sulayma Al-Barwani,** Dept. Physiology, SQU;  
- **Ms. Kamla Al-Maawali,** Dept. Pathology, SQU.

### Interaction between ageing and exercise training in the regulation of coronary vascular tone: Role of intracellular calcium signaling and BKCa channels

**Project Code:** IG/MED/PHY/11/01  
**Dates:** 2011–2013  
**Value:** OR 14,600  
**Project Funder:** Sultan Qaboos University  
**Investigators:**  
- **Dr. Sulayma Al-Barwani,** Dept. Physiology, SQU;  
- **Prof. Mohammed Hassan,** Dept. Physiology SQU;  
- **Ph.D. Student,** Dept. Physiology, SQU;  
- **Ms. Hajer Ba-Omar,** Dept. Physiology, SQU;  
- **Mr. Sultan Al-Siyabi,** Dept. Physiology, SQU.

### The relationship between low back pain and the types of office, home and car seats

**Project Code:** MREC #599  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
- **Prof. Mohammed O Hassan,** Dept. Physiology, SQU.

### Prevalence of white coat hypertension among patients attending SQUH for 24hr ABPM

**Project Code:** MREC #619  
**Dates:** 2012  
**Value:** Unfunded  
**Project Approval:** Sultan Qaboos University  
**Investigator:**  
- **Dr. Khamis Al Hashmi,** Dept. Physiology, SQU.
STUDENT RESEARCH PROJECTS—APPROVED BY COM&HS (UNFUNDED)

The following student research projects were supervised:

1. Relationship between low back pain and the types of office, home and car seats, Prof. Mohammed Hassan
2. Effects of voltage-gated Ca2+ channels blockers in aged mesenteric arteries, Dr. Sulayma Al-Barwani
3. Expression of voltage-gated Ca2+ channels in aged mesenteric arteries, Dr. Sulayma Al-Barwani
4. Prevalence white coat hypertension among patients attending SQUH for 24hr ABPM, Dr. Khamis Al-Hashmi
5. Cardio protection of the aged rat heart by caspase inhibitors, Dr. Hajar Al-Rajaibi

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International


Poster Presentations

International

The Department covers 3 different disciplines: physiotherapy, occupational therapy, and speech and language therapy. Physiotherapy views human movement as central to the health and well-being of individuals. Physiotherapists identify and maximise movement potential through health promotion, preventive healthcare, treatment and rehabilitation. Occupational therapy helps clients who have orthopaedic, neurological and psychiatric handicaps in their daily living to live a normal life. Surgical and chronically ill patients can also benefit from it. Speech and language therapy is concerned with improving clients’ communication skills.

Physiotherapy Services cover inpatient, outpatient, Emergency and Day Care patients. The services are available 7 days a week in all the hospital wards including pre- and post-cardiac rehabilitation. Treatment modalities include electrotherapy, manual therapy, hydrotherapy, acupuncture, reflexology, neuro-rehabilitation, respiratory, paediatric rehabilitation, cupping, women’s health (pre- and postnatal, and female urinary incontinence), sports injuries, public health education and splinting. Physiotherapists are involved in clinical teaching of physiotherapy and medical students.

Occupational Therapy (OT) services include home modifications, adaptive devices, splinting, and help to improve oral motility, cognitive skills and to overcome learning disabilities. Adaptive devices are advised or provided to compensate any disability and improve their functional ability. OT aims to enable clients to reach their maximum level of functional independence in all their activities of daily living (ADL) so as to enable them to become independent members of society. In paediatrics, problems such as posture (proper seating), mobility (wheelchair and mobility devices), activities of daily living (adaptive devices), deformities (splinting), hyperactivity and sensory concentration and coordination integration dysfunction and dys-
phagia (feeding and eating troubles) are tackled to bring the child's development to as normal a level as possible. Treatment includes family counselling and home programmes.

Speech and Language Therapy services provide assessments, management and treatment for a wide range of cases related to hearing impairment; cognitive, or other developmental delays; birth defects such as cleft lip and/or palate; motor planning problems; dysphagia; traumatic brain injury; neurological problems affecting communication, or voice disorders. In addition, speech and language therapists supervise speech and language therapy students during their training in SQU Hospital (SQUH). Furthermore, great efforts are made to educate other professionals (e.g., physicians, dieticians and nurses) about speech and language therapy. We also receive other trainee medical students and educate them on the role of speech and language therapists.

Staff

Head of Department
Suleiman Al-Alawi

Therapists
Saif Al-Riyami, Deputy Head
Kauther Al-Busaidi, Senior Chief Physiotherapist A
Omar Al-Tamimi, Chief Physiotherapist A
Nasser Al-Hajri, Chief Physiotherapist B
Said Al-Balushi, Chief Physiotherapist B
Zuwaina Al-Bahri, Senior Physiotherapist
Ahlaam Al-Mazrui, Chief Physiotherapist B
Hilal Al-Rashdi, Senior Physiotherapist
Najma Al-Mahruqi, Senior Physiotherapist
Huda Al-Saadi, Senior Physiotherapist
Moza Al-Amri, Senior Physiotherapist
Sabah Al-Touqi, Senior Physiotherapist
Safiya Al-Hashmi, Senior Physiotherapist
Aisha Al-Talei, Senior Physiotherapist
Madiha Al-Kindi, Senior Physiotherapist
Hasna Al-Rashdy, Senior Physiotherapist
Shaima Al-Saidi, Physiotherapist
Hammad Al-Subhi, Physiotherapist
Mahmoud Al-Hinai, Physiotherapist
Inas I. Ali, Physiotherapist
Halima Al-Mahrooi, Physiotherapist
Hilal Al-Balushi, Physiotherapist
Fathiya Al-Harthy, Physiotherapist
Mohamed Al-Shamli, Physiotherapist
Mohamed Al-Hinai, Physiotherapist
Kamla Al-Qasmi, Physiotherapist
Sumaiya Al-Mahrizi, Physiotherapist
Said Al-Yaarobi, Physiotherapist
Senthikumar Ravindran, Physiotherapist
Ibtisam Al-Wardi, Speech & Language Therapist
Fathiya Al-Amri, Speech & Language Therapist
Zahra Murtadha Mohsin, Speech & Language Therapist

Support Staff
Laureana P. Valderama, Coordinator
Fathiya Al-Akhzami, Receptionist
Hamood Al-Amri, Messenger

Highlights of the Year 2012

SERVICES
In 2012, the Department started Parent-Infant Massage classes (parent-infant bonding and attachment). The class is conducted once a week for 1½ hours; parents learn theoretical and practical aspects of massage—not only how to massage their infants but also infant cues, behavioural states and other issues related to infants such as colic relief. The 4 main principles of infant massage are interaction, stimulation, relief and relaxation. Nurturing touch provides interaction between parents and infants that promotes bonding, secure attachment and verbal and non-verbal communication. It also enhances stimulation of various body systems, improves learning ability and mind/body awareness. Nurturing touch can help in relieving gas and colic, constipation
and growing pain. By achieving the 3 principles, relaxation will be obtained where babies will have better sleeping patterns and enjoyable play times.

The Speech and Language Therapy service focused on both adult and paediatric patients (both in- and outpatients) who presented with hearing impairments; cognitive, or other developmental delays; motor planning problems; dysphagia; traumatic brain injury; neurological problems affecting communication or voice disorders. Caregivers also received training as necessary. A variety of therapeutic techniques are employed, including speech and language stimulation, voice exercises e.g., Lee Silverman Voice Treatment (LSVT program) and dysphagia management. In addition, the speech and language therapist supervised newly graduated speech and language therapists during their training in SQUH. Furthermore, great efforts were made to educate other professionals (e.g. physicians, dieticians and nurses) about the speech and language therapist’s role by providing an introduction to the profession, making brochures and handouts and organising a workshop on dysphagia. A Child Development Progress Clinic is run in the hospital by a team consisting of a speech therapist, an occupational therapist and a paediatrician.

The Department published a Rehabilitation Newsletter in both April and October. The Department held its annual Rehabilitation Day with the theme of Stroke Prevention and Management of Stroke. It lasted over 5 days with activities in different areas. With the help of dieticians and nursing students the blood pressure and blood sugar of the public was checked during the exhibition in SQUH and in Al-Sahwa Park. A presentation and distribution of leaflets in the Ministry of Municipalities & Environment was also done to spread awareness on the prevention and management of strokes.

Physiotherapists hosted the Oman Physiotherapy Association Grand Celebration at SQU on 16 April 2012.

Occupational therapy services were not available from February 2012 due to the non-availability of an occupational therapist as Basma Al-Araimi had resigned from her post in February 2012. The speech & language therapist, Zahra Mohsin joined the Department of Physiotherapy & Rehabilitation on 19 March 2012.

**CONTINUING PROFESSIONAL DEVELOPMENT**

During 2012, members of staff participated in the following training courses:

- Certificate in Advance Sports Rehabilitation, Australia
- Osteopathic Treatment for Health Care Workers - Fundamental Course, Egypt
- Modern Leadership and Interview Skills courses, SQUH
- Modern Secretarial & Office Management, SQU
- McKenzie Workshop, Armed Forces Hospital
- Continuing Professional Development Workshop, Muscat
- Yoga Workshop, SQUH
- General Osteopathic Treatment, SQUH
- 1st HOPE Board Meeting on Haemophilia, Muscat
Members of staff participated in the following one-month clinical attachments in 2012: Sports Performance Assessment and Rehabilitation, India; Royal Liverpool & Broadgreen University Hospital, Liverpool; Cystic Fibrosis Centre, Karolinska University, Stockholm, Sweden.

Members of staff participated in the following two conferences in 2012: 3rd International Conference of Quality Management in Healthcare, SQU; 8th International Scientific Conference for Medical Students in GCC Countries, SQU.

Teaching Programmes

UNDERGRADUATE CLINICAL PROGRAMME
The Department participates as an external examiner in applied anatomy theory and practical and professional Issues. The Department is involved in clinical teaching, practical hands-on training, and in supervising students and interns from both from Oman and abroad. This ranges from undergraduates in physiotherapy, speech therapy and occupational therapy to qualified doctors.

In 2012, 20 students from the Institute of Health Sciences in Muscat had an 8-week full-time clinical placement; an Omani physiotherapy student from Australia had a 4-week clinical attachment; a physiotherapist from India had a 2-week clinical attachment; an Omani speech & language therapy student from Australia had a 3-week clinical attachment, and one clinical nurse specialist from SQUH had a one-week clinical attachment. We also had 3 speech & language therapy students who had 3-week clinical attachments.

Tutorial sessions were provided on Introduction to Joint Assessment and Alternative Medicine for 5th year medical students; Locomotors Skills for 4th year medical students. Nursing students from the College of Nursing, SQU, had a one-day clinical attachment in physiotherapy, occupational therapy and speech therapy.

Training Courses & CME Activities
On a rotation basis, each therapist conducts in-service lectures and speaks at the departmental journal club. We also invite doctors, nurses and other paramedical staff to give lectures. Therapists write articles for the bi-annual Physiotherapy Newsletter on a rotation basis. Articles included in the October and April issues were: Stress at Work; Omani Physiotherapists are Calling for a Career Development Plan; Bell’s Palsy; Mr. Omar Al-Tamimi and Osteopathy; The Acapella; Dashboard Femoral Fracture; Renal failure Renal System; Physiotherapy in ICU; Thai Chi is a Mind and Body Therapy; Avascular Necrosis of the Femoral Head; Parent-Infant Massage; Expressive One Word Picture Vocabulary Test.

Department staff ran training courses for SQUH and other hospitals in 2012 on the following topics: Role of Physiotherapy in the Elderly; Basic Acupuncture Course for Health Professionals; Medical Taping Workshop; McKenzie Workshop; Yoga Workshop, and a General Osteopathic Treatment course.
The Department also ran a weekly in-service training session for its own staff as well as other SQUH staff, including nurses. The topics covered were: Autism; Emotional Intelligence; Stuttering; Brain Abscess; Sensory Integration; Infantile Colic; Muscle In Balance; Organization and Iceberg; Cystic Fibrosis; Tai Chi-Mind and Body Therapy; Carpal Tunnel Syndrome; Systematic Approach to Employee Training; Tendopathy; Physiotherapy in ICU; Physical Activity; TAMPA A Scale of Kinesiophobia; Systematic Approach to Employee Training; Wipple’s Procedure; Sleep; Bone Marrow Transplantation (Stem Cell); Groin Injuries; Job Satisfaction; Assessment and Evaluation of Cervical Spine; Mirror Therapy in Neuro-Rehabilitation; Renal Failure.

The Lifting & Moving Course for nurses and medical orderlies in the SQUH Directorate of Training & CPD (DTCPD) was conducted once a month in the Department by physiotherapists. Lectures were given in the DTCPD programme on Other Modalities of Pain Management. The Department also participated in the Clinical Methods Course and the Interdisciplinary Activity Week in collaboration with the College of Medicine & Health Sciences (COM&HS).

Clinical & Diagnostic Services

Table 1: Patient Statistics 2012

<table>
<thead>
<tr>
<th>Service</th>
<th>Total no. of patients</th>
<th>No. of new patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapy</td>
<td>12,175</td>
<td>4,567</td>
</tr>
<tr>
<td>Occupational therapy</td>
<td>59</td>
<td>42</td>
</tr>
<tr>
<td>Speech &amp; Language therapy</td>
<td>1,078</td>
<td>636</td>
</tr>
</tbody>
</table>

Research

CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International

National
1. **Al-Tamimi O.** Early Mobilisation of Back Disorders. 1st Physiotherapy & Rehabilitation Symposium, Musandam, Oman, 19 Jan 2012.
2. **Al-Riyami S.** Low Back Pain. 8th International Scientific Conference for Medical Students in GCC Countries, 28 Jan–1 Feb 2012.
3. **Al-Tamimi O.** Sports Injuries. 8th International Scientific Conference for Medical Students in GCC Countries, 28 Jan–1 Feb 2012.


The Department of Radiology & Molecular Imaging offers specialised diagnostic services which include Magnetic Resonance Imaging (MRI), Digital Subtraction Angiography (DSA), Nuclear Medicine (NM), Computed Tomography (CT), Ultrasound (US) and Medical Physics (calibration of radiation equipment, research, etc.) as well as routine Radiological Imaging. The introduction of Simple-Photon-Emission (SPECT)/CT and Positron-Emission Tomography (PET)/CT services are underway.

The Department became fully digitised in May 2002 after installation of a complete PACS (Picture and Archiving Communication System). Radiological Examinations can be viewed by all doctors from any computer outlet at Sultan Qaboos University Hospital (SQUH) on an internal web system together with the radiological report. The old PACS/RIS system was replaced with a new system (Philips PACS/RIS: iSite/XIRIS) in May 2011. The new system has significant improvements in the functionality, storage and accessibility. The most notable feature is the integration with the Hospital Information System’s MedTrack, a modern web-based archiving system which ensures the availability of all studies 24 hours a day.

The clinical services offered by the Department are increasing rapidly with the expansion of the clinical services offered by the Hospital. We are currently performing 86,500 studies a year in the Radiology/Nuclear Medicine Section alone and the number is rapidly rising. This does not include the services offered by the Medical Physics Section which performs 19,000 studies a year for various departments and colleges of SQU as well as the community at large. The Medical Physics Services include thermo luminescent dosimeter (TLD) radiation protection for many institutions in Oman, as well as teaching and the checking of radio-activity in other places. In addition to its diagnostic services, Nuclear Medicine also delivers 4 thera-
peutic procedures mainly radioiodine therapy for thyroid cancer and hyper-thyroidism.

Research, teaching and training, at both undergraduate and postgraduate levels, involve all 13 members of faculty, both college and hospital staff, who are also involved in the training of radiographers. Radiology technicians are also involved in the teaching of radiographers from the Institute of Health Sciences. We have been successful as a Department in sending our young Omani technologists abroad to obtain university degrees.

Teaching and training of Oman Medical Specialty Board (OMSB) radiology residents started in 2005 and so far we have trained 32 radiology residents of which 10 are graduating this year as radiology specialists. In addition, we train about 20 Residents a year from other clinical services who rotate through the Department. We are actively involved in teaching of medical students as detailed below.

**Staff**

**Head of Department**
Faisal Al-Azri, Senior Consultant

**Faculty**
Humoud Al-Dhuhli, Senior Consultant, Deputy Head
Lamk M. Lamki, Professor
Dilip Sankhla, Senior Consultant
Samir Hussein, Senior Consultant
Sukhpal Sawhney, Senior Consultant
Haddia Bererhi, Senior Consultant
Nader Atari, Associate Professor
Rashid Al-Sukaiti, Consultant
Anupam Kakaria, Senior Registrar
Sinan Al-Azawi, Senior Registrar
Ibrahim I. Suliman, Assistant Professor
Alaa Manzalawy, Senior Registrar
Rana Shoaib Hamid, Senior Registrar

Amna Al-Jabri, Demonstrator
Badriya Al-Qassabi, Senior Registrar (Radiology Resident)
Eiman Al-Ajmi, Registrar (Radiology Resident)
Farida Ambusaidi, Registrar (Radiology Resident)
Khulood Al-Riyami, Registrar (Radiology Resident)
Saleh Al-Baawain, Senior House Officer (Radiology Resident)

**Technical Staff**
Ahmed Al-Shuhaimy, Superintendent
Per Rude, Deputy Superintendent, Senior Chief Radiographer (A)
Salvador De Vera, Chief Technologist (A)
Virginia Ablen, Chief Technologist (A)
Antonio Velarde, Chief Technologist (A)
Merlie Vanderlipe, Chief Technologist (A)
Editha San Diego, Chief Technologist (B)
Manuel Gaerlan, Chief Technologist (B)
Meda Bersaba, Senior Technologist (A)
Ahmed Abdou, Senior Technologist (A)
Mohammed Al-Abri, Senior Technologist (B)
Abdullah Al-Siyabi, Senior Technologist (A)
Adnan Al-Kharousi, Senior Technologist (A)
Mattheo Dilao, Senior Technologist (B)
Mahmood Al-Abri, Senior Technologist (B)
Faiza Al-Salmi, Senior Technologist (A)
Umaima Al-Ajmi, Senior Technologist (A)
Aziza Al-Jabri, Senior Technologist (A)
Mohammed Al-Saqri, Senior Technologist (B)
Nabila Al-Hesani, Senior Technologist (B)
Ahmed Al-Shuhaimi, Senior Technologist (B)
Sultan Al-Naamani, Senior Technologist (B)
Hamoud Al-Shuhaimi, Senior Technologist (B)
Aida Al-Rahbi, Technologist (A)
Rania El Tigani, Senior Technologist (B)
Hanan Al-Qassabi, Technologist (A)
Khitam Al-Hijri, Technologist (A)
Ruqaya Al-Rawahi, Senior Technologist (B)
Lubna Al-Esry, Technologist (A)
Mathew George, Technologist (A)
Kalthoom Al-Shesawi, Technologist (A)
Highlights of the Year 2012

We are still developing sections in our Department to better serve our patients and clinical staff, and also develop research in those fields. Those responsible for the sections are shown in the following table.

The Department organised two workshops in 2012. The Bone Mineral Densitometry Workshop was held on 13 September in the Department and the Transcranial Doppler Ultrasound Workshop from 12–13 September.

Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME

The Department teaches over 100 4th Year medical students in the Integrated Lecture Series in (ILS) in Anatomy in coordination with the Department of Anatomy Department and participates in the Clinical Skills (Exam) for the same students.

The Department teaches approximately 40 5th year students in the ILS, contributing to the following courses: Respiratory System; Cardiovascular System; Gastro-Intestinal System; Neurology; Infectious Disease; Uro/Nephrology.
Table 1: Section Chiefs and Deputy Chiefs

<table>
<thead>
<tr>
<th>Section</th>
<th>Section chief</th>
<th>Deputy chief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuro-Radiology</td>
<td>Dr. Faisal Al-Azri</td>
<td>N/A</td>
</tr>
<tr>
<td>Interventional</td>
<td>Dr. Rashid Al-Sukaiti</td>
<td>N/A</td>
</tr>
<tr>
<td>Body Imaging</td>
<td>Dr. Humoud Al-Dhuhli</td>
<td>Dr. Rashid Al-Sukaiti</td>
</tr>
<tr>
<td>Emergency Radiology &amp; General</td>
<td>Dr. Rashid Al-Sukaiti</td>
<td>Dr. Sinan Al-Azawi</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>Dr. Dilip Sankhla</td>
<td>N/A</td>
</tr>
<tr>
<td>Mammography</td>
<td>Dr. Sukhpal Sawhney</td>
<td>Dr. Anupam Kakaria</td>
</tr>
<tr>
<td>Nuclear Medicine</td>
<td>Dr. Samir Hussein</td>
<td>Dr. Haddia Bererhi</td>
</tr>
<tr>
<td>Medical Physics</td>
<td>Dr. Haddia Bererhi</td>
<td>Dr. Nader Atari</td>
</tr>
</tbody>
</table>

**UNDERGRADUATE CLINICAL PROGRAMME**

In Phase III of the curriculum, the Department provides a rotation for 6th year medical students. There are a total of 20 students per group rotating every two weeks: 10 are in SQUH, 5 at Royal Hospital and 5 at Khoula Hospital.

For approximately 30 7th year medical students the Department contributes to the Obstetrics & Gynaecology lecture.

**POSTGRADUATE PROGRAMME**

For the OMSB radiology residents, 5–7 residents rotate through the Department on a 4-week rotation.

**Clinical & Diagnostic Services**

Table 2: Examination Workload 2012

<table>
<thead>
<tr>
<th>Services</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General X-ray (plain X-ray and intravenous urogram)</td>
<td>45,378</td>
</tr>
<tr>
<td>Special Procedures (fluoroscopy-guided procedures)</td>
<td>1,190</td>
</tr>
<tr>
<td>Ultrasound (including ultrasound-guided interventions)</td>
<td>16,432</td>
</tr>
<tr>
<td>CT Scanning (including CT-guided interventions)</td>
<td>9,263</td>
</tr>
<tr>
<td>Vascular interventions (including operating room procedures)</td>
<td>894</td>
</tr>
<tr>
<td>Nuclear Medicine</td>
<td>2,613</td>
</tr>
</tbody>
</table>
Bone densitometry 945
Magnetic resonance scanning 2,507
Mammography 531
Oral health 2,517
Lithotripsy 157
Total 82,427

Figure 1: Examinations Performed 2008–2012.

Figure 2: Examinations Performed by Section 2012.
Research

RESEARCH PROJECTS

Job satisfaction - rewards and impediments

Project Code: MREC #499  
Dates: 2012
Value: Unfunded  
Project Approval: Sultan Qaboos University
Investigator:  
Prof. Neela Al-Lamki, Dept. Radiology & Molecular Imaging, SQU.

Clinical indications and results for CTPA in pulmonary embolism: A retrospective review of experience in SQUH

Project Code: MREC #539  
Dates: 2012
Value: Unfunded  
Project Approval: Sultan Qaboos University
Investigator:  
Dr. Anupam Kakaria, Dept. Radiology & Molecular Imaging, SQU.

Antegrade ureteric stenting using the resonance metallic stent: SQUH experience

Project Code: MREC #605  
Dates: 2012
Value: Unfunded  
Project Approval: Sultan Qaboos University
Investigator:  
Dr. Rashid Al-Sukaiti, Dept. Radiology & Molecular Imaging, SQU.

The accuracy of cholescintgraphy and ultrasound in the diagnosis of biliary atresia in neonatal jaundice

Project Code: MREC #615  
Dates: 2012
Value: Unfunded  
Project Approval: Sultan Qaboos University
Investigator:  
Dr. Samir Hussein, Dept. Radiology & Molecular Imaging, SQU.

RESEARCH PUBLICATIONS & BOOKS

Journal Publications


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

National


6. Hussein S. Introduction on osteoporosis in Oman and the need for densitometry. Bone Mineral Densitometry Workshop – Sultan Qaboos University Hospital, Muscat, Oman, 13 Sep 2012.


10. Hussein S. Advances in assessment of student’s clinical competence. Sultan Qaboos University, Muscat, Oman, 14–16 Feb 2012.

11. Hussein S. Peak bone mineral density levels are substantially lower in Omanis than Caucasians: We must revise our diagnostic criteria. 2nd Advanced General Medicine Conference, Muscat, Oman, 22–23 Feb 2012.

12. Sawhney S. Breast Cancer Awareness Workshop. 8th International Scientific Conference for Medical Students in the GCC countries, Muscat, Oman, 28 Jan–1 Feb 2012.


Poster Presentations

International


National

2. Sankhla D. The role of thyroid scintigraphy with Tc99m pertechnetate in defining the spectrum of thyroid disorders in young Omanis. Sultan Qaboos University Day, Muscat, Oman, May 2012.
The Department’s mission is to teach and train students and doctors, conduct research, and provide specialised clinical services and patient care.
Staff

Head of Department
Christopher Grant, Professor

Faculty
Hani Al-Qadhi, Senior Consultant, Deputy Head (Clinical Affairs–Trauma)
Abdullah Al-Harthy, Senior Consultant (Trauma)
Nayil Al-Kindy, Senior Consultant (General)
Norman Machado, Senior Consultant (General)
Pradeep Chopra, Senior Consultant (General)
Deepa Bhargava, Senior Consultant (ENT)
Mary Kurien, Senior Consultant (ENT)
Rashid Al-Abri, Senior Consultant (ENT)
Krishna Prasad, Senior Consultant (Urology)
Qassim Al-Busaidi, Senior Consultant (Urology)
Ashok Sharma, Senior Consultant (Cardiothoracic)
Hilal Al-Sabti, Senior Consultant (Cardiothoracic)
Rajeeva Pieris, Senior Consultant (Cardiothoracic)
Tarek Alameddine, Senior Consultant (Cardiothoracic)
Mohamed Khalid, Senior Consultant (Orthopaedic)
Sultan Al-Maskari, Senior Consultant (Orthopaedic)
Rajeev Kariyattil, Senior Consultant (Neurosurgery)
Unnikrishnan M, Senior Consultant (Neurosurgery)
Khalifa Al-Wahaibi, Senior Consultant (Vascular)
Adil Al-Ajmi, Consultant (General)
Sreedharan V. K., Consultant (General)
Mohammed Al-Hashmi, Consultant (Endocrine)
Mohammed Okbi, Consultant (ENT)
Yahya Al-Badaai, Consultant (ENT)
Joseph Mathew, Consultant (Urology)
Mohammed Al-Marhoon, Consultant (Urology)
Zainab Al-Balushi, Consultant (Paediatric)
Kamran Malik, Senior Registrar, (General)
Muhammad Baloch, Senior Registrar (General)
Naveed Khatib, Senior Registrar, (General)
Suresh Kannan, Senior Registrar (General)
Mooayad Ahmed, Senior Registrar (General)
Arif Kolethekkat, Senior Registrar (ENT)
Sudesh Kumar, Senior Registrar (ENT)
Wameed Al-Bassam, Senior Registrar (ENT)
Khalid Rahman, Senior Registrar (Urology)
Shahid Aquil, Senior Registrar (Urology)
Ehab Rajab, Senior Registrar (Cardiothoracic)
Adil Al-Kindi, Senior Registrar (Cardiothoracic)
Mirdavron Mukaddirov, Senior Registrar (Cardiothoracic)
Mohammed Siddiqi, Senior Registrar (Cardiothoracic)
Paresh Kuba, Senior Registrar (Cardiothoracic)
Rahil Muzaffar, Senior Registrar (Orthopaedic)
Kirtikumar Rathod, Senior Registrar (Paediatric)
Venkatesh G, Senior Registrar (Neurosurgery)
Ghassan Elshafie, Registrar (General)
Najib Draz, Registrar (General)
Sareyah Al-Sibai, Registrar (General)
Shahzad Younas, Registrar (General)
Zaid Raouf, Registrar (General)
Vivek Abraham, Registrar (ENT)
Omar Sharef, Registrar (Urology)
Ibrahim Abdelhadi, Registrar (Vascular)
Adham Said, Registrar (Orthopaedic)
Ahmed Yaseen, Registrar (Orthopaedic)
Ali Al-Hilali, Registrar (Orthopaedic)
Madni AbdulAziz, Registrar (Orthopaedic)
Khalid M. Bhatti, Registrar (Paediatric)
Mohammed Toufique, Registrar (Paediatric)
Koshy Kochummen, Registrar (Neurosurgery)
Abdullah Al-Jabri, Senior House Officer (General)
Charles Okoro, Senior House Officer (General)
Mohammed Abdelrahim, Senior House Officer (General)
Nesrin Qader, Senior House Officer (ENT)
Shaza Idris, Senior House Officer (ENT)
Edem Ziadinov, Senior House Officer (Cardiothoracic)
Yousuf Al-Shaqsi, Senior House Officer (Paediatric)
Ghusn Al-Sideiri, Senior House Officer (Neurosurgery)

Support Staff
Balan Baskaran, Perfusionists
Sayed Rizvi, Perfusionist
Zainab Al-Hashmi, Perfusionist
Saif M Al-Kharusi, Technician
Badar Al-Mazidi, Technician

Support Staff
Highlights of the Year 2012
The Department hosted an international conference, the Arab German Medical Symposium at the Al Bustan Hotel, Muscat, from 12 to 14 April. Dr. Adil Al-Ajmi, was the chief organiser. A total 24 international guest speakers participated in the symposium. The Department also hosted the 3rd Pan-Arab Rhinology Society Conference at Sultan Qaboos University from 5 to 7 November. Dr. Rashid Al-Abri was the chief organiser. There were 40 international guest speaker participants at this conference.

Teaching Programmes

UNDERGRADUATE CLINICAL PROGRAMME
The Department participated in the teaching for the Junior Clerkship rotation, catering for 114 students in 2011–2012. The students rotated in groups of 16–21; each group spent two weeks each at Sultan Qaboos University Hospital (SQUH), Royal Hospital and Khoul Hospital. For the Pre-Clerkship rotation, the Department catered for 116 students in 2012. The students rotated in groups of 12–14, and spent their 10-week rotation in SQUH only. For the 6th year ENT rotation, the ENT Division, in collaboration with the ENT Department in Al Nahda Hospital, delivered the course for 114 students. The students rotated in groups of 8–11, spending 1 week each at SQUH and Al Nahda Hospital. For the 7th Year senior rotation, the Department received final year students in groups of 25–27 in rotation for 7-week courses. Altogether, there were 131 students. The 7th year students had their Final MD examination in June 2012. The Department was also involved in the following courses in Phase II of the new curriculum: the Locomotor System; the Uro-Reproductive System; Endocrinology; the Human Nervous System, and the Alimentary Module.

POSTGRADUATE PROGRAMME

Internship
A total of 86 interns undertook their surgical rotations in the Department in the year 2012.

Oman Medical Speciality Board (OMSB) Residents
For the OMSB Residency Programme, 15 residents undertook their rotations in general surgery in the Department in the academic year 2012. A total of 48 weekly lectures for the senior residents and 48 weekly lectures for junior residents were delivered.

Training Courses & CME Activities
The Department hosted the Laparoscopic Colorectal Surgery Workshop at SQUH on 19 March. Dr. Angelo Stuto from the S. Maria degli Angeli Hospital, Pordenone, Italy, was the main speaker.
Dr. Norman Machado chaired an oral presentation session during the 8th International Scientific Conference for Medical students of the GCC Countries held at SQU from 28 January to 1 February 2012.

Dr. Abdullah Al-Harthy organised an Advance Trauma Life Support Provider and Instructor course at the OMSB Simulation Centre, on 28–30 March, 25–27 April, 19–21 September and 7–9 November.

## Research

### RESEARCH PROJECTS

**Composition of urinary stones in Oman**

<table>
<thead>
<tr>
<th>Project Code: RC/MED/SURG/12/01</th>
<th>Dates: 2012</th>
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<td>Dr. Mohammed Al-Marhoon, Dept. Surgery, SQU; Prof. Riad Bayoumi, Dept. Biochemistry, SQU; Dr. Krishna Prasad, Dept. Surgery, SQU; Dr. Yahya Al-Farsi, Dept. Family Medicine &amp; Public Health, SQU.</td>
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**The relationship of *Helicobacter pylori* infection with prostatic and bladder diseases**

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</tr>
<tr>
<td>Dr. Mohammed Al-Marhoon, Dept. Surgery, SQU; Dr. Allal Ouhtit, Dept. Genetics, SQU; Dr. Qassim Al-Busaidi, Dept. Surgery, Royal Hospital; Dr. Krishna Prasad, Dept. Surgery, SQU; Dr. Josephkunju Mathew, Dept. Surgery, SQU; Dr. Ibrahim Al-Haddabi, Dept. Pathology, SQU; Dr. Shyam Ganguly, Medicine &amp; Public Health, SQU.</td>
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**Outcome of neonatal surgery: SQUH Experience**

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<td>Investigator:</td>
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<tr>
<td>Dr. Parakash Mandhan, Dept. Surgery, SQU.</td>
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**Patient’s expectation from total knee replacement for primary osteoarthritis**

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<tr>
<td>Dr. Sultan Al-Maskari, Dept. Surgery, SQU.</td>
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</table>
The incidence of splenic pseudoaneurysm following blunt abdominal trauma

Project Code: MREC #524
Value: Unfunded
Investigator: Dr. Kamran Malik, Dept. Surgery, SQU.

Trauma team and its impact on patients survival and outcome

Project Code: MREC #526
Value: Unfunded
Investigator: Dr. Abdullah Al-Harthy, Dept. Surgery, SQU.

Analysis of one year patency rate of arterio-venous fistula (AVF) performed at SQUH

Project Code: MREC #578
Value: Unfunded
Investigator: Dr. Khalifa Al-Wahaibi, Dept. Surgery, SQU.

The role of sentinel node biopsy (SNB) after neoadjuvant chemotherapy, evidence from Oman

Project Code: MREC #587
Value: Unfunded
Investigator: Dr. Adil Al-Ajmi, Dept. Surgery, SQU.

Granulomatous mastitis: Diagnostic and therapeutic considerations

Project Code: MREC #588
Value: Unfunded
Investigator: Dr. Adil Al-Ajmi, Dept. Surgery, SQU.

Breast one clinic, experience from SQUH

Project Code: MREC #589
Value: Unfunded
Investigator: Dr. Adil Al-Ajmi, Dept. Surgery, SQU.
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**Is leukocytosis a marker for acute appendicitis?**

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<td>Investigator:</td>
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**Pediatric appendectomy; changing trends of management in a tertiary care centre**

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<td>Investigator:</td>
<td>Dr. Zainab Al-Balushi, Dept. Surgery, SQU.</td>
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**Management of necrotising enterocolitis: Experience at a tertiary care hospital in Oman**

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<tr>
<td>Investigator:</td>
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**Indications and outcome of neonatal surgery at SQUH (Experience of three years)**

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<tr>
<td>Investigator:</td>
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**Negative appendectomy – where is the law?**

<table>
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<td>Value: Unfunded</td>
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<tr>
<td>Investigator:</td>
<td>Dr. Zainab Al-Balushi, Dept. Surgery, SQU.</td>
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</table>

**RESEARCH PUBLICATIONS & BOOKS**

*Journal Publications*


**CONFERENCE & SEMINAR PRESENTATIONS**

**Conference Presentations**

**International**

1. **Machado N.** Massive splenic infarction in patients with sickle cell disease managed by splenectomy. 22nd World Congress of the International Association of Surgeons, Gastroenterologists and Oncologists (IASGO), Bankok, Thailand, 5–8 Dec 2012.

2. **Al Marhoon MS, Shareef O, Al Habsi IS, Al Balushi AS, Mathew J, Prasad K.** Extracorporeal shockwave lithotripsy success rate and complications: Initial experience of Sultan Qaboos University Hospital with Siemens Modularis Vario lithotripter. 30th World Congress of Endourology (WCE) and SWL, Istanbul, Turkey, 4–8 Sep 2012.


5. **Al Abri RK.** Live surgery. 8th South Zone ENT Conference, Vijayawada, India, 12–14 Oct 2012.
6. **Al Abri RK.** Live surgery. 18th Annual Conference on the Diseases of the Nose & Paranasal Sinuses, Cairo, Egypt, 14–16 Nov 2012.


**National**


2. **Al Abri RK.** Leadership Skills. 3rd International Conference on Quality in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.

3. **Al Abri RK.** Rhinology: Future and upcoming trends. 3rd Pan Arab Rhinology Society Conference, Sultan Qaboos University, Muscat, Oman, 5–7 Nov 2012.

4. **Al Hashmi YS.** Impact of quality culture – Performance relationship on healthcare service provision. 3rd International Conference on Quality in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.

**Poster Presentations**

**International**

1. **Al Marhoon MS, Shareef O, Al Habsi IS, Al Balushi AS, Mathew J, Prasad K.** Extracorporeal shockwave lithotripsy success rate and complications: Initial experience of Sultan Qaboos University Hospital with Siemens Modularis Vario lithotripter. 30th World Congress of Endourology (WCE) and SWL, Istanbul, Turkey, 4–8 Sep 2012.

2. **Malik K.** One stop breast clinic: Experience from Muscat. 1st International Congress of the Association of Breast Surgeons of India (ABSICON), Hyderabad, India, 18–20 May 2012.
Overview
The main thrust of our library policy has always been towards developing and evaluating library resources and providing services more effectively. A major achievement in this respect was the establishment of online searching to support the programmes of the College of Medicine & Health Sciences (COM&HS), the College of Nursing and the University Hospital (SQUH) especially in research activities.

Staff
Mohammed Al-Wardi, Director
Mariam Al-Sinani, Deputy Director
Mohammed Al-Higgi, Chief Librarian C
Huda Al-Farsi, Chief Librarian C
Huda Al-Haddabi, Chief Librarian C
Suad Al-Busaidi, Senior Librarian A
Salim Al-Farei, Senior Librarian A
Saif Al-Muharbi, Senior Librarian B
Mohammed Al-Yahmadi, Senior Librarian B
Abdulla Al-Hinai, Librarian
Jassim Al-Hasani, Librarian
Saif Al-Abri, Assistant Librarian
Qassim Al-Harrasi, Senior Programmer B

Support Staff
Sultan Al-Shereiqi, Clerk/Coordinator
Amal Al-Hashami, Clerk
Hanan Al-Jashami, Clerk
Ahmed Al-Ghafri, Graphic Camera Operator

Highlights of the Year 2012
In this period, the total number of checked-out materials was 1,813 as compared to 3,929 in the previous year. The numbers of users increased this year from 3,453 users in 2011 to 3,736 in 2012. Also the number of external users decreased from 9 in 2011 to 8 in 2012. Moreover, the number of orientation groups increased by 10 users from 305 in 2011 to 315 in 2012. Finally, the number of users from the Oman Medical Specialty Board (OMSB) decreased to 152 in 2012 from 168 in 2011.

ACQUISITIONS
In 2012, 546 new book titles were added to the library collection. This included 226 titles from Dowson, 70 nursing books from the College of Nursing and 250 monographs received gratis from the Ministry of Health in Oman, the World Health Organization and other sources.
SERIAL DEPARTMENT
The total cost for the subscription of journals was $423,504.36. This amount was made up of 74 print journals at $93,686.97, 185 electronic journals at $281,527.39 and 4 databases at $48,290.00. A total of 39 journals from the Gulf Cooperation Council Region were received gratis.

INTERLIBRARY LOANS

By libraries
The total number of articles requested from different libraries by the Medical Library was 100. The number of sent articles to different libraries was 371.

By departments
A total of 184 articles were requested by different departments from the COM&HS and SQUH. Added to that, 18 articles were requested by the OMSB and 39 articles were requested by postgraduate students.

TRAINING OF LIBRARY USERS
A total of 86 students were trained to use the library: 30 students were from the Obstetrics & Gynaecology Department, 12 students from the COM&HS, 20 from the Language Center, 20 students from the Central Sterile Services Department and 4 students from the Library Science & Information Department of the College of Arts & Social Sciences.

IT SERVICES
A total of 2,162 e-journals can be accessed through our website: www.squ.edu.om/med-Lib/index.htm, from Science Direct, Oxford Journals, Up To Date Online, Academic search complete, Cambridge University Press, Lippincott Williams and Wilkins, Springer Link, BMJ group and Taylors Francis Online. In addition, other databases are available like Medline, Cinhal, Biological Abst, Access Medicine and ISI Web of Knowledge. Also two book databases (e-brary and e-books) can also be accessed through our website.

FUTURE PLANS
The Medical Library plans to replace between 300 and 500 books every year to replace all the old books/old editions. Moreover, we plan to digitise the audiovisual section which currently has around 1,300 video tapes. For that purpose we need two more staff who have at least a diploma in computer sciences.
Medical Education Unit

Overview
The Medical Education Unit (ME&IU) was established under the Dean’s Office in 2006 with a mission to raise the standards of medical education in the College of Medicine & Health Sciences (COM&HS). The Unit has a full-time staff, but draws mainly on the voluntary participation of staff from the different departments of the COM&HS and from the Ministry of Health, who have either a formal qualification or a strong interest in the field of medical education.

The ME&IU is very active in providing educational support to the COM&HS, University Hospital (SQUH) and affiliated staff and other health professionals through faculty development workshops in the areas of teaching and learning, assessment, and e-learning. The ME&IU has also established the IDEAL (International Databank for Enhancement of Assessment and Learning) office which houses the IDEAL secure assessment databank, liaises with the IDEAL Consortium Office, and offers the service of item analysis.

The Clinical Skills Laboratory plays a very active role in the College as it is equipped with a variety of instruments, simulators and manikins to support the training of clinical skills. It has evolved into a learning environment that supports a wide range of skills across the spectrum of the curriculum and facilitates the acquisition of theoretical and clinical knowledge. The facility provides medical students with the opportunity to develop and maintain competence in clinical skills and allows them to practice physical assessment and procedural skills safely, and to demonstrate these skills under simulated conditions prior to attempting them on a patient.

The Medical Informatics Section of the Unit strengthens the integration of medical informatics technologies in teaching, research and service; increases the competency of faculty in the use of medical informatics tools; conducts effective telemedicine conferences and workshops with international institutes; evaluates the effectiveness of various medical informatics technology products in teaching and learning medicine; analyses and specifies the College requirements for medical informatics equipment and infrastructure; supports hardware maintenance, and provides a troubleshooting service.

Staff
Head of Department
Nadia Al-Wardy, Head of Unit, Associate Professor (Biochemistry)

Faculty
Ken Masters, Assistant Professor (Medical Informatics)
Ibrahim Inuwa, Associate Professor (Anatomy)
Muna Al-Saadoon, Assistant Professor (Child Health)
Syed Rizvi, Assistant Professor (Family Medicine & Public Health)
Abdullah Al-Asmi, Senior Consultant (Medicine)
Samir Hussein, Senior Consultant (Radiology & Molecular Imaging)
Highlights of the Year 2012

In 2012, 3 new staff members were recruited to the Unit as IT technicians: Aida Al–Hajri, Thuraiya Al-Batashi and Somaya Al-Shuraqi.

In this period, several new workshops were conducted by the ME&IU. These were attended by staff members from the COM&HS, SQUH and the Ministry of Health.

New models and simulators were received in the Clinical Skills Laboratory. These models and simulators cover the training of students at different levels: Integrated Modules 1, 2 and 3; Junior and Senior clerkships; Junior clerkship objective structured clinical examinations (OSCE); the final MD OSCE, and the self-practice modules for all of these levels.

At the same time, models and simulators that cover a wide range of skills included in the curriculum were also provided. These models and simulators cover different fields such as: ENT; Surgery; Obstetrics & Gynaecology; the Cardiovascular system; the Respiratory system, and the Emergency Medicine course which includes: a) Resuscitation Laboratory; b) Trauma Laboratory, and c) the Wound Laboratory.

The Clinical Skills Laboratory was also used for conducting local and international workshops. The OSCE for the Oman Medical Specialty Board (OMSB) was also conducted here during which the skills practice rooms were used with the utilisation of the audiovisual system as well as technical support from the laboratory staff.

The Clinical Skills Laboratory facilities were also used to record some educational and training videos on different patient examinations.
Teaching Programmes

UNDERGRADUATE PRECLINICAL PROGRAMME
The Medical Informatics section of the ME&IU was involved in teaching the following core and elective courses to undergraduate medical and nursing students: Medical Informatics I and II, and Health Informatics

Training Courses & CME Activities
Several educational workshops, conducted by internationally renowned faculty and local staff in medical education, were offered by the Unit.

The CHPE (Certificate Course in Health Professions Education), a 3-day course in February in 2012, was conducted by Prof. Hossam Hamdy, University of Sharjah, United Arab Emirates; Prof. Raja Bandaranayake, Sydney, Australia, and Prof. Gibbs, UK. A total of 33 COM&HS, SQUH, affiliated staff and other health professionals participated in the course.

A 3-day Student Assessment Workshop was also held in February in 2012, conducted by Prof. Bandaranayake and Prof. Gibbs. A total of 30 COM&HS, SQUH and affiliated staff participated in the workshop.

A 3-day Advances in Assessment of Students’ Clinical Competence workshop also followed the above two workshops held in February 2012. It was conducted by Prof. Gordon Page, University of British Columbia, Vancouver, Canada; Dr. John Norcini, Foundation for Advancement of International Medical Education & Research (FAIMER), Philadelphia, USA, and Prof. Raja Bandaranayake. A total of 42 COM&HS, SQUH and affiliated staff participated in the workshop.

A two-day Clinical Teaching and Feedback workshop was conducted in April 2012, by Prof. Sunil Bhandari, Senior Director of Clinical Studies, Hull & York Medical School, UK. A total of 32 COM&HS and SQUH staff participated in this workshop.

The Editing and Manipulating Images For Medical Purposes Workshop was conducted in April 2012 by Dr. Ken Masters of the ME&IU.

The Google Collaborative Tools for Teaching, Learning and Research Workshop was conducted by the University’s Centre for Educational Technology staff member, Mr. Salim Al-Waili in May 2012.

A full-day workshop on Data Analysis using SPSS, with total of 20 participants from the COM&HS and SQUH, was conducted in May 2012 by Dr. Syed G. A. Rizvi, in the Family Medicine & Public Health Department, a member of the ME&IU.

The Editing and Manipulating Videos and Audio for Medical Purposes Workshop was conducted in June 2012 by Dr. Ken Masters of the ME&IU.

In the lecture series in medical education, the lecture “Tips on how to create the best Power Point Presentation” was presented in July 2012 by Ms. Laila Al- Zijdali, Director, Training & Scholarships, Ministry of Health.
Research

RESEARCH PROJECTS

The gathering of user data by medical association websites

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<td>Investigator:</td>
<td>Dr. Kenneth Masters, Medicine Education &amp; Informatics Unit, SQU.</td>
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RESEARCH PUBLICATIONS & BOOKS

Journal Publications


BOOKS & BOOK CHAPTERS


CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International


Overview
The Journal was officially launched in 1997 with 7 issues published up to 2005. The Journal was relaunched in 2006 and renamed Sultan Qaboos University Medical Journal, (SQUMJ). Up to December 2012 a total of 21 issues had been published, with a total of 452 articles. By this time the Editorial Board had grown from 15 to 35 members, all of them staff of either the College of Medicine & Health Sciences (COM&HS) or Sultan Qaboos University Hospital (SQUH) and one from the Armed Forces Hospital.

The vision of the SQUMJ is to be a leading regional medium of medical and scientific communication covering both clinical and basic science research and other medically relevant observations that will be recognised and accepted internationally. Its objectives are as follows:

- To promote a culture of scientific publications in the medical and related disciplines at SQU.
- To provide a medium for dissemination of research results and reviews of important clinical and basic science topics.
- To attract a wide variety of peer-reviewed articles including original research and review articles, editorials, case reports, interesting medical images, special contributions, continuing medical education articles, brief communications, book reviews and abstracts.
- To attract quality scientific contributions from SQU staff, the region and the wider international community.
- To build capacity in all aspects of scientific publishing at SQU.
- To enhance the research profile of SQU.
- To be Indexed with the US National Library of Medicine and with the Community of Science (COS); thus it will appear in PubMed and Medline online databases of health related citations and abstracts.
- To be published both online as well as in print and ultimately be fully electronic in dealings with authors and reviewers - online submission and review via our existing website.

Staff

Members of the Editorial Board

Editor-in-Chief
Lamk Al-Lamki, Professor (Radiology & Molecular Imaging)

Editor
Samir Al-Adawi, Professor (Behavioural Medicine)
Associate Editors

Rashid Al-Abri, Consultant (Surgery ENT)
Badreldin Ali, Professor (Pharmacology)
Abdullah Al-Asmi, Senior Consultant (Medicine–Neurology)
Abdulaziz Bakathir, Consultant (Oral Health–Oral & Maxillofacial Surgery)
Sulayma Al-Barwani, Associate Professor (Physiology)
Ikrar Burney, Senior Consultant (Medicine–Oncology)
Jayakrishnan B., Senior Consultant (Medicine–Respirology)
Shyam Ganguly, Associate Professor (Epidemiology & Statistics)
Vaidyanathan Gowri, Assistant Professor (Obstetrics & Gynaecology)
Omar Habbal, Associate Professor (Human & Clinical Anatomy)
Ali Al-Jabri, Professor (Microbiology & Immunology)
Nadia Al-Kharousi, Consultant (Ophthalmology)
Salam Al-Kindi, Assistant Professor (Haematology)
Ritu Lakhtakia, Associate Professor (Pathology)
Neela Al-Lamki, Professor (Radiology & Molecular Imaging)
Zakiya Al-Lamki, Professor (Child Health–Paediatric Haematology)
Norman Machado, Consultant (Surgery)
Prakash Mandhan, Senior Consultant (Surgery–Paediatrics)
Abdulaziz Al-Mahrezi, Senior Consultant (Family Medicine & Public Health)
Sultan Al-Maskari, Surgery (Orthopaedic)
Khalid Al-Naaman, Senior Consultant (Gastroenterology, Armed Forces Hospital)
Karin Nollain, Senior Consultant (Anaesthesia)
Allal Ouhttt, Associate Professor (Genetics)
Hani Al-Qadhi, Senior Consultant (Surgery–Trauma)
Omar Al-Rawas, Professor (Medicine–Respirology)
Muna Al-Sadoon, Assistant Professor (Child Health–Community Paediatrics)
Jumana Saleh, Associate Professor (Biochemistry)
Mansour Sallam, Senior Consultant (Cardiology)
Sukhpal Sawhney, Senior Consultant (Radiology & Molecular Imaging)

Marwan Al-Sharbati, Associate Professor (Behavioural Medicine)
Ashok Sharma, Senior Consultant (Surgery–Cardiac)
Thord Theodorson, Senior Consultant (Family Medicine & Public Health)
Yasser Wali, Professor (Child Health)
Nicholas Woodhouse, Professor (Medicine–Endocrinology)

Editorial Staff

Meriel Carboni, Managing Editor
Marwan Al-Sharbati, Arabic Editor
Amar Hussein, Technical Editor & Technical Advisor
Sheherajoy Biruar, Assistant Editor & Technical Editor
Alaister Denoyo, Assistant Editor
Jacqueline Rispel, Assistant Editor

Highlights of the Year 2012

In 2012, there was a 29% increase in the number of articles compared to 2011. The rejection rate rose to 58% from 50% in 2011. Four issues of SQUMJ were published in 2012, with a total of 86 articles. In 2012, 717 experts reviewed SQUMJ manuscripts, with 20% of them from Oman. SQUMJ has been indexed in the WHO’s Index Medicus for the EMRO region from 2007, and indexed in Scopus from 2011. SQUMJ has also been archived in PubMed Central this year. The full text of all SQUMJ articles (going back to 1998) became accessible through PubMed, the internationally known online medical database.

In 2012, SQUMJ submission moved to the Editorial Manager online journal management system from Aries Systems, which is used by over 3,000 journals worldwide. In the first 7 months of implementing this system, there was a 50% increase in the number of articles received.

SQUMJ had a print run of 2,500 copies in order to reach local, regional and international medical and other scientific audiences. It was distributed free of charge to all staff of the College and SQUH and senior staff in the
University. It was also distributed in multiple copies to the Ministry of Health, and all hospitals and medical training establishments in Oman. In addition, it was sent to medical libraries in the region; all Gulf area medical colleges and selected medical colleges in the Middle East, North Africa, India and Pakistan, the UK, USA, Canada and Australia.

<table>
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Table 1: Number and Source of Articles 2010–2012
Hospital Directorate of Development & Quality

Overview

The Directorate of Development and Quality (DDQ) of Sultan Qaboos University Hospital (SQUH) is responsible for improving quality assurance in the hospital through establishing an efficient Quality Management System (QMS). Continuously working towards improving SQUH quality is made possible by having been awarded the ISO 9001-2000 certificate in May 2005 and achieving re-certification with ISO 9001-2008 in May 2008 and again in June 2011.

The DDQ is committed to providing SQUH with support in structuring and maintaining quality standards in all clinical, educational and support services.

Achievements are made through the main sections of Quality Monitoring, Patient Safety, Documentation & Studies and Risk Management by providing support and encouragement to hospital-wide quality activities through teamwork and best practices. The DDQ also coordinates the ongoing hospital-wide education on quality and conducts similar activities in other organisations in Muscat.

The DDQ seeks to promote excellence through continual improvement in teaching, research, patient services and staff development. This is supported by effective process delivery and efficient resource utilisation throughout the hospital. The Directorate works on enabling the following outcomes:

- Identify objectives and focus on the needs and expectations of customers.
- Facilitate the establishment of a baseline for improving performance and outcomes.
- Provide a basis for certification and accreditation conformance and ensure applicability to Omani laws, legislation and regulations.
- Provide and practise internationally recognised standards of care.
- Monitor hospital activities and coordinate the implementation of corrective and preventive actions through auditing and site visits.
- Monitor healthcare service outcomes through key performance indicators.
- Identify and mitigate the risk and hazards of the hospital environment.
- Provide a common framework for effective internal communication though controlled policies, protocols and procedures documents.

Staff

Dr Rashid Al-Abri, Director & Senior Consultant
Yasmeen Al-Hatmi, Deputy Director
Support Staff
Hamdan Al-Siyabi, Clerk
Sumaiya Al-Busaidi, Clerk
Fatma Al-Sharji, Clerk
Jamal Al-Busaidi, Senior Technician
Roseliyah Shamsudin, Senior Head Nurse 3
Yusuf Al-Khamisi, Staff Nurse 2
Carolina Vacalares, Coordinator

Highlights of the Year 2012

The DDQ organised the 3rd International Conference of Quality Management in Healthcare from 6–8 February. This prestigious conference aimed to bring together international experts of healthcare quality to share their knowledge and raise the awareness of healthcare providers in Oman. It was attended by more than 600 participants from all over Oman and the Gulf Countries. International speakers from Malaysia, Switzerland, Ireland, Egypt, Pakistan, Australia as well as Oman participated and left a great impact on all healthcare professionals who attended the conference. The conference was accredited with 17.5 CME points at Category 1.

An Internal Quality Audit was conducted from 8–10 April. The scope of audit was the following areas: Infection Control; Nutrition and Dietetics; Oral Health; Family Medicine & Public Health Clinic; Finance; Patient Services Directorate; Housekeeping; Health & Safety; Central Sterile Supply Department; Surgical 4 Red Ward; Surgical 4 Yellow Ward; Ward 4 Purple, and the Pathology Laboratory.

On 15 May, the 16th Management Review Meeting was conducted, reviewing output and giving recommendations on continuing the achievements of the hospital over the past 6 months.

A Continuous British Standards Institute (BSI) Assessment Audit was conducted by the external auditor from BSI from 19–21 May with zero non-conformity. The scope of the audit scope was Anaesthesia; the Paediatric Intensive Care Unit; Radiology & Molecular Imaging; the Cardiac Intensive Care Unit; HMD; Orthopaedics and Neurology; Laundry Services; the Family Medicine & Public Health Clinic; Clinical Physiology (neurology and sleep medicine); the DDQ; 2 Yellow Ward, and the Blood Bank.

A Risk Management Workshop was conducted from 28–30 August with 40 participants from SQUH and other health institutions in Oman. The topics discussed were Introduction to Risk Management, Types of Hospital Hazards, and Human Factors. There were also practical sessions.

A team of 3 surveyors from Accreditation Canada International (ACI) visited SQUH from 15–20 September. Visits to various departments to conduct gap analyses were carried out and a two-day educational session run for top management and selected staff.

The Quality Day 2012 Celebration was opened on 4 November with a cake-cutting ceremony followed by the presentation of outstanding departmental achievements in SQUH and the sharing of best practices in infection control by the Royal Hospital, Muscat. The departments involved were the Nursing Directorate, Pharmacy, Child Health, Medicine,
Anaesthesia, Ophthalmology, Infection Control, Day Care Unit, Nutrition & Dietetics, Catering, Physiotherapy, and the Health & Safety Committee/Task Force.

On 11 November, the 17th Management Review Meeting was conducted as a continuation of communicating the achievements of the hospital over the past 6 months.

The 2nd Continuous Assessment Audit was conducted by the external auditor from BSI from 12–14 November. This time the audit scope was the DDQ, Nursing Administration, Medical Oncology 3 Yellow Ward, Medical Supplies, Oral Health, Clinical Physiology, Behavioral Medicine (Ward /OPD), Genetics and Biochemistry laboratories, Personnel, and Physiotherapy.

Quality Rounds were conducted on a regular basis throughout the year, focusing on continuous improvement and improving patient care services. The focused areas were Incident Reports, Audit Reports, Risk Assessment Reports, Departmental correspondence, Top Management Directives, Customer Voice (patient & staff), DDQ Initiatives for improvement, and any other means of identifying needs. Rounds are conducted with the cooperation of nurses, technicians and other healthcare professionals where deemed necessary.

The Knowledge Forum was organised on a monthly basis with the objective of sharing knowledge on various topics of interest and concern. The multidisciplinary involvement from doctors, nurses, pharmacists and others make a big difference to the forum.

Several trainees came for attachments in the DDQ and orientation was given as per their attachment objectives.

Table 1: Conferences, Forums and Workshops Organised 2012

<table>
<thead>
<tr>
<th>Course title</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Forum</td>
<td>On-going</td>
<td>One-hour lecture on specific topic delivered to staff.</td>
</tr>
<tr>
<td>3rd International Conference on Quality Healthcare</td>
<td>February 2012</td>
<td>DDQ staff contributed to the Scientific Committee, registration, transportation, and speaker delegation and correspondence. Two staff made oral presentations, and one poster was presented.</td>
</tr>
<tr>
<td>Quality Audit Refresher Workshop Al Nahdha Hospital</td>
<td>February 2012</td>
<td>DDQ staff conducted a Quality Audit Refresher Workshop at Al Nahdha Hospital with 45 participants.</td>
</tr>
<tr>
<td>National Patient Safety Workshop, Ibri Hospital</td>
<td>March 2012</td>
<td>1-day workshop for 60 MOH participants. Topics included Patient Safety, Standard Compliancy, Documentation and Risk.</td>
</tr>
</tbody>
</table>
Training Courses & CME Activities

Research

RESEARCH PUBLICATIONS & BOOKS

Journal Publications

CONFERENCE & SEMINAR PRESENTATIONS

Conference Presentations

International
8. Al Hashmi YS. Impact of Quality Culture: Performance relationship on healthcare service provision. 3rd International Conference on Quality in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.

National
1. Al Abri RK. Rhinology: Future and upcoming trends. 3rd Pan Arab Rhinology Society Conference, Sultan Qaboos University, Muscat, Oman, 5–7 Nov 2012.
2. Al Abri RK. Leadership Skills. 3rd International Conference on Quality in Healthcare, Sultan Qaboos University, Muscat, Oman, 6–8 Feb 2012.
Hospital Directorate of Information Systems

Overview
The Directorate of Hospital Information Systems (HIS) primarily provides information technology (IT) services to Sultan Qaboos University Hospital (SQUH) which greatly aids SQUH’s mission of providing the highest standard of healthcare to patients. To achieve this goal, HIS uses comprehensive state-of-the-art information technology (IT) services in healthcare systems and constantly upgrades the systems with the latest updates. HIS has a dedicated team of qualified and specialised personnel in the various fields of information technology to provide these services. They constantly develop new systems and maintain the current systems to provide round-the-clock services to SQUH.

In addition to providing network access (wired and wireless) throughout SQUH, HIS’s two flagship projects are the Medical Systems and Edges.

The Medical Systems software is maintained by HIS in state-of-the-art servers using high speed networks. A failover mechanism is installed in the system so that if one server goes down, another one takes over without affecting the end users. This provides a high level of system availability to patient caregivers.

Moreover, HIS is developing in-house enterprise resource planning (ERP) software called Edges. The software includes many modules. Some of the modules have already been commissioned and are used by the administration in the management of the hospital.

Services offered by the HIS include:

• Planning information system software needs and related budgetary requirements.
• Project management for large-scale computer system implementations.
• Evaluation and development of enterprise and departmental software solutions (Edges).
• Analysis of business needs and information system requirements.
• Design of business workflow, databases, interfaces, documents, reports and processes.
• Development and installation of application software.
• Testing of computer software to validate performance against design specifications.
• Documentation, including preparation of user manuals/procedures and system documentation.
• Maintenance of applications software, programs and data files to provide enhanced functionalities.
• Support for users of HIS applications including support for Help Desk issues.
• Security administration for HIS user accounts and permissions.

The HIS staff works closely with the SQUH user-community to provide comprehensive 24/7 support for SQU Hospital’s (SQUH) mission-critical healthcare computer applications.
Staff
Amer H. Al-Habsi, Director
Abdullah Al-Mahrouqi, Head (Research & Development)

Network Section
Bader Al-Kiyumi, Acting Deputy Director (Technical Support & Networks)
Ghalib Al-Mahrooqi, Technician
Said Al-Harassi, Senior Network Engineer
Mohammed Khalid, Senior Network Engineer
Amur Al-Jabri, Network Engineer
Fahad Al-Shukaily, Technician
Ahmed Al-Hoqani, Technician

System Administration & Security
Nasser Al-Azwani, Head
Nakia Al-Riyami, System Security Specialist

Users Support
Mustafa Al-Hadhrami, Head
Younis Al-Mandhari, Technician
Fatima Al-Masoudi, Technician
Hamed Al-Muslhi, Technician
Ibraheem Al-Balushi, Technician
Moosa Al-Khanbshi, Technician
Nasra Al-Mahrouqi, Clerk
Rashid Al-Mudalwi, Clerk
Al Marwah Al-Kharoosi, Technician
Naima K. Al-Naamani, Technician

Medical Systems
Jokha Al-Kalbani, Acting Deputy Director (Systems & Applications Development)
Vishnu Mampatta, Technician
Yahya Al-Salmi, Programmer
Widad Al-Mamary, Senior Programmer
Taheya Al-Habsi, Programmer

Administration & Finance Systems
Suad Al-Bimani, Programmer
Fatema Al-Faliti, Programmer
Salma Al-Mayahi, Programmer

Application Section
Ahmed Al-Shaibani, Head
Mohsin Al-Zadjali, Senior Systems Analyst

Data & Systems Integration
Maryam Al-Balushi, Technician

Hardware Maintenance
Younis Al-Harthy, Technician
Amur Al-Mamari, Technician

Support Staff
Dorothy Paul, Coordinator
Yaqoub S. Al-Harthy, Messenger

Highlights of the Year 2012
• Connecting the new medical store building to SQUH local area network.
• Completion of all works in the HIS Data Centre (adding UPS, two power electrical lines, etc.)
• Completion of installing uninterruptible power supply (UPS) in the SQUH intermediate distribution frame (IDF) rooms.
• Completion of upgrading project in the IDF rooms.
• Installing new servers in the Data Center.
• Coordination with Radiology to complete the Radiology information system (RIS) new project.
• Installing 250 computers and their peripherals at various departments in SQUH.
• Implementation of new active network equipment (switches).
• Adding new network points in different locations in the hospital.
• More than 3,679 call outs were attended to by HIS during 2012.
• Upgrade TrakCare system to the new version T2011.
• Upgrade TrakLab system to the new version L2010.
• Implementation of Active Directory system.
• Development of complaints system for Patient Services department.
• Development of SQUH external website.
• Enhancement of Store module in Edges.
• Enhancement of Procurement module in Edges.
• Implementation of Asset Management module in Edges.
• Implementation of Phone Directory system.
• Enhancement of Incident Report system.
• Work on integration of the TrakCare and Edges systems.
• Providing SQUH departments with required statistical reports.
• Supporting the TrakCare scheduling system for the clinical departments.
• Training in the use of the TrakCare system for doctors, interns, nurses, laboratory staff and clerks.
• Conducting summer training for SQU students and other from outside colleges.

STUDIES CONDUCTED
• Patient Flow Management System
• Cabling standers at SQUH
• Security requirements for SQUH
• Replacing of DNA Helpdesk system
• Business Intelligence integration with the medical system
• Health share with Ministry of Health
• E-Tendering and E-Recruitment
• Asset Management module for Biomedical, Maintenance, Housing and HIS
• Budget and Personnel modules in Edges
• Mobile Asset Tracker with RFID
• National ID card reader for the TrakCare system
Hospital Directorate of Medical Supply

Overview
The Medical Supply Directorate (MSD) is one of the key departments in the hospital as it has the responsibility to keep the hospital continuously supplied with commodities for health care use. The MSD carries out the procurement of health commodities such as pharmaceutical, medical, surgical and laboratory items.

The MSD is looking forward to improving its performance and achieve its aims. Despite the difficulties faced by MSD to ensure the availability of items, all staff in each section of MSD does their best to cut costs; procure cost-effective items; deliver items on time; improve the logistics system, and to be a competitive directorate with a modern supply system.

Sections of MSD
There are seven main sections in the Medical Supply Directorate:

1. Pharmacy
2. Medical Surgical
3. Laboratory
4. Stationary
5. Biomedical & Hospital Maintenance
6. Stock Control
7. Linen

Highlights of the Year 2012
Medical Supply Directorate is the key department in the logistics cycle of the hospital. The figure below shows the important activities that are processed by MSD in coordination with other key department like the Procurement and Finance department.

PRODUCT SELECTION
The MSD coordinates with committees in the hospital to select the right product that meet the needs of the hospital. Quality, effectiveness and affordability are the most important selection criteria considered by the MSD staff and committee members.
FORECASTING AND PROCUREMENT

After the selection of items, the list of selected items is created and the required quantities are estimated (forecasted) taking into consideration the number of patients who will benefit from the item. Thereafter, the consumption rate and the movement are used to forecast the future quantities to be ordered to ensure adequate stock levels and buffer stocks.

The MSD then issues tenders for the selected items and the quantities needed. Once the quotations are received from suppliers, they are evaluated and items selected by committees. The MSD issues a purchasing order to the selected supplier.

INVENTORY MANAGEMENT

Once the item arrives in MSD, the inventory management activity takes place. This includes the checking of the delivered items and tallying them with the specifications mentioned in the purchase order. Then the storage process starts, making sure that each item is stored in an appropriate climate. Distribution to various sections throughout the hospital then begins at the request of the department concerned.

Procurement of health commodities is a complex process that involves coordination with the directorates of the MOH, funding sources, suppliers, and manufacturers. Any delay or lack of coordination throughout the process or miscommunication throughout the logistics cycle may lead to non-availability of items.

Figure 2: Relationship between the Medical Supply Directorate and other key Departments.
Overview

The role of the Directorate of Patient Services is to provide a 24-hour, compassionate, accessible and high quality service to Sultan Qaboos University Hospital (SQUH) clients and visitors. The Directorate also works to resolve any misunderstandings that might arise between staff and clients so that the hospital runs with minimal interruptions. Directorate staff liaises with other internal/external departments so that clients receive maximum help.

The Directorate’s responsibilities include the following:

- Looking into the different problems that may occur between staff and SQUH clients and finding appropriate solutions.
- Attesting sick leaves and certificates.
- Coordinating with doctors when medical reports are requested.
- Translating medical reports and administrative work when required.
- Coordinating with the Royal Oman Police regarding accidents and providing accident reports.
- Releasing oxygen concentration machines to patients who fulfill specific conditions.
- Supervising the SQUH security guards.
- Providing health education.
- Receiving complaints/suggestions and following them up with the concerned departments.
- Providing psychological counselling for patients.

In the unfortunate event of a patient dying, the Directorate has the following responsibilities:

- Informing the relatives.
- Making sure that all documents such as death notification and dead body release forms are properly done.
- Helping the relatives to find appropriate transportation to transfer the dead person.
- If the deceased patient is a non-Omani, the Directorate guides the relatives through the required procedure to transfer the body abroad.

Staff

Ahmed Al-Khayari, Director
Ahmed Al-Barwani, Deputy Director
Younis Al-Farsi, Secretary
Khalsa Al-Salmi, Translator
Ghosen Al-Ghaafri, Counselling Psychologist
Fakhria Al-Amri, Health Education Specialist
Alia Al-Habsi, Clerk
Saleh Al-Hinai, Duty Administrator
Said Al-Harthy, Duty Administrator
Masoud Al-Harthy, Duty Administrator
Mansoor Al-Hinai, Duty Administrator
Muneer Al-Belushi, Duty Administrator
Ali Al-Belushi, Duty Administrator
Juma Al-Ghafri, Clerk
Ibrahim Al-Ghafri, Clerk
Yousif Al-Habsi, Receptionist
Sultan Al-Sadi, Receptionist
Juma Al-Muharbi, Receptionist
Salim Al-Mamari, Receptionist

All staff members are Omani.

Highlights of the Year 2012

• In cooperation with doctors, approximately 3,242 medical reports were issued.
• Approximately 7,994 visiting passes and attendants’ passes were issued.
• 157 materials were translated within the Department, including medical reports and leaflets.
• 48 lectures for inpatients were conducted on various topics, attended by 361 patients, besides 65 private visits for patients.
• 35 students from SQU and other colleges were trained within the Directorate.
• Numerous meetings were conducted with inpatients and attendants.
• A total of 15,773 internal health education materials and 16,187 externally produced materials were distributed to patients.
• The Directorate organised a number of important events such as the Health Education Day, the Walking Day and the first Medical Juristic Symposium.
Overview
An organisation’s success and reputation is dependent on its image in the customer’s eye. The Public Relations & Information Directorate, therefore, works relentlessly on building and maintaining the positive image that Sultan Qaboos University Hospital (SQUH) deserves. The Directorate also provides top quality services to SQUH staff through its contacts with different governmental and private agencies. The vision of the Directorate is that the public associates the terms ‘top quality’ and ‘excellence’ with the Public Relations & Information Directorate and associates ‘excellent reputation and image’ with SQUH. The mission of the Directorate is to provide top quality public relations services to SQUH staff and clients, and to work continuously on producing an excellent, realistic image of SQUH.

Staff
Sultan H. Al-Abri, Director
Yahya E. Al-Hasani, Head of Department
Khamis S. Al-Farsi, Head of Department
Salim M. Al-Hinai, Acting Head of Department
Ahmed S. Al-Hinai, Clerk
Talib A. Al-Abri, Clerk
Abdullah J. Al-Owaisi, Clerk
Maryam M. Al-Qureshi, Clerk
Mohammed A. Al-Salmi, Clerk
Hani M. Al-Shibli, Video Editor
Salim A. Al-Farsi, Journalist
Saif S. Al-Tamimi, Multimedia Designer
Yahya N. Al-Aamri, Clerk
Hashim A. Al-Balushi, Clerk
Yonis A. Al-Habsi, Clerk
Rashid A. Al-Hatmi, Driver
Ali K. Al-Hatmi, Messenger

Highlights of the Year 2012
The Public Relations and Information Directorate serves the hospital through its 4 different departments.
Table 1: Journalism & Information Department and Printing & Publishing Department Activities 2012

<table>
<thead>
<tr>
<th>Activities</th>
<th>No. of activities during 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covering all SQUH events in local media</td>
<td>73</td>
</tr>
<tr>
<td>Designing event invitation cards</td>
<td>11</td>
</tr>
<tr>
<td>Designing certificates of appreciation</td>
<td>37</td>
</tr>
<tr>
<td>Designing patient educational materials (leaflets, posters)</td>
<td>5</td>
</tr>
<tr>
<td>Announcement of vacancies, tenders and training programmes</td>
<td>39</td>
</tr>
<tr>
<td>Providing banners for hospital events</td>
<td>52</td>
</tr>
<tr>
<td>Coordinating with media agencies regarding interviews with hospital staff (doctors)</td>
<td>18</td>
</tr>
<tr>
<td>Designing annual calendar</td>
<td>1</td>
</tr>
<tr>
<td>Producing educational and awareness films</td>
<td>3</td>
</tr>
<tr>
<td>Designing pop-up materials</td>
<td>534</td>
</tr>
</tbody>
</table>

Table 2: Cultural & Social Department Activities 2012

<table>
<thead>
<tr>
<th>Series</th>
<th>Activities</th>
<th>No. of activities during 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Supporting all SQUH departments in organising conferences, symposia and workshops</td>
<td>63</td>
</tr>
<tr>
<td>B</td>
<td>Arranging all the needs for training programmes in coordination with the Training Directorate</td>
<td>382</td>
</tr>
<tr>
<td>C</td>
<td>Organising the graduation ceremony (SQU)</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Organising the SQUH Annual Exhibition Day</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Official visits</td>
<td>54</td>
</tr>
<tr>
<td>F</td>
<td>Opening ceremony</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>Others</td>
<td>19</td>
</tr>
</tbody>
</table>
Table 3: Employee Services Department Activities 2012

<table>
<thead>
<tr>
<th>Activities</th>
<th>No. of activities during 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police station visits</td>
<td>2</td>
</tr>
<tr>
<td>Court visits</td>
<td>0</td>
</tr>
<tr>
<td>Receiving employees from airport</td>
<td>423</td>
</tr>
<tr>
<td>Farewells</td>
<td>69</td>
</tr>
<tr>
<td>Visas issued</td>
<td>1,421</td>
</tr>
<tr>
<td>Visas deposited</td>
<td>205</td>
</tr>
<tr>
<td>ID cards issued</td>
<td>3,719</td>
</tr>
<tr>
<td>Road passes issued</td>
<td>281</td>
</tr>
<tr>
<td>Others</td>
<td>201</td>
</tr>
</tbody>
</table>
**Hospital Directorate of Technical Affairs**

**Overview**

The Directorate of Technical Affairs is responsible for the operation and maintenance of all buildings, services, plants, equipment and infrastructure at Sultan Qaboos University Hospital (SQUH) to ensure they are available for the smooth running of the Hospital. The Department is also responsible for the planning and execution of new buildings to cater for the hospital development.

This Directorate has 4 departments: Projects, Bio-Medical Engineering, Hospital Engineering & Maintenance, and Health, Safety & Fire Prevention.

**PROJECTS DEPARTMENT**

This Department is responsible for carrying out feasibility studies with land surveys and field orientations according to the requests received from various departments. It compiles preliminary data to suit the facilities, compiles briefs of requirements and preliminary sketches in consultation with user departments. It also compiles tender documents for consultancy services for design and supervision for major projects, while minor projects are dealt with in-house. It reviews designs and documentation produced by consultants and liaises with the appropriate bodies for the processing of various statutory approvals. It then reviews the tenders with analysis and recommendations. Finally, it carries out contract administration work, including the supervision of sites and the monitoring of project progress to ensure that quality work is produced within the time schedule.

**HEALTH, SAFETY & FIRE PREVENTION DEPARTMENT**

This Department, in coordination with the Health & Safety Committee, formulates health, safety and fire policies; monitors and ensures strict adherence to the policies; investigates any incident that may have an impact on health and safety, and trains hospital staff in health, safety and fire prevention.

**BIOMEDICAL ENGINEERING DEPARTMENT**

This Department is responsible for the procurement and maintenance of biomedical equipment, such as MRI machines, CT Scanners, X-ray and vital signs monitoring machines and all the diagnostic and life saving equipment.

**HOSPITAL MAINTENANCE DEPARTMENT**

This Department is responsible for all SQUH buildings and all equipment except the bio-medical equipment. The Department is sub-divided into 4 sections:

- **Mechanical Section**
  This section is responsible for water services; kitchen equipment; medical gases; disinfection and sterilisation equipment; the natural gas system; sewage; lifting stations; hospital beds, fire fighting equipment, and safety cabinets
HVAC Section
This section is responsible for heating, ventilation and air conditioning (HVAC) systems and refrigeration equipment.

Electrical Section
This section is responsible for the power distribution system; lifts; lighting; the paging and telephone systems; HVAC controls; uninterruptible power supplies; nurse call systems; intercom systems; public address systems; road barriers and the audio-visual distribution system.

Civil Section
This section is responsible for building maintenance; soft landscaping maintenance; keys; sign-posting; minor modifications and upgrading; the renovation of all facilities, and the infrastructure system.

LAUNDRY & HOUSEKEEPING DEPARTMENT
This Department is responsible for the cleaning services of the buildings and the washing of clinical staff uniforms and the linen of SQUH wards.

Staff
Juma S. Al-Jabri, Director
Muhammed Mustafa, Coordinator

Projects
Mohan R. Kailas, Civil Engineer
Subhash Sule, Senior Mechanical Engineer
Benjamin George, Mechanical Engineer
Arun Kumar Singh, Electrical Engineer
Muthuraj, Civil Engineer
Mabruka Al-Siyabi, Senior Civil Engineer
Mohammed Kunhi, Draughtsman

Health, Safety & Fire Prevention
Vaseem A. M. Mirza, Health & Safety
Ahmed H. Al-Mahruqui, Fire Officer
Mazin A. H. Al-Zadjali, Fire Assistant
Nasser Al-Manai, Fireman

Biomedical Engineering
Abdullah M. Al-Hashmi, Head (Biomedical Engineering)
Khalid M. Al-Mahrizi, Senior Engineer
Shuwaina N. Al-Harrasi, Clerk
Zuwaina A. Al-Tooqi, Coordinator
Edgar Kagawan Sanz, Senior Engineer
Dominador De Guzman, Senior Engineer
Santiago O. Buniag, Engineer
Khamis H. Al-Lamki, Engineer
Ravindra Inamdar, Senior Engineer
Madhan G., Engineer
Amur Al-Sindi, Engineer
Hamid M. Al-Mayahi, Engineer
Ghassan S. Al-Ghassani, Engineer
Saif K. Al-Hinai, Engineer
Adil M. Al-Harthy, Engineer
Mohsin S. Al-Naamani, Engineer
Sultan H. Al-Qalhaty, Technician
Taha I. Al-Husseini, Technician
Jassim S. Al-Rusheidi, Technician

Hospital Engineering & Maintenance
Abdullah S. Al-Hinai, Chief Engineer
Manikonda V. Rao, Coordinator
Salem Al-Hadhrami, Electrical Engineer
Venkatesh Prasad, Electrical Engineer
Tariq Al-Lawati, Mechanical Engineer
Prabu D. Singh, Mechanical Engineer
Jamal Al-Mutairi, Civil Engineer
Ahmed Al-Busaidi, Maintenance Technician
Adel Al-Ghafri, Technician
Fahad S. Al-Belushi, Technician
Murad Al-Saadi, Clerk
Maniha Q. Al-Shanfari, Clerk

Laundry & Housekeeping
Sulaiman Al-Farei, Head
Ayub Al-Haddabi, Supervisor
Sateesh T. N., Supervisor
Nasser Al-Shargi, In-charge (Store)
Sultan Al-Busaidi, Laundry Supervisor
Maryam, Tailor
Highlights of the Year 2012

EQUIPMENT
During 2012, we acquired many new items of equipment to improve patient care and to support research. Some of the major equipment items were:

Table 1: Biomedical Equipment Purchased in 2012

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the equipment</th>
<th>Value (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Portable Extra Corporeal System</td>
<td>77,941.500</td>
</tr>
<tr>
<td>2.</td>
<td>ENT Unit (stations)</td>
<td>37,048.000</td>
</tr>
<tr>
<td>3.</td>
<td>ENT Unit (stations)</td>
<td>99,750.000</td>
</tr>
<tr>
<td>4.</td>
<td>Vital Sign Monitor (portable)</td>
<td>66,600.000</td>
</tr>
<tr>
<td>5.</td>
<td>Clinical Diagnostic Audiometer</td>
<td>5,992.000</td>
</tr>
<tr>
<td>6.</td>
<td>Air Oxygen Mixer (blender)</td>
<td>3,210.000</td>
</tr>
<tr>
<td>7.</td>
<td>Neonatal Ventilator with HFOV, PS, VG</td>
<td>40,784.000</td>
</tr>
<tr>
<td>8.</td>
<td>Neonatal Combined Incubator &amp; Warming System</td>
<td>24,100.000</td>
</tr>
<tr>
<td>9.</td>
<td>Infant Incubator</td>
<td>27,800.000</td>
</tr>
<tr>
<td>10.</td>
<td>Phototherapy Light</td>
<td>5,100.000</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Cost</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>11.</td>
<td>Resectoscope (Paediatric &amp; Neontal) with accessories</td>
<td>24,356.00</td>
</tr>
<tr>
<td>12.</td>
<td>Fluid and Blood Warmer</td>
<td>4,240.000</td>
</tr>
<tr>
<td>13.</td>
<td>Bedside Monitor (cardiac monitor)</td>
<td>48,104.00</td>
</tr>
<tr>
<td>14.</td>
<td>Adult/Paediatric Scales</td>
<td>3,791.700</td>
</tr>
<tr>
<td>15.</td>
<td>Warm Air Blanket System</td>
<td>11,770.00</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-Total</strong></td>
<td><strong>480,587.200</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Carried Forward</strong></td>
<td><strong>480,587.200</strong></td>
</tr>
<tr>
<td>16.</td>
<td>Bili Blanket</td>
<td>7,982.000</td>
</tr>
<tr>
<td>17.</td>
<td>Intravascular Ultrasound (IVUS) Tissue Embedding Center</td>
<td>12,350.000</td>
</tr>
<tr>
<td>18.</td>
<td>Digital Mobile X-Ray</td>
<td>176,020.000</td>
</tr>
<tr>
<td>19.</td>
<td>Goldmann Perimeter (perimetry unit)</td>
<td>10,440.000</td>
</tr>
<tr>
<td>20.</td>
<td>Visual Field Instrument</td>
<td>21,380.000</td>
</tr>
<tr>
<td>21.</td>
<td>Portable Ultrasound Pachymetry (pachymeter)</td>
<td>11,151.400</td>
</tr>
<tr>
<td>22.</td>
<td>Wireless Indirect Ophthalmoscope with Teaching Mirror</td>
<td>12,040.000</td>
</tr>
<tr>
<td>23.</td>
<td>Refractometer Handheld for Paediatric use (Auto Kerato Refractometer)</td>
<td>5,640.000</td>
</tr>
<tr>
<td>24.</td>
<td>Photocopiers</td>
<td>21,965.000</td>
</tr>
<tr>
<td>25.</td>
<td>Projectors &amp; Screens</td>
<td>4,044.000</td>
</tr>
<tr>
<td>26.</td>
<td>Fax Machines</td>
<td>1,050.000</td>
</tr>
<tr>
<td>27.</td>
<td>Heat Sealing Machine</td>
<td>13,392.000</td>
</tr>
<tr>
<td>28.</td>
<td>MRI Anaesthesia Machine</td>
<td>22,180.000</td>
</tr>
<tr>
<td>29.</td>
<td>Temperature Management System</td>
<td>27,129.500</td>
</tr>
<tr>
<td>30.</td>
<td>Smart Board</td>
<td>12,800.000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>840,151.100</strong></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Name of the equipment</td>
<td>Value (OR)</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>1.</td>
<td>Flammable Chemical Storage Cabinet for CSSD</td>
<td>453,300</td>
</tr>
<tr>
<td>2.</td>
<td>Serving Trolleys for Kitchen</td>
<td>2,151,000</td>
</tr>
<tr>
<td>3.</td>
<td>Bedside Tables</td>
<td>945,000</td>
</tr>
<tr>
<td>4.</td>
<td>Supply of Instrument Trolleys (stainless steel)</td>
<td>250,000</td>
</tr>
<tr>
<td>5.</td>
<td>InfraRed Micro Sterilizer</td>
<td>1,820,000</td>
</tr>
<tr>
<td>6.</td>
<td>Meat Cutting Bandsaw</td>
<td>3,400,000</td>
</tr>
<tr>
<td>7.</td>
<td>Trolleys for Washed Linen</td>
<td>2,015,000</td>
</tr>
<tr>
<td>8.</td>
<td>Lincat Water Boilers</td>
<td>5,500,000</td>
</tr>
<tr>
<td>9.</td>
<td>Bed Examination Couch for OPD</td>
<td>8,070,000</td>
</tr>
<tr>
<td>10.</td>
<td>Oxygen Cylinder ‘D’ size</td>
<td>456,000</td>
</tr>
<tr>
<td>11.</td>
<td>Refrigerator for Psychiatry Ward</td>
<td>1,090,000</td>
</tr>
<tr>
<td>12.</td>
<td>Medication Refrigerator (158 Ltr) for Genetics Dept.</td>
<td>1,040,000</td>
</tr>
<tr>
<td>13.</td>
<td>Medication Refrigerator (50 Ltr) for Haematology Dept.</td>
<td>500,000</td>
</tr>
<tr>
<td>14.</td>
<td>Supply of Plasma Gas Sterilizer Capacity 52 Ltr – O.T</td>
<td>29,952,000</td>
</tr>
<tr>
<td>15.</td>
<td>Paediatric Wheel Chairs</td>
<td>6,875,000</td>
</tr>
<tr>
<td>16.</td>
<td>Laundry Press Air-Operated Live Steam – Laundry</td>
<td>3,828,000</td>
</tr>
<tr>
<td>17.</td>
<td>Patient Transport Trolley</td>
<td>1,633,000</td>
</tr>
<tr>
<td>18.</td>
<td>Spotting Table and Traditional Form Finishers – Laundry</td>
<td>2,759,000</td>
</tr>
<tr>
<td>19.</td>
<td>Chairs for Operating Rooms</td>
<td>12,780,000</td>
</tr>
<tr>
<td>20.</td>
<td>Replacement of AC System for Cytotoxic in Pharmacy</td>
<td>2,990,000</td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>88,507,300</td>
</tr>
<tr>
<td></td>
<td>Carried Forward</td>
<td>88,507,300</td>
</tr>
<tr>
<td>21.</td>
<td>Supply of High Resolution Scan Converter</td>
<td>700,000</td>
</tr>
<tr>
<td>22.</td>
<td>Mattress for HILLROM &amp; Affinity</td>
<td>4,050,000</td>
</tr>
</tbody>
</table>

*Table 2: HMD Equipment Purchased in 2012*
To meet the hospital expansion plans the following projects were undertaken in 2012:

**Projects**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Value (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Supply/fixing laboratory benches in Microbiology &amp; Pathology</td>
<td>10,970.000</td>
</tr>
<tr>
<td>2.</td>
<td>Replacing floor covering in Ward 1 Red (Paediatric OPD and DCU of Ped. OPD)</td>
<td>11,311.850</td>
</tr>
<tr>
<td>3.</td>
<td>Conversion of post-mortem room to laboratory in Pathology Dept.</td>
<td>16,397.588</td>
</tr>
<tr>
<td>4.</td>
<td>Creating covered passage for Pharmacy between Blocks 3 &amp; 4</td>
<td>16,000.000</td>
</tr>
<tr>
<td>5.</td>
<td>Expansion of Kitchen facilities</td>
<td>300,000.000</td>
</tr>
<tr>
<td>6.</td>
<td>Modifications in Clinical Physiology Dept. to create Audiometry Laboratory facilities</td>
<td>33,000.000</td>
</tr>
<tr>
<td>7.</td>
<td>AHU replacement in Laboratory Block Building</td>
<td>231,378.000</td>
</tr>
<tr>
<td>8.</td>
<td>Replacing of chilled-water pumps in chillers compound</td>
<td>229,141.750</td>
</tr>
</tbody>
</table>

**Table 3: Projects under Design/Execution**
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Value (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Renovation works in Bio-Chemistry Laboratory</td>
<td>1,700.000</td>
</tr>
<tr>
<td>2.</td>
<td>MDF in PABX Room</td>
<td>4,200.000</td>
</tr>
<tr>
<td>3.</td>
<td>Modifications in A&amp;E Pharmacy (Civil &amp; Electrical)</td>
<td>4,895.000</td>
</tr>
<tr>
<td>4.</td>
<td>Public Address System in SQUH</td>
<td>35,851.000</td>
</tr>
<tr>
<td>5.</td>
<td>Folding Partition in Physiotherapy Dept.</td>
<td>2,650.000</td>
</tr>
<tr>
<td>6.</td>
<td>Raised Access Floor in PABX Room</td>
<td>856.000</td>
</tr>
</tbody>
</table>

Table 4: Completed Projects 2012
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Value (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Supply and Installation of 4 FCU’s in Administration</td>
<td>4,965,000</td>
</tr>
<tr>
<td>8.</td>
<td>Supply and Installation of 4 Package Units in Block-10A</td>
<td>14,800,000</td>
</tr>
<tr>
<td>9.</td>
<td>Improvement of AC in Block-10A Extension area</td>
<td>14,430,000</td>
</tr>
<tr>
<td>10.</td>
<td>Extract System for CICU Isolation Room</td>
<td>4,750,000</td>
</tr>
<tr>
<td>11.</td>
<td>Medical Gases works in Clinical Physiology Dept.</td>
<td>6,500.00</td>
</tr>
<tr>
<td>12.</td>
<td>Medical Gases works in High Dependency Areas</td>
<td>4,500,000</td>
</tr>
<tr>
<td>13.</td>
<td>Refurbishing of planter boxes behind Block-3 Building</td>
<td>13,260,000</td>
</tr>
<tr>
<td>14.</td>
<td>Supplying and fixing of base units and wall units in staff base areas of wards</td>
<td>8,900,000</td>
</tr>
<tr>
<td>15.</td>
<td>Modifications in Clinical Physiology Dept to create EMG Room, Reporting Rooms and Recovery Room – civil, electrical and mechanical works</td>
<td>10,483.256</td>
</tr>
<tr>
<td>16.</td>
<td>Modifications in Clinical Physiology Dept. - Medical Gases Installation</td>
<td>6,500,000</td>
</tr>
</tbody>
</table>

Sub-Total (OR) 139,240.256

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Value (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td>Modification works in Paediatric OPD to create additional consultation rooms</td>
<td>35,752,000</td>
</tr>
<tr>
<td>18.</td>
<td>HVAC modification works in Paediatric OPD to create additional consultations rooms</td>
<td>7,560,000</td>
</tr>
<tr>
<td>19.</td>
<td>Modification works in Paediatric OPD for expansion of DCU</td>
<td>5,024,781</td>
</tr>
<tr>
<td>20.</td>
<td>Modifications works in Neonatal Unit (civil works + medical gases)</td>
<td>7,700,000</td>
</tr>
<tr>
<td>21.</td>
<td>Additional cooling in HIS Server Rooms</td>
<td>53,812,000</td>
</tr>
<tr>
<td>22.</td>
<td>Door Access System for IDF Rooms</td>
<td>15,178,000</td>
</tr>
<tr>
<td>23.</td>
<td>Modification works in ward areas for creating On Call rooms</td>
<td>144,728,100</td>
</tr>
<tr>
<td>24.</td>
<td>Modification works in Delivery Suite</td>
<td>5,025,000</td>
</tr>
<tr>
<td>25.</td>
<td>Construction of Medical Store Annexe Building</td>
<td>1,715,641.299</td>
</tr>
<tr>
<td>26.</td>
<td>Racking System in Medical Store Annexe Building</td>
<td>175,670,000</td>
</tr>
</tbody>
</table>
Relocating MRI Chiller; construction of Lifting Chamber for sewage; supply and installation of sewage pumps; supply and laying of power cable 8,777,836

Providing UPS System in IDF Room 4,075,000

HVAC System in Kitchen-Tray Line area 7,470,000

Rearranging of existing shelves in Medical Stores Annexe Bldg 1,116,000

Sub-Total (OR) 2,326,770.272

Carried Forward 2,326,770.272

Construction of RCC bridge on storm water channel Block-11 1,500,000

Additional works in FAMCO 3,000,000

Renting of Chillers – 2012 128,667,000

Upgrading LV Panels in Block 3 and 8 11,200,000

Total 2,471,137,272

Table 5: Expenditure 2010–2012

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Amount (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Projects</td>
<td></td>
<td>197,297,000</td>
</tr>
<tr>
<td>Engineering Equipment Replacement</td>
<td></td>
<td>365,294,450</td>
</tr>
<tr>
<td>Biomedical Equipments</td>
<td></td>
<td>1,225,041,600</td>
</tr>
<tr>
<td>Building Modifications</td>
<td></td>
<td>22,703,255</td>
</tr>
<tr>
<td>Maintenance of Plant and Equipment</td>
<td></td>
<td>729,249,437</td>
</tr>
<tr>
<td>Maintenance of Biomedical Equipment</td>
<td></td>
<td>462,302,031</td>
</tr>
<tr>
<td>Cleaning &amp; Pest Control Services</td>
<td></td>
<td>461,497,805</td>
</tr>
<tr>
<td>Laundry Services</td>
<td></td>
<td>120,675,440</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>3,584,061,018</td>
</tr>
</tbody>
</table>
Table 6: Energy Consumption 2010–2012

<table>
<thead>
<tr>
<th></th>
<th>Amount (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Electricity (kwh)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,130,487.990</td>
</tr>
<tr>
<td>Water (lters)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>82,606,259</td>
</tr>
<tr>
<td>Gas (m3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4,124,805</td>
</tr>
<tr>
<td>Total</td>
<td>1,217,219.054</td>
</tr>
</tbody>
</table>
Hospital Directorate of Training & Continuing Professional Development

Overview
The vision of the Training & Continuing Professional Development Directorate (DTCPD) is to be a training centre of excellence in Oman, assuming a leadership role in continuing education and research, and providing the highest standard of programmes to meet the educational and competency-based training needs of Sultan Qaboos University Hospital (SQUH) staff. The mission of the Directorate is to offer excellence in providing opportunities for training, professional development, continuing education, and in-house training for all SQUH staff, thereby promoting the delivery of the highest quality patient/client care.

Staff
Abdullah Al-Mujaini, Director
Kirsten Rude, Teaching Staff
Barbara Hall, Teaching Staff
Esther H. Bonam, Teaching Staff
Huda Al-Hosni, Teaching Staff
Salha Al-Alawi, Head, Scholarships
Samson Pakalapati, Administrator
Rashid Al-Hajri, Administrator
Ali Al-Owaisi, Administrator
Najla Al-Rashdi, Administrator
Hind Al-Ghailani, Administrator
Amal Al-Mayahi, CPD Administrator
Yahya Al-Rawahi, Messenger

Highlights of the Year 2012
- Conducted courses and programmes as published in the bi-annual course schedules
- Submitted the 2011 Event Reflection – DTCPD and Study Report to the Hospital Director General
- Processed attachment requests from institutions/individuals
- Conducted teaching and consultations as per requests
- Admission process for CSSD Technician course 2012-13
- Revised the Retention of Records policy
- Participated as member of various SQUH committees
- Revised and published course curricula
- Revised and published course books
- Prepared and submitted Equipment Budget
- Assessed departmental training needs for all categories of courses from departments
- Worked on and implemented various proposals for unscheduled in-house Development courses
- Identified external short-term courses for departments and processed the applications
- Conducted typing tests for prospective candidates for Personnel Affairs
- Scrutinised scholarship applications and forwarded to SQUH Hospital Training Committee (HTC)
- Developed and revised the Key Performance Indicators (KPI) plan to a new format
- Submitted the 2011 report on KPI to the Directorate of Development & Quality
- Revised Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) courses to follow the American Heart Association (AHA) course format
- Revised IV Therapy course manual
- Developed phlebotomy course for phlebotomy nurses
- Introduced a one-day Infection Control Update Program
- Initiated the AHA BLS Accreditation process through the OMSB Simulation Centre
- Initiated the AHA ACLS & Pediatric Advanced Life Support (PALS) accreditation process through the Oman Medical Specialty Board (OMSB) Simulation Centre
- Facilitated the attendance of BLS, ACLS, PALS instructors at the 1st Middle East AHA Resuscitation Conference in Muscat in April 2012
- Conducted knowledge utilisation study of the Chemotherapy Administration course
- Undertook departmental Fire Audit
- Updated departmental fire information posters
- Applied and obtained accreditation and credit points for scheduled and unscheduled in-house development programmes from the OMSB
- Participated as a member of IV Therapy Policy Working Group
- Awarded the Award Function Certificates for the Central Sterile Supplies Department (CSSD) to the Technician graduates of 2011–2012
- Submitted to the OMSB the accredited courses Evaluation Summary of the DTCPD and other SQUH departments courses to comply with OMSB requirements
- Submitted to the OMSB the new and renewal application forms of the DTCPD and other SQUH departments for accreditation
- Members of the DTCDP attended the following two conferences: the 1st Middle East AHA Resuscitation Conference and the 9th Asia-Pacific Travel Health Conference
NEW DEVELOPMENTS

- Constituted the DTCPD Quality Improvement Committee (part of the Accreditation Canada International process)
- Updated colour-coded Bi-annual Course Programme Schedule indicating eligibility requirements
- Implemented IV Instructor Program for external participants – Ministry of Health (MOH) candidates
- Published a DTCPD Newsletter
- Developed the curriculum and course book for the Medical Terminology course for clinical staff
- Developed and conducted the Medical Terminology course for clinical staff
- Developed DTCPD standards
- Presented the Central Sterile Processing Technologist Course Program proposal to the SQUH Board
- Attained approval from the SQU Administration to conduct a Customer Satisfaction Survey
- Presented a paper on ‘Formulating Hypothesis and Study Design’ during the workshop ‘Empowering the application of Basic Skills in Research’ organised by the Oman Nursing Institute (ONI), MOH
Overview

The responsibilities of the Sultan Qaboos University-Hospital (SQUH) Finance Department involve:

1. Preparation of SQUH annual budget for approval by the Ministry of Finance, monitoring the approved funds for the effective utilisation of the same, monitoring of the staff induction costs against the approved staff budget and the maintenance of various statistics pertaining to staff, etc.

2. Processing of staff salaries on a monthly basis and ensuring timely payments; processing of leave salaries; timely settlement of terminal benefits for staff leaving the hospital permanently, etc.

3. Processing of suppliers’ and contractors’ bills for payments in coordination with the supplies and stores departments.

4. Maintaining of the petty cash account.

5. Collection of revenue from paying patients, private hospitals and insurance companies, etc.

6. Liaising with the Ministry of Finance and other government agencies.

7. Furnishing various statistics and other information requested by the University Administration and government ministries.

8. Undertaking specific assignments requested by the Hospital Management.

Staff

Nasser S. M. Al-Salmi, Director
Ahmed S. A. Al-Farsi, Acting Deputy Director
M. S. Subba Rao, Senior Technician/Statistician
Adnan J. Al-Mosawi, Head (Treasury Section)
Suleiman S. Al-Abri, Head (Revenue Section)
Khamis M. Al-Muzaini, Head (Contracts Section)
Salim H. H. Al-Sinawi, Accountant

Hamoud S. Al-Farsi, Accountant
Hilal A. Al-Daghaishi, Head (Salary Section)
Sulaiman D. O. Al-Bulushi, Accountant
Salah S. S. Al-Nadabi, Head (Expenditure Section)
Zakiya S. A. Al-Husni, Accountant
Zuweina A. M. Al-Habsi, Accountant
Nasser M. K. Al-Rubaiey, Accountant
Naeema I. R. Al-Saadi, Accountant
Azhar S. S. Al-Dhgaishi, Accountant
Mohammed J. S. Al-Ramadhani, Accountant
Hamad S. H. Al-Sabti, Accountant
Khalfan S. Al-Farei, Accountant
Ibtisam J. J. Al-Malki, Accountant
Younis K. Al-Siyabi, Accountant
Saada H. K. Al-Maamri, Accountant
Dalal S. Al-Wahaibi, Accountant
Nada N. Al-Kindi, Accountant
Nadia S. S. Al-Hinai, Coordinator
Asma S. Al-Musalhi, Clerk
Ali K. Al-Abri, Clerk
Laila A. Al-Amri, Clerk
Jaber S. Al-Bakri, Clerk
Sulaiman H. S. Al-Talei, Messenger

Highlights of the Year 2012

During the year ending 2012, the number of staff paid salaries was 2,636. The Hospital budget for the year 2013 was prepared and submitted on time to the Ministry of Finance for approval. The Department also processed 5,481 vouchers of suppliers and contractors for payment during the year. The Hospital revenue collection for the year ending 2012 was OR 1,127,066.239 which accounted for a decrease of around 9.7 % over 2010 revenue generation. Constant monitoring of the budgetary allocation and timely intervention resulted in 100% utilisation of budget for the year ending 2012. The petty cash disbursement for purchase of some day to day urgent items for 2012 was OR 25,036.458.
Hospital Housing Department

Overview
The Housing Department is responsible for arranging accommodation for all SQU Hospital (SQUH) employees. Assignment to residences is as per the housing rules and policy according to the provisions of employment contracts.

Residences on-campus are available in different types of categories such as family, single and sharing, for senior and junior staff. In addition, the Department rents off-campus accommodation units, in order to cover the shortage in the number of residences available on-campus.

The Housing Department plays a vital role in the preparation of residential premises, ensuring they are fit for occupancy. Inspections and housekeeping services are carried out by Housing Department staff and any required work is referred to the appropriate SQUH department.

Staff
Bader Al-Hasni, Head of Department
Bader Al-Habsi, Deputy Head
Mahboob Al-Belushi, Residence Furnishing Officer
Abullah Al-Jaradi, Residence Furnishing
Thani Al-Habsi, Housekeeping
Mohammed Al-Wahaibi, Development Assistant
Khalifa Al-Hinai, Offices Furnishing Officer
Mohammed Al-Malki, Housekeeping
Bader Al-Hadabi, Housekeeping

The Department has 9 employees and 4 workers. The Department is fully Omanised.

Highlights of the Year 2012
- Follow-up with the Directorate of Training & CPD of the request to provide training for housing staff.
- New purchases for residential requirements.
- Renewal of lease contracts for a further year.
- Increase in the number of rented accommodation to cover the shortage on campus due to hospital expansion.
- Contribute quality management activities for ISO 9001:2000 BSI
- Preparation of obsolete items for auction.
- Follow-up with the administration top management of the Department’s request for additional vehicles.
- Follow-up of the request to appoint more staff to the Department due to increasing job responsibilities.
- New store for the Department and a new extension to existing medical store.

HOUSING ALLOWANCE
In order to cover residential accommodation shortages, there has been provision of housing allowances for newly-recruited employee nurses after they vacate their junior nurse accommodation.

MAINTENANCE
Most maintenance requests and other requirements have been successfully met through liaison with the appropriate services.

RESIDENCE CLEANING
The cleaning and preparation of residential units have successfully been completed before occupancy.
Hospital Medical Records Department

Overview
The Medical Records Service is one of the important departments at Sultan Qaboos University Hospital (SQUH). Its main goal is to create and maintain systems which support healthcare providers, public studies, financial organisations and, most important of all, the needs of the patient. SQUH currently has a hybrid records system that involves most information being held in the new Hospital Information System, TrakCare. A small amount of information is still held on paper records. The goal is to have a full electronic health record functioning by the end of 2013.

The Department operates with a sincere and highly committed staff team, consisting of 59 young Omanis, in its 6 sections. An Omani head leads the Department.

FILING & RETRIEVAL SECTION
The Filing & Retrieval Section retrieves records for treatment and provides services for medical students, doctors, nurses and other paramedical staff who need to perform retrospective research or study.

PROCESSING & ASSEMBLING SECTION
The Processing & Assembling Section ensures that all records have a complete discharge summary and all other notes and reports are present. In addition, they ensure that records are assembled in an orderly and timely manner and are signed-in within the system. Also, they scan all the important documents in the new electronic patient record which are not entered directly, such as consent forms. A fax and referrals office has been added to this section.

ADMISSION & REGISTRATION SECTION
The Admission & Registration section is the largest section, employing the clerks and receptionists of all the clinics: Outpatient departments, Radiology, Physiology, Oral Health, and the Family Medicine & Community Health and Student Clinics. The registration of patients in the Emergency Department is an important part of our activity as it is a crucial and critical area in SQUH which runs 24 hours a day.

STATISTICS SECTION
The Statistics Section prepares statistics for the SQUH administration and departments, and outside agencies such as the Ministry of Health. It also provides health information for physicians, nurses and students for medical research purposes.

CODING SECTION
The Coding Section analyses all inpatient discharge records and assigns a numeric code to diagnostic data based on the International Classification of Diseases (ICD-10) system and (ICD-9-CM) for procedures.
BIRTHS & DEATHS SECTION

The Births & Deaths Section issues electronic birth notifications, in both the Arabic and English languages, for newborn babies and death notification for those who die in SQUH. The Directorate of Civil Services of the Royal Oman Police issues the full certificates. A copy of the register is sent to the Ministry of Health every month.

Staff

Salim K. Al-Wahaibi, Head of Department
Ahmed Al-Farsi, Deputy Head of Department
Saif Al-Raqadi, Supervisor
Mubarak Al-Habsi, Supervisor
Abdullah Al-Wahaibi, Supervisor
Yousif Al-Falahi, Supervisor
Huda Al-Suwaidi, Supervisor
Salim Al-Hadi, Supervisor
Naji S. Azzan, Supervisor
Khamis S. Al-Farsi, Supervisor

Highlights of the Year 2012

The volume of activity in the Medical Records Department for 2012 is shown in the table below:

Table 1: Activities and Patient Registration 2012

<table>
<thead>
<tr>
<th>Activity</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients registered in Emergency Department</td>
<td>66,787</td>
</tr>
<tr>
<td>Inpatient coded records</td>
<td>32,044</td>
</tr>
<tr>
<td>Birth notifications issued</td>
<td>3,723</td>
</tr>
<tr>
<td>Death notifications issued</td>
<td>393</td>
</tr>
<tr>
<td>Patient registration</td>
<td></td>
</tr>
<tr>
<td>Outpatient clinics</td>
<td>12,1482</td>
</tr>
<tr>
<td>Radiology</td>
<td>82,326</td>
</tr>
<tr>
<td>Clinical Physiology</td>
<td>21,751</td>
</tr>
<tr>
<td>Day Care Unit</td>
<td>12,969</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>40,777</td>
</tr>
<tr>
<td>Oral Health</td>
<td>12,695</td>
</tr>
<tr>
<td>Student Clinic</td>
<td>15,202</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>13,281</td>
</tr>
<tr>
<td>Total</td>
<td>320,483</td>
</tr>
</tbody>
</table>
Hospital Transport Department

Overview
The Department provides the following services:

- Transport services for SQUH staff.
- Transfer of patients either by car or ambulance to another hospital or the airport.
- Delivery and collection of mail and medical reports to and from other governmental institutions.
- Transport for female students and patients between their residential complex and the Hospital.

Staff
Nassir H. Al- Gaffari, Head of Department
Essa K. Al-Raisi, Staff member

The Department employs 28 drivers.
Appendices

Appendix I

SURGERY, CLINICAL DISCIPLINES, RADIOLOGY, ANATOMY, PSYCHIATRY AND LABORATORY SCIENCES

Throughout the academic year, the College of Medicine & Health Sciences (COM&HS) conducts weekly Surgical Pathological Conferences (SCRAPS) where multidisciplinary cases are presented to medical students, residents, clinicians and academics in the University as part of continuing medical education.

SCRAPS is the oldest and only regular academic activity that brings together the students and staff of the COM&HS and Sultan Qaboos University Hospital (SQUH). SCRAPs was started in the late 1980s during the term of the College’s first Dean, Prof. Gilbert Heseltine, and was initiated by Prof. William Jeans. Responsibility was passed on to Prof. Christopher Grant, Prof. Gordon Reeves, Prof. Keith Whaley, Prof. Mansour Al-Moundhri, Prof. Anand Date and Dr. Aisha Al-Hamadani. The current organiser is Dr. Maha Al-Khaduri, assisted by Ms. Aisha Al-Wardi, Dean’s Office.

On average there are 30 scheduled SCRAPs sessions in each academic year. The case-based presentations are made by all the departments in the COM&HS and SQUH in turn, with contribution from other departments depending on the nature of the case. The content includes basic sciences, clinical updates and research conducted at SQU. The presentation lasts 45 minutes followed by an open discussion. The discussions at SCRAPs have been a forum in which suggestions for policies in healthcare at an institutional and national level have been made and this has been a basis for constructive contributions to community service. The target audience includes medical students, postgraduate residents, Masters and Ph.D. students, faculty and junior and senior doctors.

The objectives of SCRAPS are to:

1. Learn how to conduct multidisciplinary clinical case presentations.
2. Increase the knowledge of undergraduate and postgraduate students in different fields of medicine.
3. Be updated on advancements in different fields of laboratory and clinical medicine.
4. Gain knowledge of research conducted in different medical specialties.
5. Improve the presentation skills of undergraduate and postgraduate students.

The SCRAPs presentations are organised by the office of the Dean of the COM&HS and a SCRAPs Committee which was formed in 2010 which consists of 10 members whose role is to attend and evaluate the SCRAPs presentations. The Committee uses two evaluation forms: one to evaluate the SCRAPs presentation overall and one to evaluate medical student presentations. At the end of the academic year the presentations are ranked in order of content and clinical relevance. There are also 3 prizes for the best SCRAPs every year. As well as the best student SCRAPs presentation award which was introduce in order to encourage student involvement and attendance in SCRAPS.
There were a total of 20 SCRAPS presentations in 2011–2012. In addition, effective from January 2012, the activity was accredited by the Oman Medical Specialty Board (OMSB) for CPD credits: 0.5 credit points in Category II, while speakers are awarded 2 credit points per presentation. The maximum is 21 points.

PRIZES FOR 2011–2012 WERE AS FOLLOWS:

*Best Student Presentation*

*Best SCRAPS Awards*

*First place*
This was a tie between the following two:

‘Accepting Difference’, Autism Research Group, Presented by: Dr. Yahya Al-Farsi - Family Medicine & Public Health; Dr. Marwan Al-Sharbati - Behavioural Medicine; Dr. Maha Al-Khaduri - Obstetrics & Gynaecology; Dr. Mostafa Waly - College of Agriculture - Dept. of Nutrition; Dr. Hana’a Al-Sumri - Family Medicine & Public Health.

and

‘Girl with a Sealed Eosophagus’, Department of Child Health, Presented by: Dr. Siham Al-Sinani, Child Health Department; Dr. Shareef Waad, Child Health Department; Dr. Zainab Al-Belushi, Paediatric Surgery Unit; Dr. Rashid Al-Sukaiti, Radiology Department.

*Second place*
‘Migrating Masses’, Department of Obstetrics & Gynaecology, Presented by: Dr. Moza Al-Kalbani, Obstetrics & Gynaecology Department; Dr. Ikram Burney, Oncology Unit, Medicine Department; Dr. Marwa Al-Riyami, Pathology Department; Dr. Ibrahim Inuwa, Human & Clinical Anatomy Department; Sumaya Al-Hadhrami, Final Year Medical Student; Omaima Al-Ismaili, Junior Clerkship Medical Student: Armeera Al-Kindi; Junior Clerkship Medical Student.

Appendix II

CURRICULUM INFORMATION

*Full information on all College of Medicine & Health Sciences curricula can be found on our website at:*