Integrating bioscience & clinical learning

Terry Judd, Kristine Elliott & Geoff McColl
Medical Education Unit
The University of Melbourne
Curriculum renewal

New postgraduate medical curriculum in 2011

- Old model (school leavers/graduates = 70%/30%)
  - 6 years
  - Bioscience – 5 semesters over 2.5 years

- New model (graduates = 100%)
  - 4 years
  - Bioscience – 4 terms in 1 year
Teaching and learning issues

- Ensure competence & equivalence in bioscience learning
  - Different starting points
    - Biomedicine, science...
    - Melb, other Aus, International graduates

- Improve the integration of bioscience and clinical learning
  - ‘pure’ bioscience vs. ‘applied’ clinical
    - Problem/case-based approaches
  - Ready access to quality resources
    - Information seeking/literacy

- Introduce new teaching and learning models and activities
  - Case-based learning
  - Clinical portfolios
Edu/Info technology

Key roles
- Manage and deliver resources
- Support learning activities
- Streamline and support student administration
  - Clinical placements
  - Reporting

Constraints
- Limited capacity
- Support for legacy systems
  - Concurrent curricula
- New curriculum is a moving target
Activities & resources

- Informed by research
  - Technology use
  - Resource use
  - Information literacy

- Student centred
  - Integrated system
  - Multiple points of access
  - Support for different learning styles
  - User generated content

- Whole of course approach
  - Not discipline or subject based
  - Shared resources
  - Always accessible
Clinical placements

- Where and when
  - Individualised timetables
  - Messaging and announcements
    - SMS
    - Cohort, clinical school, group, individual

- Patients and procedures
  - Electronic health records (EHR), procedure logs
  - Clinical portfolios
    - Assessment (formal and informal)
    - Federal reporting requirements
Curriculum Connect

Please login using your university username and password combination.

An active Internet connection is required to access the full suite of resources and services. Check your connection via the online status bar.

Key features

- Connecting students and curriculum
  - Unrestricted access to best available resources
    - Prescribed
    - Recommended
    - Discovered
  - Linking learning activities and resources
    - User generated content (notes and comments)

- Rich mix of bioscience and clinical resources
  - Curriculum database
    - Case-based learning
    - Patient records and procedures
  - Library
    - Wide selection of online textbooks (unrestricted access)
    - Medical search engines (including Google custom search)
    - Key clinical support tools (e.g. Australian Medicines Handbook, Therapeutic Guidelines)
<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Title</th>
<th>Date</th>
<th>Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>Diabetes Australia</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>International Diabetes Institute</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Resources for young people with diabetes</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Gyst is a website for young people living with diabetes who are going through the process of transition</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Type I Diabetes: Management</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Type II Diabetes. Oral Hypoglycaemic Agents</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Autoimmune Insulin Dependent Diabetes</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Social Economic Determinants of Health 5 - Diabetes / Obesity</td>
<td>2011</td>
<td>Website</td>
</tr>
<tr>
<td>url</td>
<td>Cameron A. The metabolic syndrome: validity and utility of clinical definitions for cardiovascular disease and diabetes risk pr...</td>
<td>2010</td>
<td>Journal article</td>
</tr>
<tr>
<td>pdf</td>
<td>Autoimmune Insulin Dependent Diabetes</td>
<td>2011</td>
<td>Lecture slides</td>
</tr>
<tr>
<td>pdf</td>
<td>Type II Diabetes. Oral Hypoglycaemic Agents</td>
<td>2011</td>
<td>Lecture slides</td>
</tr>
<tr>
<td>pdf</td>
<td>Type I Diabetes: Management</td>
<td>2011</td>
<td>Lecture slides</td>
</tr>
<tr>
<td>SEARCH TOOLS</td>
<td>TEXTBOOKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Google Biomedical Search</td>
<td>Gray's Anatomy for Students, 2nd ed. Drake (2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PubMed</td>
<td>Fundamental Neuroscience for Basic and Clinical Application, 2nd ed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web of Knowledge</td>
<td>Histology and Cell Biology - An Introduction to Pathology, ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Principles of Medical Biochemistry, 3rd ed. Meisenberg &amp; ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thompson &amp; Thompson Genetics in Medicine, 7th ed. Nus...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cellular and Molecular Immunology, 7th ed. Abbas (2011)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESOURCE COLLECTIONS</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD Consult</td>
<td>Medicine LibGuide</td>
</tr>
<tr>
<td>BMJ Clinical Evidence</td>
<td>Population Health and Rural Health LibGuide</td>
</tr>
<tr>
<td>Australian Medicines Handbook</td>
<td>Psychology and Behavioural Science LibGuide</td>
</tr>
<tr>
<td>Therapeutic Guidelines (eTG Complete)</td>
<td></td>
</tr>
</tbody>
</table>

**MD Consult (Australia)** provides a single point of access for a selection of key medical resources for clinicians and medical students. These include online textbooks and medical reference books, full-text journals, practice guidelines, patient information sheets and drug information (from Australian Medicines Handbook).

Copyright © 2009 Saunders, An Imprint of Elsevier

About This Book

"Remarkably up to date. ... Provides the reader with a current understanding of disease mechanisms and deserves a place on the shelf of any health care professional, irrespective of specialty or level of training." -- JAMA

One of the best-selling medical textbooks of all time, Robbins and Cotran Pathologic Basis of Disease is the one book that nearly all medical students purchase, and is also widely used by physicians worldwide. A "who's who" of pathology experts delivers the most dependable, current, and complete coverage of today's essential pathology knowledge. At the same time, masterful editing and a practical organization make mastering every concept remarkably easy. The result remains the ideal source for an optimal understanding of pathology.
<table>
<thead>
<tr>
<th>ID</th>
<th>Date</th>
<th>Seen by</th>
<th>Alias</th>
<th>Age</th>
<th>Sex</th>
<th>Condition</th>
<th>Meds</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>15/11/2011</td>
<td>tsj</td>
<td>Mal</td>
<td>45</td>
<td>M</td>
<td>lower back pain</td>
<td>6</td>
<td>hospital in-patient</td>
</tr>
<tr>
<td>13</td>
<td>13/10/2011</td>
<td>tsj</td>
<td>Benny</td>
<td>55</td>
<td>M</td>
<td>seasonal flu</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>13/10/2011</td>
<td>tsj</td>
<td>Bjorn</td>
<td>56</td>
<td>M</td>
<td>smokers cough</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>04/10/2011</td>
<td>tsj</td>
<td>Harry</td>
<td>20</td>
<td>M</td>
<td>chronic fatigue</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>28/09/2011</td>
<td>tsj</td>
<td>Mary</td>
<td>25</td>
<td>F</td>
<td>sciatica</td>
<td>0</td>
<td>community - GP</td>
</tr>
<tr>
<td>18</td>
<td>19/09/2011</td>
<td>tsj</td>
<td>Albert</td>
<td>90</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>26/09/2011</td>
<td>tsj</td>
<td>Wilma</td>
<td>60</td>
<td>F</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>26/09/2011</td>
<td>tsj</td>
<td>test rec</td>
<td>70</td>
<td></td>
<td>test</td>
<td>0</td>
<td>hospital in-patient</td>
</tr>
<tr>
<td>22</td>
<td>27/09/2011</td>
<td>tsj</td>
<td>George</td>
<td>45</td>
<td>M</td>
<td>test</td>
<td>2</td>
<td>community - GP</td>
</tr>
<tr>
<td>23</td>
<td>27/09/2011</td>
<td>tsj</td>
<td>Fred</td>
<td>25</td>
<td>M</td>
<td>stubbed toe</td>
<td>0</td>
<td>hospital in-patient</td>
</tr>
<tr>
<td>24</td>
<td>27/09/2011</td>
<td>tsj</td>
<td>Beth</td>
<td>31</td>
<td>F</td>
<td>itchy scalp</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>14/10/2011</td>
<td>tsj</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>28/09/2011</td>
<td>tsj</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>28/09/2011</td>
<td>tsj</td>
<td>test</td>
<td>25</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>28/09/2011</td>
<td>tsj</td>
<td>test2</td>
<td>30</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>13/10/2011</td>
<td>tsj</td>
<td>test3</td>
<td>35</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Basic details**
- record ID: 12
- date: 15/11/2011
- alias: Mal
- age: 45
- sex: male
- condition: lower back pain
- setting: hospital in-patient
- relationship: single
- occupation: bricklayer
- smoking: [yes]
- 2 packs per week
<table>
<thead>
<tr>
<th>ID</th>
<th>Date</th>
<th>Seen by</th>
<th>Alias</th>
<th>Age</th>
<th>Sex</th>
<th>Condition</th>
<th>Meds</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>15/11/2011</td>
<td>tsj</td>
<td>Mal</td>
<td>45</td>
<td>M</td>
<td>lower back pain</td>
<td>6</td>
<td>hospital in-patient</td>
</tr>
</tbody>
</table>

**SECTION**

- **Basic details**
  - **ID**: 12
  - **Date**: 15/11/2011
  - **Setting**: hospital in-patient
  - **Alias**: Mal
  - **Age**: 45
  - **Sex**: male
  - **Occupation**: bricklayer
  - **Smoking**: smoker
    - **pack years**: 2 packs per week
  - **Alcohol**: drinker
    - **std. drinks per wk.**: 4 standard drinks per day (more on weekends)
  - **Allergies**: no
  - **Condition**: lower back pain

*Records should not contain any information that will clearly identify the patient to another user. Do not enter the patient's real name in the alias field.*
Research & evaluation

Usage audits and analytics

1321917186 init
1321917186 platform.win
1321917186 client.desktop
1321917190 online=true
1321917198 login.authenticate.true
1321917198 installedversion=003
1321917198 currentversion=003
1321917198 login.goMain
1321917201 module.timetable
1321917207 module.Resources
1321917211 module.Cases
1321917217 cases.case.id=34
1321917234 cases.case.id=33
1321917253 cases.case.id=32
1321917273 cases.case.id=31
1321918710 module.Resources
1321918718 resources.search.query=limb,filter=none,sort=relevance
1321918722 resources.resource.id=5268
1321919290 toolbar.quit
1321919290 cc.quit
Acknowledgements

- Wai Chan
- Marco Di Leo
- Charles Malpas
- Andrew Bonollo
- Andrew Glenn

Terry Judd, Kristine Elliott & Geoff McColl
Medical Education Unit
The University of Melbourne