



THE UNIVERSITY OF  
NEW SOUTH WALES

School of Medical Sciences

PATH 3207

# Musculoskeletal Diseases

SESSION II, YEAR III

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## **Course staff**

Dr N Tedla (Course Convenor), Dr P Polly, Dr G Velan (Head of Teaching for Pathology), Professor N Hawkins (Head of School), Professor R Kumar, Dr M Dziegielewski, Dr N Tedla, Dr S Champion, Dr B Kan, Dr S Van Es, and Dr C van Vliet.

## **Course Administration**

Administrative and general problems related to your attendance, or the content and conduct of the course, can in the first instance be addressed by consulting Dr Patsie Polly Dr Nicodemus Tedla by e-mail ([n.tedla@unsw.edu.au](mailto:n.tedla@unsw.edu.au)) and in the second instance be addressed by consulting Dr Gary Velan ([g.velan@unsw.edu.au](mailto:g.velan@unsw.edu.au)). Students wishing to see their tutors or other members of staff should call in at the School office (ground floor) and make an appointment with the assistance of the staff. If students have difficulties of a personal nature, they should contact the School's Grievance Officer, Dr P. Pandey or Professor Nick Hawkins, the Head of School.

Should you feel that there are particular circumstances that have affected your performance in the course; you should lodge an application for special consideration. The procedures involved in this are outlined in the UNSW Student Guide, and special forms are widely available on campus e.g. Student Health Centre, Student Centre.

Information on the different research units in the Department of Pathology and the research interests of each staff member is available at Department of Pathology's home page at <http://medicalsciences.med.unsw.edu.au/>

All students in course PATH3207 are advised that email is the official means by which the School of Medical Sciences at UNSW will communicate with you. All email messages will be sent to your official UNSW email address (e.g., [z1234567@student.unsw.edu.au](mailto:z1234567@student.unsw.edu.au)) and, if you do not wish to use the University email system, you **MUST** arrange for your official mail to be forwarded to your chosen address. The University recommends that you check your mail at least every other day. Facilities for checking email are available in the School of Medical Sciences and in the University library. Further information and assistance is available from DIS-Connect, Tel 9385 1777. The UNSW Library runs free email courses.

## **Course detail**

This course is offered during the session II and has six unit of credit. Successful completion of an introduction to basic diseases processes in second year (PATH 2201, PATH 2202) and molecular basis of diseases in third year (PATH 3205) as well as the following courses in anatomy (ANAT 2111, ANAT 2511, ANAT 1521 or ANAT 2241) are prerequisites for enrollment to the course.

## **Course Objectives**

PATH 3207 comprises teaching current concepts of musculoskeletal diseases including arthritis, metabolic bone diseases, bone neoplasms, causes of musculoskeletal pain and limitations of movement and neuromuscular diseases as well as detailed coverage of fracture healing and its complications, multiple traumas and of biomaterial and prosthetic devices relevant to orthopedic applications.

## **Student learning outcomes**

At the completion of this course you should be able to:

1. Describe and explain the molecular and cellular pathogenetic mechanisms of musculoskeletal and neuromuscular diseases
2. Describe the macroscopic and microscopic appearances of musculoskeletal and neuromuscular diseases
3. Correlate the clinical features of musculoskeletal and neuromuscular diseases with the underlying pathological processes and mechanisms
4. Describe the sensitivity, specificity, cost effectiveness and availability of laboratory and imaging investigations for the diagnosis of musculoskeletal diseases
5. Discuss recent advances in biomedical, bioengineering and molecular biological research related to the pathogenesis and treatment of musculoskeletal and neuromuscular diseases
6. Develop written and oral skills in scientific communication
7. Develop skills in peer review and assessment of scientific research

## **Graduate attributes**

The students will be encouraged to develop the following Graduate Attributes by undertaking the selected activities and knowledge content. These attributes will be assessed within the prescribed assessment tasks (see Assessment p5):

1. An in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context.
2. The capacity for analytical and critical thinking, as well as for creative problem-solving
3. The ability to engage in independent and reflective learning
4. The skills of effective communication

## **Rationale for the inclusion of content and teaching approach**

The intended learning outcomes are achieved through study of the common patterns of response to injury, which are often referred to as pathological processes. In depth study of mechanisms and causes unique to the musculoskeletal system are highlighted in context of the general pathological processes. To understand these processes, you will draw on your knowledge of normal anatomy, histology, biochemistry, physiology, general pathology and biomedical engineering.

This course will be beneficial to students wishing to pursue careers in the health sciences, especially in clinical rehabilitation medicine, biomedical research or hospital-based laboratory work. A sound understanding of musculoskeletal pathology should provide an effective framework from which to approach diagnosis and management of common clinical scenarios that you may well encounter in your future careers.

## **Teaching strategies**

The course employs a variety of teaching modes in order to facilitate your learning:

- 1) A series of lectures introduce you to pathological processes, as well as specific examples of those processes affecting the musculoskeletal system. These lectures are given by invited and campus based discipline experts
- 2) Combined tutorial and practical classes that incorporate clinico-pathological correlation sessions are intended to allow you to apply your understanding of disease processes to macroscopic manifestations of disease in tissues (lesions), and to correlate these with the clinical manifestations, computer-based virtual microscopy, in order to permit correlation between disease processes, changes in cells and tissues at the microscopic level and the manifestations of disease and the use of variety diagnostic images and laboratory investigations
- 3) Evidence based symposium based on cutting edge topics in musculoskeletal diseases that are organised, designed, delivered and assessed by students working in small groups
- 4) In order to relate knowledge acquired in the class room to the real world situation students visit to state of the art research laboratory in musculoskeletal diseases, Department of Forensic Pathology and Department of Diagnostic imaging
- 5) Learning is supported via an eLearning Vista module (accessible via student number and UniPASS at <http://vista.elearning.unsw.edu.au>). Announcements, timetables, lecture slides and other resources will be made available during the course;
- 6) The PATH3207 Student Manual contains specific learning objectives for tutorials and practical classes, together with the course timetable and useful background information.

### **Research opportunities**

Opportunities exist for all students wishing to undertake undergraduate and postgraduate research program within the School of Medical Sciences. Information can be accessed via the Faculty of Medicine directory for the School of Medical Sciences at:

<http://notes.med.unsw.edu.au/home/medweb.nsf/website/5.1.MedicalSciences?OpenDocument>

Students are also encouraged to communicate with invited guest lecturers that are active in research and clinical practice.

### **Assessment**

Students will undertake multiple forms of assessment during session

- 1) **Evidence based symposium** is a group assignment that comprises **15%** of the final mark. It relates to all learning outcomes of the course. The selection of topics and allocation of student groups will take place on week 4 and the symposium will be held on week 10. The presentations will enhance students' skills in team work, effective communication and peer review processes in line with learning outcomes 5, 6 and 7
- 2) **Two online progress assessments in week 9 and week 12 (5%** of the final mark), each consisting 10 questions focusing on learning outcomes 1, 2, 3 and 4. These on-line assessments encourage independent and reflective learning as the student is able to revisit the exam online at any time until the desired level of knowledge is achieved. This occurs in a non-threatening environment, without fear of embarrassment for making errors.

- 3) **A practical examination in week 13.** Students will complete a practical exam during the final week of term constituting to **25%** of the final mark. This will consist of a series of 10 stations, each with questions based on material presented during term focused on learning outcomes 2, 3, 4 and 5. Students will rotate around the stations, spending 3 minutes per station.
- 4) **Reflective report on off-site practical visits for Medical Science and Advanced Science students, as well as other related activities for HESC students.** Students will be asked to complete a 'reflective' written piece (**750 words**) which gives an account of their experience during the practical off-site visits or related activities. This written reflection will be due in **Week 13**. The aim of this assessment is to provide students with the opportunity to integrate and apply theoretical knowledge learned throughout the course to the analytical or research-based approaches used to study Musculoskeletal Diseases. Students will receive **5%** of the final mark for satisfactory completion of this assessment.
- 5) **An end of course written examination** At the end of the session there will be written exam that accounts for **50%** of the final mark. The exam comprises 3 short answer essay style questions, 10 multiple choice and 20 true or false questions. The questions assess all the learning outcomes and encourages an in-depth understanding of the pathology of musculoskeletal diseases in a clinical and research context.

### Academic honesty and plagiarism

#### What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one's own.\*

Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

[www.lc.unsw.edu.au/plagiarism](http://www.lc.unsw.edu.au/plagiarism)

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

\* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle

† Adapted with kind permission from the University of Melbourne.

The School of Medical Sciences will not tolerate plagiarism in submitted written work. The University regards this as academic misconduct [http://www.student.unsw.edu.au/academiclife/assessment/academic\\_misconduct.shtml](http://www.student.unsw.edu.au/academiclife/assessment/academic_misconduct.shtml) and imposes severe penalties. Evidence of plagiarism in submitted assignments, etc. will be thoroughly investigated and may be penalised by the award of a score of zero for the assessable work. Flagrant plagiarism will be directly referred to the Division of the Registrar for disciplinary action under UNSW rules.

The attention of students is drawn to the following extract from the above website:

*"The basic principles are that you should not attempt to pass off the work of another person as your own, and it should be possible for a reader to check the information and ideas that you have used by going to the original source material. Acknowledgment should be sufficiently accurate to enable the source to be located speedily."*

*"The following are some examples of breaches of these principles:*

- a) Quotation without the use of quotation marks. It is a serious breach of these rules to quote another's work without using quotation marks, even if one then refers to the quoted source. The fact that it is quoted must be acknowledged in your work.
- b) Significant paraphrasing, e.g., several sentences, or one very important sentence, which in wording are very similar to the source. This applies even if the source is mentioned, unless there is also due acknowledgment of the fact that the source has been paraphrased.
- c) Unacknowledged use of information or ideas, unless such information or ideas are commonplace.
- d) Citing sources (e.g., texts) which you have not read, without acknowledging the 'secondary' source from which knowledge of them has been obtained."

Appropriate citation of sources therefore includes surrounding any directly quoted text with quotation marks, with block indentation for larger segments of directly-quoted text.

The preferred format for citation of references is an author-date format with an alphabetically arranged bibliography at the end of the assignment. Note that merely citing textbooks or website URLs is unlikely to yield a bibliography of satisfactory standard. ***The internet should be avoided as a primary source of information.*** Inclusion of appropriate journal articles, both primary research publications and reviews, is usually expected.

## Course schedule

**NOTE:** Changes in the timetable will be announced on WebCT Vista

“POWH” refers to Prince of Wales Hospital:

- i. Weeks 6 and 7 Practical class: Surgical and Orthopaedic Research Laboratories, Level 1, Clinical Sciences Building POWH

Week	Date	Time	Location	Lecturer	Title
2	28/7/2009	12	Biomed ThF	Dziegielewski	<b>Lecture</b> - Revision of Bone and Joint Histology
	30/7/2009	12	Biomed ThF	Champion	<b>Lecture</b> - Pathological Basis of Bone/Joint pain and limitation of movement
	30/7/2009	3	WW 106/8	Tedla	<b>Practical/Tutorial</b> - Histology/Anatomy of Bone and Joints
3	04/8/2009	12	Biomed ThF	Tedla	<b>Lecture</b> - Fracture Healing I
	06/8/2009	12	Biomed ThF	Tedla	<b>Lecture</b> - Fracture Healing II
	06/8/2009	3	WW 106/8	Tedla	<b>Practical/Tutorial</b> - Fracture Healing and Complications
					- Briefing on off-site visits
4	11/8/2009	12	Biomed ThF	Tedla	<b>Prelude to evidence-based symposium</b>
	13/8/2009	12	Biomed ThF	Verma	<b>Lecture</b> - Back Pain
	13/8/2009	3	WW 106/8	Verma	<b>Practical/Tutorial</b> – Back pain
5	18/8/2009	12	Biomed ThF	Dziegielewski	<b>Lecture</b> - Bone Tumours I
	20/8/2009	12	Biomed ThF	Dziegielewski	<b>Lecture</b> - Bone Tumours II
	20/8/2009	3	WW 106/8	Dziegielewski	<b>Practical/Tutorial</b> - Bone Tumours
6	25/8/2009	12	Biomed ThF	McFarland	<b>Lecture</b> – New approaches in Musculoskeletal Repair
	27/8/2009	12	Biomed ThF	Walsh	<b>Lecture</b> - Advances in Experimental Approaches to Orthopaedics
	27/8/2009	9	POWH	Walsh	<b>Offsite visit</b> - Experimental Models of Orthopaedics Group 1
		9	Glebe	Duflo	- Department of Forensic Pathology, Group 2
7	01/9/2009	12	Biomed ThF	Vu	<b>Lecture</b> - Strains, Sprains and Dislocations
	03/9/2009	11	Biomed ThF	Stanford	<b>Lecture</b> - <i>Orthopaedic surgery: Joint Replacements</i>
	03/9/2009	9	POWH	Walsh	<b>Offsite visit</b> - Experimental models of Orthopaedics Group 2
		9	Glebe	Duflo	- Department of Forensic Pathology, Group 1

### **Mid Session Break**

8	15/9/2009	12	Biomed ThF	Morris	<b>Lecture</b> – Diagnostic Imaging of Musculoskeletal Diseases
	17/9/2008	12	Biomed ThF	Kan	<b>Lecture</b> – Metabolic Bone Diseases
	17/9/2009	3	WW 106/8	Kan/Tedla	<b>Practical/Tutorial</b> – Metabolic Bone Diseases
					- Briefing after off-site visits
9	22/9/2009	12	Biomed ThF	McNeil	<b>Lecture</b> - Arthritis I
	24/9/2009	12	Biomed ThF	McNeil	<b>Lecture</b> - Arthritis II
	24/9/2009	3	WW 106/8	Tedla	<b>Practical/Tutorial</b> - Arthritis

<b>Part I on-line progress assessment with feedback commences on 24/9/08</b>					
10	29/9/2009	12	Biomed ThF	Tedla/Polly	<b>Evidence-based symposium</b>
	01/10/2009	12	Biomed ThF	Tedla/Polly	<b>Evidence-based symposium</b>
	01/10/2008	3	Athol Lykke	Tedla/Polly	<b>Evidence-based symposium</b>
<b>Part I on-line assessment closes on 04/10/08</b>					
11	06/10/2009	12	Biomed ThF	Tedla/Polly	<b>Evidence-based symposium</b>
	08/10/2009	12	Biomed ThF	Polly	<b>Lecture</b> - Muscular Dystrophies
	08/10/2009	3	WW 106/8	Polly	<b>Practical/Tutorial</b> - Muscle Diseases
					DiGirolamo/Tam/Kee
12	13/10/2009	12	Biomed ThF	Dziegielewski	<b>Lecture</b> - Head Injury
	14/10/2009	12	Biomed ThF	Velan	<b>Lecture</b> – Pathogenesis of Shock
	15/10/2009	3	WW 106/8	Tedla	<b>Practical/Tutorial</b> – Head injury and Shock
<b>Part II on-line progress assessment with feedback commences on 15/10/08</b>					
13	20/10/2009	12	Biomed ThF	Kwok	<b>Lecture</b> – Pathological Basis of Upper and Lower Motor Neuron Lesions
	21/10/2009	12	Biomed ThF	Dufflou	<b>Lecture</b> - Forensic Pathology of the Musculoskeletal System
	22/10/2009	3	WW 106/8	Tedla	Practical Examination
<b>Part II on-line assessment closes on 25/10/08</b>					

KEY:	Champion	Dr Sophia Champion	Lecturer, Department of Pathology, UNSW
	Dufflou	A/Prof Jo Dufflou	Associate Professor, Institute of Forensic Medicine, Glebe
	Dziegielewski	Dr Mark Dziegielewski	Lecturer, Department of Pathology, UNSW
	Kan	Dr Betty Kan	Lecturer, Department of Pathology, UNSW
	Kwok	Dr John Kwok	Research Fellow, POWMRI, UNSW
	<b>McFarland</b>	<b>A/Prof Clive McFarland</b>	<b>Graduate School of Biomedical Engineering, UNSW</b>
	McNeil	Prof Patrick H McNeil	Professor, Assoc Dean POWH Clinical School
	Morris	Dr Sarah Morris	Senior lecturer, Department of Radiology, POWH
	Polly	Dr Patsie Polly	Lecturer, Department of Pathology, UNSW
	Stanford	Dr Ralph Stanford	Senior Lecturer, UNSW; Staff Specialist Orthopaedics, POWH
	Tedla	Dr Nicodemus Tedla	Senior Lecturer, Department of Pathology, UNSW
	Velan	Dr Gary Velan	Senior Lecturer, Department of Pathology, UNSW
	Verma	Dr Manju Verma	Lecturer, Department of Pathology, UNSW
	Vu	Dr Dzung VU	Senior Lecturer, Department of Physiology and Pharmacology, UNSW
	Walsh	Prof Bill Walsh	Professor, UNSW; Surgical and Orthopaedic Research Laboratories, POWH

## Lecture summary

Lecture Title	Lecturer	Content outline
Revision of bone and joint histology	MD	Types of bones and joints, histology of synovial joint, micro architecture of bone, processes of bone formation and bone re-modelling
Pathological bases of bone/joint pain and limitation of movement	SC	Aetiology, pathogenesis and diagnosis of bone and joint pain
Fracture healing I	NT	Types of fractures, stages of fracture healing, determinants of traumatic fracture healing and assessment of bone healing
Fracture healing II	NT	Acute, intermediate and chronic complications of fractures
Back Pain	MV	Aetiology and pathogenesis back pain: Comparison of intervertebral disc disease, degenerative joint disease and inflammatory arthropathies
Bone Tumours I	MD	Types of bone tumours, macro and microscopic features, clinical features and complications
Bone Tumours II	MD	Metastases to bone; sources of metastases, histopathological features; Involvement of the bone in haematological malignancies

Muscular dystrophies	PP	Causes and effects of muscular dystrophies, histo-pathological diagnosis and indications for muscle biopsies
New approaches to musculoskeletal repair	CM	Summary on a cutting edge research on new approaches in treatment of musculoskeletal damages
Strains, sprains and dislocations	DV	Clinical evaluation of muscle, tendon, ligament and meniscus injuries with special emphasis to shoulder and elbow dislocation and knee and ankle injuries.
Advances in experimental approaches to orthopaedics	BW	Summary on a cutting edge research in experimental orthopaedics
Diagnostic imaging of musculoskeletal diseases	SM	An outline of types of imaging techniques available for musculoskeletal diseases and their indications, cost, advantages and disadvantages
Orthopaedic surgery: joint replacements	RS	Indications for joint replacement; procedures for hip and knee replacement; surgical outcomes, cost and complications
Metabolic bone disease	BK	Classification; macroscopic, microscopic, radiological and clinical features; complications
Arthritis I	PMcN	Rheumatoid arthritis: Aetiology, pathogenesis, clinical features, diagnosis and complications
Arthritis II	PMcN	Causes of arthritis; pathogenesis and clinical features of osteoarthritis and crystal induced arthropathies
Pathogenesis of shock	GV	Definition, pathophysiology, causes and effects
Head injury	MD	Intracranial haemorrhage-epidural, subdural, subarachnoid, intracerebral: causes and effects
Upper and lower motor neuron lesions	JK	Pathological basis of UMN and LMN lesions, compare and contrast clinical manifestations and discuss underlying aetiology
Forensic pathology of musculoskeletal system	JD	Medico-legal relevance of investigation of death; Comparisons of coronial Vs hospital autopsy; Forensic investigation of musculoskeletal injuries

### Resources for students

You are expected to acquire the following text:

1. *Pathologic Basis of Disease*, 8th Ed. V. Kumar, R. Cotran & S Robbins (2007), Saunders & Co.

Students wishing to study clinical features of diseases and diagnosis in greater depth might consider the purchase of the following texts:

1. *ORTHOPAEDIC, Examination, Evaluation and Intervention*. Mark Dutton (2004). McGraw Hill.
2. *DIAGNOSTIC MUSCULOSKELETAL IMAGING*. Theodore T Miller & Mark E. Schweitzer (2005). McGraw Hill.
3. *MUSCULOSKELETAL EXAMINATION*. Jeffrey Gross, Joseph Fetto & Elaine Rosen 3<sup>rd</sup> Ed (2009). Wiley Blackwell.

### Additional learning resources

In addition, there are many resources available on the web, which vary from simple patient information brochures to on-line pathology courses to information on the latest research. Some general sites you may find useful are:

Medline Plus ('health topics' index of disease with information)

<http://www.nlm.nih.gov/medlineplus/healthtopics.html>

University of Iowa (on-line histological slides on many of the topics covered)

[http://www.medicine.uiowa.edu/pathology/nlm\\_histology/or](http://www.medicine.uiowa.edu/pathology/nlm_histology/or)

[http://www.medicine.uiowa.edu/pathology/uarep\\_histopathology/](http://www.medicine.uiowa.edu/pathology/uarep_histopathology/)

American Arthritis Foundation (Patient information and latest research on arthritis) <http://www.arthritis.org>

National Institute of Arthritis and Musculoskeletal and Skin Diseases

<http://www.niams.nih.gov/>

Neuromuscular Disease Center, Washington University, St Louis, MO USA

<http://www.neuro.wustl.edu/neuromuscular/>

Muscle Physiology, University of California, San Diego

<http://muscle.ucsd.edu>

### **PATH 3207 Web site**

The online module for the Musculoskeletal Disease course can be found by logging in to Vista at <http://vista.elearning.unsw.edu.au/>, using your student number as the user name (e.g. z1234567) and your UniPass as the password. The PATH3207 Vista module will contain information directly related to the course such as tutorial lists, revisions to the lecture timetable, links to PDF versions of lecture slides and iLecture recordings, links to online assessments, essay marks, examination timetables etc. **You are expected to visit this site regularly during your course.**

### **Guide to the practical classes**

Practical classes and tutorials in Musculoskeletal Diseases are aimed at amplifying and extending your understanding of the topics gleaned from attendance at lectures and reading of the recommended text, as well as correcting any misconceptions. Hence, adequate preparation and active participation are essential.

Practical classes will reinforce the clinico-pathological correlations involved with each topic. They are intended to help you to acquire the ability to recognize the macroscopic and microscopic features of pathology specimens and to relate the pathology to clinical application. The format of each practical class will be at the discretion of the tutor. Macroscopic “pots” will be generally used in conjunction with projected microscopic slides, x-rays and other materials. Materials for the practical classes are located at <http://web.med.unsw.edu.au/vslide/path3207/>

### **The Museum of Human Disease**

The Donald Wilhelm Museum of Human Disease is located on the ground floor of the Samuels Building (Building F25). Originally located on the 5<sup>th</sup> floor of the Wallace Wurth Building, it was established by Professor Donald Wilhelm, the Foundation Professor of Pathology at this university. Thanks to his foresight, and to the tireless efforts of Dr G. Higgins (the Museum Curator until 2004), the Museum has been meticulously maintained and updated over the years to reflect the changing patterns of disease in our society. The Museum contains over 2,700 specimens (or “pots”), which display diseased human tissue at the macroscopic level, usually preserved in formalin. Specimens are obtained both from organs removed surgically and from tissue obtained at autopsy, where the natural history of disease is in full view. **Please take note that some specimens of diseases which have become rare, e.g. diphtheria, are over 60 years old, and are irreplaceable.** Each specimen is numbered and is accompanied by a clinical history (when known), a macroscopic description of the abnormalities displayed, and a histopathological description of changes at the microscopic level (where relevant). That information, specific to each of thirty areas (or “bays”), can be found in the Museum catalogues located in a bracket within each bay.

All the specimens in the museum are arranged in one or other of two major groups. One group comprises collections of specimens according to pathological processes such as congenital, inflammation and healing, vascular, neoplasia etc. The second group comprises collections of specimens under organ systems, such as cardiovascular, central nervous, renal etc. As responsible adults, we expect you to maintain decorum in the

Museum, behave with care and respect for the integrity of the specimens, and help to keep the Museum tidy at all times. This means no eating or drinking in the Museum, and always returning specimens and catalogues to their allocated places. **Do not shake the pots!** This activity conveys no useful information, but often damages the specimens. If you discover that a specimen is leaking or broken, follow the instructions listed in the safety notice below. **Remember that the Museum is a precious learning resource, of which you are encouraged to make full use.**

### *Security in the museum*

**It is a crime under the Human Tissue Act to steal or mistreat material preserved in the Museum or practical class laboratories. Anyone who contravenes the Act will be prosecuted.**

In order to protect the collection of specimens, access to the Museum is restricted for students during weekdays from 8 a.m. to 8 p.m. The Museum is security locked, and can only be entered by using your student card to enable the doors to be opened. Mr Lansdown, Mrs Cato and Mr Mitchell play a supervisory role during office hours. The Museum and practical class laboratories are under constant electronic surveillance.

### *Safety in the museum*

- Always handle museum specimens with care and respect. All specimens consist of generously donated human tissue.
- The specimens are preserved in fixative solutions which contain a variety of toxic compounds:

Chemical	Percentage Composition
Glycerol	1.6 (v/v)
Saturated Camphor in Ethanol	0.16 (v/v)
Sodium Acetate	0.08 (w/v)
Formalin	0.16 (v/v)
Sodium Dithionate	0.25 (w/v)

- For reasons of hygiene, never take food or drink into the museum.
- Never leave a museum specimen on the floor, or in any precarious position.
- If a specimen is leaking, turn it upside down to prevent further leakage, then immediately inform Mr Alan Mitchell or a member of academic staff.
- If a specimen is broken, do not attempt to wipe up the spillage. Use the kitty litter provided in the central cupboards to absorb the fumes, then clear the area and immediately inform Mr Alan Mitchell or a member of academic staff.
- Remember that the museum is here for your benefit - your cooperation in maintaining neatness and safety at all times is appreciated.
- For more information on matters related to occupational and health safety policies of the UNSW visit the following web site. [www.riskman.unsw.edu.au/ohs/ohs.shtml](http://www.riskman.unsw.edu.au/ohs/ohs.shtml)

### **Student Support Service**

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course

convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734 or [www.equity.unsw.edu.au/disabil.html](http://www.equity.unsw.edu.au/disabil.html)). Issues to be discussed may include access to materials, note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made. Information on designing courses and course outlines that take into account the needs of students with disabilities can be found at: [www.secretariat.unsw.edu.au/acboardcom/minutes/coe/disabilityguidelines.pdf](http://www.secretariat.unsw.edu.au/acboardcom/minutes/coe/disabilityguidelines.pdf)

Any student experiencing difficulty with the course should discuss this either with the Convenor of PATH3207 Dr Tedla, the Head of Department Dr G. Velan or the Head of School Professor N Hawkins.

### **Course evaluation and Development**

Periodically student evaluative feedback on the course is gathered, using UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process and an in-house course evaluation questionnaire. This questionnaire is included in the manual to be completed by all students during Practical Class 12 (during week 13) to provide feedback on the course. Student feedback is taken seriously, and continual improvements are made to the course based in part on such feedback.

### **Administrative Matters**

You may also meet the following members of the School support staff during the course of the year:

#### **Ms Soo Han Chup**

Position: Administrative Officer, Department of Pathology

Location: Room MG14 Administrative Wing, Ground Floor Wallace Wurth Building

Phone: 9385 2528

Ms Chup is responsible for the distribution of Pathology manuals and Images of Disease CD-ROMs to students, and will assist in arranging interviews with academic staff within the Department.

#### **Ms Carmen Robinson**

Position: Student Adviser

Location: Room MG14 Administrative Wing, Ground Floor Wallace Wurth Building

Ms Robinson is responsible for assistance with general enquiries, enrolment procedures and the collection of assignments.

Phone: 9385 2464

E-mail: [Carmen.Robinson@unsw.edu.au](mailto:Carmen.Robinson@unsw.edu.au)

#### **Ms Jessica Hu**

Position: SOMS Web Manager

Location: Room MG14 Administrative Wing, Ground Floor Wallace Wurth Building

Ms Hu maintains materials up-loaded to *My eLearning Vista*. Please contact Ms Hu if you have any inquires related to PATH3207 materials up-loaded to this site including lectures, assignments, timetables and communications.

Phone: 9385 8195

E-mail: [Jessica.Hu@unsw.edu.au](mailto:Jessica.Hu@unsw.edu.au)

**Mr Robert Lansdown**

Position: Museum Manager

Location: Room G04 Ground Floor Samuels Building, Building F25

Phone: 9385 2190

Mr Lansdown provides support for all undergraduate teaching programs. He has played a major role in broadening the use of the Museum of Human Disease by introducing an integrated learning program for senior high school students and community interest groups. Mr Lansdown Co-ordinates a network of volunteers, who assist with the supervision of visitors from outside the University.

**Mr Alan Mitchell**

Position: Museum Technical Officer

Location: Room G06 Ground Floor Samuels Building, Building F25

Mr Mitchell is responsible for the mounting and maintenance of Pathology Museum specimens, both on campus and in the associated teaching hospitals. Contact Mr Mitchell immediately if there are any broken or leaking specimens in the Museum.

**Ms Kathryn Hair**

Position: Museum Education Officer

Location: Room G06 Ground Floor Samuels Building, Building F25

Ph: 9385 1522

Ms Hair assists Mr Lansdown in delivering Museum learning programs and coordinating volunteers.