

Subject Outline: Elective B – Advanced Procedural Dermatology – Mohs Micrographic Surgery (MMS)



Course: Master of Dermatology (Coursework)

Subject: Elective B: Advanced Procedural Dermatology – Mohs Micrographic Surgery

Credit Points: 4

Year/Semester Delivered: 2/4

Subject Outline:

This subject builds on knowledge and skills already developed in the procedural domain of dermatological surgery. It explores the advanced surgical technique for lesion excision, Mohs Micrographic surgery.

Mohs micrographic surgery is named in honour of the physician who developed the basic technique, Dr Frederic Mohs at the University of Wisconsin in America in the 1950s.

The main difference between Mohs surgery and other methods of removing skin cancers is microscopic control. The major advantage of Mohs surgery over other skin cancer surgery is that the tumour is completely removed with a high degree of precision but also with minimal loss of normal tissue.

Teaching of Mohs surgery should be best focused on determining when this technique should be used rather than other procedures.

This subject covers the following areas of the domain:

1. History of Mohs
2. Principles of Mohs
3. Indications for Mohs (BCC, SCC other)
 - a. Pre-operative assessment
 - b. Recurrent/incomplete excision
 - c. Poorly defined clinical margins
 - d. Immunosuppression
 - e. Perineural invasion
 - f. The need for tissue conservation
4. Mohs Procedure
 - a. Pre-operative assessment
 - b. Anaesthesia
 - c. Surgical Technique
 - i. “Clean” surgical technique
 - ii. Beveled Mohs excision
 - iii. Tissue orientation, mapped, marked

- d. Peri-operative assessment
- e. Laboratory and Pathology
- f. Specimen Interpretation
- g. Reconstruction (overview)
- h. Post-operative care
 - i. Wound healing
 - ii. Surgical complication management
 - iii. Aesthetic issues
5. Quality assurance
6. Facility Management

This subject is supported by online modules, each containing a range of activities centred on case studies, readings, research papers and video resources.

Learning Outcomes:

Each of the online modules has its own set of specific learning outcomes. The broad outcomes listed below are aligned with these.

After completing this subject, students will be able to:

1. Define what Mohs Surgery involves.
2. Assess indications for the procedure.
3. Carry out basic technique of MMS (supervised), including the mapping and tissue orientation process; tissue preparation so that complete horizontal frozen sections can be obtained; slide interpretation; multistage process until full tumor extirpation has occurred.
4. Be able to recount the advantages and disadvantages of treatment with Mohs Surgery.
5. Critically assess clinical cases suitable for Mohs Surgery.
6. Demonstrate an appreciation of the fact that Mohs Surgery is sometimes but one part of a multi-disciplinary process in the treatment of complex skin cancers.
7. Demonstrate an understanding of the treatment outcomes following Mohs Surgery.
8. Devise a post-operative management plan.
9. Assess and apply appropriate wound healing techniques
10. Demonstrate an awareness of strategies to address surgical complications
11. Critically assess the current research literature on the value and place of Mohs surgery in dermatological practice, given that it has been suggested that it is often used inappropriately and too frequently.

Student Workload:

The following extract for the ACD Academic Awards Framework Policy should be used as a guide to the minimum time a student should spend working on this subject.

“A 4 credit point subject will have a minimum of 48 hours teaching time associated with it ...” per semester.

“1CP will equate to a minimum of 2.5 hours personal study time per week for the student. Over a semester (20 weeks) this equates to 200 hours of personal study time for a 4 CP subject”.

Teaching:

- Weekly F2F tutorial clinical teaching sessions
- Weekly Virtual classroom sessions (Includes contribution to online case based discussion)
- Student self-paced online study.

Assessment:

- Formal MCQ
- Portfolio of treated cases/experience
- Written Assignment/Research report
- WpBA (Selected)
- Virtual classroom contributions

Assessment task	Weight	Subject Learning outcomes assessed	Curriculum Learning Outcomes	Due date
MCQs	20%	1 - 10	BLO 2-5/LO 2-8 BLO 6-8/LO 9-18	TBA
Portfolio: Supervised Cases Completed	30%	1 - 10	BLO 2-5/LO 2-8 BLO 6-8/LO 9-18 BLO 10/LO 22	TBA
Written Assignment 1: Research report	20%	11	BLO 4/LO7	TBA
Written Assignment 2: Case analysis	20%	1 - 10	BLO 2-5/LO 2-8	TBA
Discussion: Virtual classroom case based discussion contribution	10%	All	All	Assessed Weekly

Competency based:

WpBA*

ProDA: Mohs surgery	C/NC	1 - 10	BLO 2-5/LO 2-8	By arrangement
DermCEX: Post Operative Management	C/NC	1 - 10	BLO 6-8/LO 9-18	By arrangement

Recommended Resources:

Each online tutorial:

- References appropriate research and journal articles. These should be accessed and reviewed in all cases.
- Contains contextualized inbuilt case studies and journal article download links
- Contains inbuilt video resources which are available for download for private study.

Additionally, you are advised to access:

- **Rowe D. E, Carroll R. J, Day C. L jr.** *Long-term recurrence rates in previously untreated primary basal cell carcinoma: implications for patient follow-up.* J Dermatol Surg Oncol 1989; 15:315-328.
- **Rowe D. R, Carroll R. J, Day C. L Jr.** *Mohs surgery is the treatment of choice for recurrent (previously treated) basal cell carcinoma.* J Dermatol Surg Oncol 1989; 15: 424-431
- **Greenway Hubert T. and Kurt L Maggio.** *Surgery of the Skin Procedural Dermatology.* June K Robinson, et al., eds. Chapter 48. pp. 777-800. * *The listed references at the end of the quoted chapter will provide you with an excellent source of further readings.*

Curriculum Mapping:

DOMAIN 2: Medical Dermatology (Fundamentals of Clinical Practice)

BLO 2: Critically assess patients, by generating an accurate history and through a systematic and comprehensive clinical examination.

BLO 3: Critically assess and synthesise specialist medical dermatological knowledge of disease process, presentation and epidemiology to develop effective differential diagnoses.

BLO 4: Critically analyse the need for and use of appropriate investigations to develop and justify well-reasoned clinical diagnoses.

BLO 5: Evaluate results of investigations and employ clinicopathologic correlation to then develop and assess effective management plans appropriate to the diagnosis and the patient's context

Learning outcomes

LO 2: Develop a therapeutic relationship with the patient and carers as appropriate.

LO 3: Generate a comprehensive relevant history from the patient and carers, as appropriate.

LO 4: Create an appropriate context for informed consent.

LO 5: Assess a patient's condition through a systematic and comprehensive patient examination.

LO 6: Formulate sound clinical decisions and differential diagnoses through the application of dermatological knowledge and skills to both the assessment of a patient's condition and appropriate diagnostic investigations.

LO 7: Evaluate evidence-based medicine and relevant research methodology in clinical, case-based dermatology.

LO 8: Create, implement and evaluate effective treatment management plans, taking into account the patient's condition and context.

DOMAIN 3: Procedural Dermatology (Specialist Procedures)

BLO 6: Critically apply specialist medical knowledge and diagnostic skills to develop best practice treatment options in procedural dermatology

BLO 7: Synthesise anatomical understanding of the skin and underlying soft tissues with technical skills in the performance of dermatological procedures using aseptic technique

BLO 8: Evaluate methods and processes to optimise post-procedural haemostasis and wound healing.

Learning outcomes

LO 9: Evaluate a patient's condition before performing dermatological procedures, including creating context for informed consent from the patient and/or appropriate carer(s), in accordance with current legislation.

LO10: Develop a thorough anatomical understanding of the skin and underlying soft tissues and apply this knowledge base to the performance of dermatological procedures.

LO 11: Evaluate local anaesthetics and analgesics relevant to safe and effective dermatological procedures.

LO 12: Evaluate instruments, materials and equipment to perform dermatological procedures safely and effectively.

LO 13: Generate safe and effective preparations for dermatological procedures using aseptic technique.

LO 14: Develop appropriate technical skills in the performance of safe and effective dermatological procedures.

LO 15: Optimise haemostasis through applied knowledge of the physiological haemostatic process and appropriate pre-operative, intra-operative and post-operative skills and techniques.

LO 16: Evaluate wounds and wound dressings to optimise post-procedural wound healing.

LO 17: Comprehensively design and implement after-care and follow-up post-procedural plans and procedures.

LO 18: Evaluate and design mitigating measures for post-operative complications following dermatological procedures.

DOMAIN 4: Professional Qualities (Quality and Safety)

BLO 10: Design and deliver safe, high quality health care and research according to ethical codes of practice and legal obligations

Learning outcomes

LO 22: Design and deliver quality and safety standards to ensure patients receive safe, high quality care.