

# Surgical Education and Assessment Modules (SEAM) - Operating Theatre

## Module Overview

|                                    |   |  |                           |
|------------------------------------|---|--|---------------------------|
| <b>Rationale</b>                   | This module is designed to introduce you to details of operating theatre management protocols and the basic science principles upon which these are based. As a general surgeon you must understand theatre protocols and observe and employ standards of behaviour in yourself and others in the team.   |  |                           |
| <b>Learning Objectives</b>         | <p>By the end of this module you should be able to:</p> <ol style="list-style-type: none"> <li>1. Apply the principles of safety, for patients and staff</li> <li>2. Recognise the principles of specimen handling and management of formalin spills</li> <li>3. Recognise the principles of effective teamwork and how to apply them</li> <li>4. Develop strategies to deal with negative and unhelpful behaviours</li> <li>5. Recognise the elements of theatre functionality and layout</li> <li>6. Select appropriate equipment for specific surgical procedures, based on an understanding of their properties and application</li> <li>7. Demonstrate the principles of safe handling of operative equipment</li> </ol> |  |                           |
| <b>Topics and keywords</b>         | <b>Topic</b>  | <b>Keywords</b>  |                           |
|                                    | Patient Safety  | <i>positioning, risks, nerve injuries</i>  |                           |
|                                    | Specimen Handling   | <i>specimen handling, formalin spills</i>  |                           |
|                                    | Theatre Team  | <i>teamwork, surgical assisting</i>  |                           |
|                                    | Theatre Design  | <i>design, standard theatre, recovery</i>  |                           |
|                                    | Operative Equipment   | <i>energy sources, instrumentation, tissue approximation, haemostasis agents</i> |                           |
| <b>Recommended Further Reading</b> | Educational material provided within this module is not intended to be complete, and is not a textbook. Trainees are expected to undertake further reading in order to complete the module successfully.  |  |                           |
|                                    | <b>Recommended Reading</b>  |  | <b>Learning Objective</b> |
|                                    | <i>A Surgical Safety Checklist for Australia and New Zealand</i> (Editorial). Gough, I. ANZJS, 2010; 80:1-2   |  | 1                         |
|                                    | Bisinotto, F.M.B., Dezena, R.A., Martins, L.B, Galvão, M.C., Sobrinho, J.M., and Calçado, M.S. (2017). Burns related to electrosurgery - Report of two cases. <i>Brazilian Journal of Anesthesiology</i> (English Edition), 67(5): 527-534<br><a href="http://www.sciencedirect.com/science/article/pii/S0104001416300331">http://www.sciencedirect.com/science/article/pii/S0104001416300331</a>   |  | 7                         |

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| Recommended Further Reading | Recommended Reading  | Learning Objective |
|-----------------------------|--|--------------------|
|                             | Crossley GH, Poole JE, Rozner MA, Asirvatham SJ, Cheng A, Chung MK, et al. (2011). The Heart Rhythm Society (HRS) / American Society of Anaesthesiologists (ASA) Expert Consensus Statement on the Perioperative Management of Patients with Implantable Defibrillators, Pacemakers and Arrhythmia Monitors: Facilities and Patient Management: Executive Summary. <i>Heart Rhythm</i> , 8(7): doi:10.1016/j.hrthm.2011.05.010                                 | 7                  |
|                             | Di Palma, C. (2004). Power at work: navigating hierarchies, teamwork and webs. <i>J of Med Humanities</i> , 25(4): 291-308.  | 3, 4               |
|                             | Harsoor, S.S. & Bala Bhaskar, S (2007). Designing an Ideal Operating Room Complex, <i>Indian Journal of Anaesthesia</i> , 51(3) 193-199 <a href="http://www.ijaweb.org/temp/IndianJAnaesth513193-7962597_220705.pdf">http://www.ijaweb.org/temp/IndianJAnaesth513193-7962597_220705.pdf</a>  | 5                  |
|                             | Mazzocco, K. et al (2009). Surgical team behaviors and patient outcomes. <i>The American Journal of Surgery</i> , 197: 678-685.  | 3, 4               |
|                             | Medical Council of New Zealand (MCNZ). <i>Best Health Outcomes for Māori: Practice Implications</i> <a href="https://www.mcnz.org.nz/assets/News-and-Publications/Statements/best-health-maoricomplete.pdf">https://www.mcnz.org.nz/assets/News-and-Publications/Statements/best-health-maoricomplete.pdf</a>  | 1,2                |
|                             | Medical Council of New Zealand (MCNZ). <i>Statement on best practices when providing care to Māori patients &amp; their Whānau</i> <a href="https://www.mcnz.org.nz/assets/News-and-Publications/Statements/Statement-on-best-practices-when-providing-care-to-Maori-patients-and-their-whanau.pdf">https://www.mcnz.org.nz/assets/News-and-Publications/Statements/Statement-on-best-practices-when-providing-care-to-Maori-patients-and-their-whanau.pdf</a> | 1,2                |
|                             | <i>Medtronic. Principals in Electrosurgery.</i> <a href="https://www.asit.org/assets/documents/Principals_in_electrosurgery.pdf">https://www.asit.org/assets/documents/Principals_in_electrosurgery.pdf</a>  | 7                  |
|                             | <i>Queensland Department of Health (2017). Guideline for the management of occupational exposure to blood and body fluids.</i> <a href="http://health.qld.gov.au/qhpolicy/docs/gdl/qh-gdl-321-8.pdf">health.qld.gov.au/qhpolicy/docs/gdl/qh-gdl-321-8.pdf</a>  | 1, 2               |
|                             | RACS. <i>Bullying, Discrimination and Sexual Harassment.</i> <a href="https://www.surgeons.org/about-racs/about-respect">https://www.surgeons.org/about-racs/about-respect</a>   | 3, 4               |
|                             | RACS. <i>Code of Conduct.</i> <a href="https://www.surgeons.org/become-a-surgeon/about-specialist-surgeons/code-of-conduct">https://www.surgeons.org/become-a-surgeon/about-specialist-surgeons/code-of-conduct</a>  | 3, 4               |
|                             | RACS. <i>eLearning courses and resources: Operating with respect.</i> <a href="https://www.surgeons.org/education/skills-training-courses/operating-with-respect-owr-course">https://www.surgeons.org/education/skills-training-courses/operating-with-respect-owr-course</a>  | 3, 4               |
|                             | Royal College of Pathologists of Australia (2016). <i>Fixation of Tissues.</i> <a href="https://www.rcpa.edu.au/Library/College-Policies/Guidelines/Fixation-of-Tissues">https://www.rcpa.edu.au/Library/College-Policies/Guidelines/Fixation-of-Tissues</a>   | 2                  |
|                             | <i>SAGES Manual on the Fundamental Use of Surgical Energy (FUSE).</i> Feldman L, Fuchshuber P, Jones DB (Eds). 2012. <a href="http://www.springer.com/978-1-4614-2073-6">http://www.springer.com/978-1-4614-2073-6</a>   | 7                  |

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| Recommended Further Reading             | Recommended Reading  | Learning Objective |
|---|--|--------------------|
|   | Sexton, J.B. et al (2006). Teamwork in the operating room: frontline perspectives among hospitals and operating room personnel. <i>Anesthesiology</i> , 105(5): 877-84   | 3, 4               |
|   | The Royal Australasian College of Surgeons, Robert Davies <i>Fundamental Skills for Surgery</i> . 3 <sup>rd</sup> edition, McGraw-Hill Medical: Melbourne, 2013.   | 1, 2, 6, 7         |
|   | <i>The Royal College of Pathologists of Australasia (2019). Specimen Labelling at Point of Collection.</i> <a href="https://www.rcpa.edu.au/getattachment/c9c11974-7350-4200-93b4-ed79d1f77dba/Specimen-Labelling-at-Point-of-Collection.aspx">https://www.rcpa.edu.au/getattachment/c9c11974-7350-4200-93b4-ed79d1f77dba/Specimen-Labelling-at-Point-of-Collection.aspx</a> | 2                  |
|   | <i>The Royal College of Pathologists of Australasia (2014). Surgical Specimen Cut Up.</i> <a href="https://www.rcpa.edu.au/getattachment/c76cce33-0fe0-4136-bc5c-554a51fa2666/Surgical-Specimen-Cut-Up.aspx">https://www.rcpa.edu.au/getattachment/c76cce33-0fe0-4136-bc5c-554a51fa2666/Surgical-Specimen-Cut-Up.aspx</a>  | 2                  |
|   | Tikanga Māori: <i>A Guide for Health Care Workers (2017)</i> . Capital & Coast District Health Board: Wellington. <a href="https://www.ccdhb.org.nz/our-services/a-to-z-of-our-services/maori-health/43875-tikanga-maori-web.pdf">https://www.ccdhb.org.nz/our-services/a-to-z-of-our-services/maori-health/43875-tikanga-maori-web.pdf</a>                                  | 1, 2               |
|   | Washington, S.J., and Smurthwaite, G.J. (2009). Positioning the surgical patient. <i>Anaesthesia and Intensive Care Medicine</i> , 10(10): 476-479.  | 1                  |
|   | <i>World Health Organisation (WHO) (2009). WHO Surgical Safety Checklist.</i> <a href="http://who.int/patientsafety/safesurgery/checklist/en/">who.int/patientsafety/safesurgery/checklist/en/</a>   | 1                  |
| <b>Prerequisites</b>                    | Trainees are encouraged to complete the RACS ASSET Course, which complements much of the material in this module.<br>The RACS ASSET Course is a mandatory requirement of the Surgical Education & Training (SET) Program in General Surgery.   |                    |
| <b>How this module will be assessed</b> | The e-learning module comprises learning activities and opportunities for Formative Assessment, with feedback.<br>The Summative Assessment comprises twenty (20) Type A, Type X, and Type R multiple choice questions.   |                    |

# Surgical Education and Assessment Modules (SEAM) - Operating Theatre

## Learning Activities & Formative Assessment

| Cognitive level | Learning Objective  | Module Topic      | Learning Activity   | Formative Assessment  |
|-----------------|---|-------------------|---|---|
| <b>Apply</b>    | Apply the principles of safety, for patients and staff                          | Patient Safety    | <p>After reading about safe and unsafe patient positioning, cultural considerations, and mechanisms of nerve injury, the learner will undertake a matching exercise identifying consequential mechanisms of injury and nerve injury risks for various patient positioning scenarios.</p> <p>Learners will be able to identify safe positioning of a patient's limbs during general anaesthesia, based on indicators learnt in the module.</p> | Learners will be able to identify corresponding nerve injuries for incorrect patient positioning scenarios, based on indicators learnt in the module. |
| <b>Analyse</b>  | Recognise the principles of specimen handling and management of formalin spills | Specimen Handling | After reading about specimen handling, cultural considerations, formalin spills, and splash management, learners will identify appropriate scenarios for the use of formalin, to demonstrate knowledge of specimen handling.  | Learners will identify appropriate specimen handling, based on indicators learnt in the module.   |
| <b>Analyse</b>  | Recognise the principles of effective teamwork and how to apply them            | Theatre Team      | After reading about teamwork concepts and fundamentals, learners will reflect on their most recent experience in theatre and rate the teamwork.   | Learners will be able to identify elements of teamwork, based on indicators learnt in the module.   |
| <b>Evaluate</b> | Develop strategies to deal with negative and unhelpful behaviours               |                   | <p>After reading about assertiveness and avoidance of negative behaviours, the learner will undertake a matching exercise identifying helpful and unhelpful behaviours.</p> <p>Learners will be able to identify examples of appropriate teamwork, based on indicators learnt in the module.</p>  |   |
| <b>Analyse</b>  | Recognise the elements of theatre functionality and layout                      | Theatre Design    | <p>After reading about design of the standard theatre, theatre complex, and theatre zone requirements, the learner will undertake an exercise sorting areas and requirements into their respective Zones, to demonstrate knowledge of elements of theatre functionality and layout.</p> <p>Learners will be able to identify areas that are part of the clean zone, based on indicators learnt in the module.</p>                             | Learners will be able to identify the consequences of a failure in laminar flow, based on indicators learnt in the module.                            |

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## Learning Activities & Formative Assessment

| <b>Cognitive level</b> | <b>Learning Objective</b>  | <b>Module Topic</b> | <b>Learning Activity</b>  | <b>Formative Assessment</b>  |
|------------------------|--|---------------------|---|--|
| <b>Evaluate</b>        | Select appropriate equipment for specific surgical procedures, based on an understanding of their properties and application | Operative Equipment | After reading about commonly used instruments in surgery, surgical haemostats, sealants, and adhesives, the learner will undertake a matching exercise identifying appropriate scenarios for the use of wound glue. | Learners will be able to identify appropriate electro-surgery mechanisms for use in various scenarios, based on indicators learnt in the module. |
| <b>Apply</b>           | Demonstrate the principles of safe handling of operative equipment   |                     | Learners will be able to identify appropriate use of instruments for tissue dissection and transection, based on principles learnt in the module.   |  |