

Surgical Education and Assessment Modules (SEAM) - Anatomy

Module Overview

<p>Rationale</p>	<p>The aim of this module is to apply your anatomical knowledge to surgical disorders, interventions, and procedures. It builds on your baseline knowledge of anatomy and basic sciences.</p> <p>The module is clinically orientated and requires supplementation from anatomical textbooks and atlases. Clinically based scenarios are used throughout the module to guide you to the relevant anatomy, with a series of diagrams and/or images included to assist with your learning. The module requires you to identify both normal anatomy and common anatomical variants.</p> <p>The satisfactory completion of this module should culminate in your own workbook of anatomy relevant to General Surgery, which will provide a useful educational resource throughout your training and in preparation for the Fellowship examination.</p>	
<p>Learning Objectives</p>	<p>By the end of this module you should be able to:</p> <ol style="list-style-type: none"> 1. Recognise anatomy relevant to General Surgery: <ul style="list-style-type: none"> o Anatomy of the Upper limb o Anatomy of the Lower limb o Anatomy of the Thorax o Anatomy of the Abdomen o Anatomy of the Head and Neck and Spine 2. Describe landmarks, incisions, and dissection layers relevant to specific case scenarios 3. Identify specific anatomical structures at risk during common General Surgery procedures 4. Apply anatomical knowledge to identify causes of common post-operative sequelae 5. Apply anatomical knowledge to the interpretation of medical imaging 	
<p>Topics and keywords</p>	<p>Topic</p>	<p>Keywords</p>
<p>Anatomy of the Upper limb</p>		
<p>Female breast</p>	<p><i>breast, lymphatic drainage, blood supply</i></p>	
<p>Axilla</p>	<p><i>axilla, pectoralis minor, nerves</i></p>	
<p>Arteries, veins, and nerves of the upper limbs</p>	<p><i>carpal tunnel, median nerve</i></p>	
<p>Anatomy of the Lower limb</p>		
<p>Femoral canal</p>	<p><i>femoral canal, medial boundary</i></p>	
<p>Femoral triangle and contents</p>	<p><i>femoral triangle, inguinal lymph nodes</i></p>	
<p>Arteries, veins, and nerves of the lower limbs</p>	<p><i>ischaemia, femoral artery, peripheral pulses</i></p>	

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Topics and keywords	Anatomy of the Thorax	
	Thoracic wall and cavity	<i>thoracotomy, neurovascular bundle, intercostal catheter</i>
	The diaphragm, heart, and lungs	<i>diaphragm, nerve supply, para-oesophageal hernia, vagal trunks</i>
	Oesophagus	<i>oesophagus, blood supply, lymphatics, dysphagia, thoracic duct</i>
	Anatomy of the Abdomen	
	Abdominal wall	<i>incisional hernia, rectus muscle, umbilical hernia, falciform ligament</i>
	Inguinal canal	<i>inguinal hernia, inguinal canal, numbness</i>
	Testis and epididymis	<i>testis, embryology, blood supply, lymphatics, lymphatic drainage, undescended testes</i>
	Stomach	<i>stomach, arterial supply, venous drainage, lymphatics, lesser sac, vagus nerves</i>
	Cisterna chyli and abdominal lymphatics	<i>lymph nodes, lymphatic drainage, cisterna chyli, thoracic duct</i>
	Liver	<i>liver, segments, epiploic foramen, common hepatic artery</i>
	Gallbladder and bile ducts	<i>laparoscopic cholecystectomy, cystic duct, variations</i>
	Duodenum	<i>duodenum, arterial supply, ampulla, lymphatics</i>
	Small bowel	<i>superior mesenteric artery, blood supply, lymphatics, small bowel mesentery</i>
	Pancreas	<i>pancreas, splenic artery, blood supply, lymphatics, common bile duct, uncinata process</i>
	Spleen	<i>splenectomy, blood supply, lymphatics</i>
	Kidneys, ureters, and urinary bladder	<i>ureter, ureteric injury, gonadal vessels</i>
	Retroperitoneum	<i>abdominal aorta, IVC, adrenal glands, blood supply</i>
	Anal canal	<i>anal canal, anal fissure, sphincter, dentate line</i>
	Colon and rectum	<i>colon, mesocolon, arterial anatomy, blood supply, nerve supply, lymphatics, greater omentum, rectum, mesorectum</i>
	The appendix	<i>appendix, appendicectomy, variations, blood supply</i>
	Pelvic wall, floor, and cavity	<i>pelvic floor, levator ani, broad ligament, round ligament</i>

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Topics and keywords	Anatomy of the Head and Neck and Spine	
	Thyroid and parathyroid glands	<i>thyroid, strap muscles, arterial supply, recurrent laryngeal nerve</i>
	Submandibular gland	<i>submandibular gland, facial artery, lingual nerve</i>
	Parotid gland	<i>parotid gland, cranial nerve, parotidectomy</i>
	Triangles of the neck	<i>anterior and posterior triangles, carotid sheath</i>
	Surgical airway	<i>airway, tracheostomy, tracheal rings</i>
Recommended Further Reading	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.	
	Recommended Reading	Learning Objective
	<i>an@tomedia online</i> . McGraw Hill Education, 2014. http://www.anatomediamediaonline.com.ezproxy.surgeons.org/	ALL
	Agur, AM, Dalley, AF. <i>Grant's Atlas of Anatomy</i> . Lippincott Williams & Wilkins, 13th edition: Philadelphia, 2012.	ALL
	Last, RJ. <i>Last's Anatomy: Regional and Applied</i> . Sinnatamby, CS. (Ed). Churchill Livingstone, 12th edition: Edinburgh, 2011.	ALL
	Netter, FH. <i>Atlas of Human Anatomy</i> . Saunders/Elsevier 7th edition: Philadelphia, 2019.	ALL
	Rohen, JW., Yokochi, C., Lutjen-Drecoll, E. <i>Color Atlas of Anatomy: A Photographic Study of the Human Body</i> . Lippincott Williams & Wilkins, 6th edition: Baltimore, 2006.	ALL
Prerequisites	N/A	
How this module will be assessed	<p>The e-learning module comprises 54 clinical scenarios and opportunities for Formative Assessment. Trainees are expected to provide a copy of their completed Anatomy workbook to their Supervisor during the end-of-term assessment.</p> <p>The Summative Assessment comprises twenty (20) Type A and Type X multiple choice questions.</p>	

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Learning Activities & Formative Assessment

Cognitive level	Learning Objective	Module Topic	Learning Activity	Formative Assessment
Analyse	Recognise anatomy relevant to General Surgery	Anatomy of the Upper limb Anatomy of the Lower limb	The module comprises 54 clinical scenarios related to five anatomy topic areas that are relevant to General Surgery.	Learners will be presented with Type A and Type X multiple choice questions addressing topics covered in the clinical scenarios including: <ul style="list-style-type: none"> - blood supply of the breast - abnormal obturator artery - intercostal space - liver - cystic artery - duodenum - superior thyroid artery
Apply	Describe landmarks, incisions, and dissection layers relevant to specific case scenarios	Anatomy of the Thorax Anatomy of the Abdomen Anatomy of the Head and Neck and Spine	Each clinical scenario contains a number of questions with space provided for free text answers. Learners will answer the questions and will then be presented with detailed Anatomy diagrams and images, and suggestions for further reading.	
Evaluate	Identify specific anatomical structures at risk during common General Surgery procedures		The responses entered by the learner to all 54 clinical scenarios will be exported to form an Anatomy workbook resource, which will provide a useful educational resource throughout training and in preparation for the Fellowship examination.	
Apply	Apply anatomical knowledge to identify causes of common post-operative sequelae		Learners will be presented with practice Type A and Type X multiple choice questions addressing topics covered in the clinical scenarios including:	
Apply	Apply anatomical knowledge to the interpretation of medical imaging		<ul style="list-style-type: none"> - axillary dissection - femoral canal - oesophagus - testis - middle colic artery - inferior thyroid vein 	