

<b>MODULE TITLE:</b>	<b>ABDOMINAL WALL, RETROPERITONEUM, UROGENITAL</b>	<b>7-Nov-2016</b>
<b>DEVELOPED BY:</b>	<b>Richard Turner</b>	
<b>REVIEWED BY:</b>	<b>Richard Turner (2010). Ian Campbell, Patrick Cregan, Li Hsee, Michael Rodgers, David Townend, Emma Secomb, Graham Stewart (2013). David Fletcher (2016).</b>	
<b>Module Rationale and Objectives</b>	<p>A general surgeon is required to have a thorough understanding of normal anatomy and physiology, as well as pathophysiology, investigations, differential diagnosis and surgical and non-surgical management of abdominal wall and retroperitoneal disorders. It is important that general surgeons maintain a current understanding of the most appropriate time and manner of intervention.</p> <p>The graduating trainee will be able to:</p> <ul style="list-style-type: none"> <li>▪ describe common surgical pathologies of the abdominal wall and retroperitoneum</li> <li>▪ identify and recognise the symptoms and signs of these conditions</li> <li>▪ describe and select appropriate diagnostic testing</li> <li>▪ identify appropriate treatment options, and their indications and contraindications</li> <li>▪ diagnose and manage pathological conditions that pertain to the abdominal wall, retroperitoneum and urogenital tract, including referral to other specialists where indicated</li> <li>▪ select appropriate investigative tools</li> <li>▪ adapt their skill in the context of each patient and each procedure</li> <li>▪ identify and manage risk</li> <li>▪ recognise the need to refer patients to other professionals</li> <li>▪ communicate information to patients (and their family) about procedures, outcomes, and risks associated with surgery in ways that encourage their participation in informed decision making (consent)</li> </ul>	
<b>Anatomy, Physiology, Pathology</b>	<p>Trainees should have basic knowledge of the normal embryology, anatomy, and pathology, of:</p> <ul style="list-style-type: none"> <li>▪ abdominal cavity and its walls</li> <li>▪ inguinoscrotal region</li> <li>▪ external genitalia</li> <li>▪ urogenital tract</li> </ul>	
<b>Suggested Reading</b>	<p>Trainees who are preparing to sit the Generic and Clinical Examinations need to refer to the recommended reading list on the RACS website at <a href="http://www.surgeons.org">www.surgeons.org</a></p> <p>For the Fellowship examination, there are no prescribed texts.</p> <p>Trainees are expected to keep abreast of the current literature, including textbooks, journal articles, consensus guidelines and other on-line resources.</p> <p>(1) Atlas of Abdominal Wall Reconstruction, by Michael J Rosen. Elsevier</p> <p>(2) The SAGES Manuel of Hernia Repair, By Brian Jacobs. Springer</p>	
<b>Learning Opportunities and Methods</b>	<p>If state-based and/or local hospital courses/meetings are available, trainees are strongly advised to avail themselves of these opportunities. This also includes practising procedures on simulation equipment where applicable.</p> <p>Trainees are encouraged to present their research at national and/or accredited regional training days, in order to fulfil the research requirement.</p>	
<b>How this module will be assessed</b>	<p>The Generic and Clinical Examinations; Fellowship examination (written and viva voce sections); Trainee evaluation forms and logbooks; SEAM (where applicable).</p>	
<b>Definitions</b>	<p><i>Operative Management - Knows:</i> Trainees are required to be familiar with the indications, benefits and limitations of the procedure; trainees should be able to describe the relevant operative techniques involved in performing the procedure; trainees are encouraged to at least observe and preferably assist in these procedures.</p> <p><i>Operative Management - Does:</i> In addition to the above, trainees must be competent at performing the procedure.</p>	

SET LEVEL	MEDICAL EXPERTISE	JUDGEMENT / CLINICAL DECISION MAKING			TECHNICAL EXPERTISE	
	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Adult groin hernias</b>						
<ul style="list-style-type: none"> <li>▪ inguinal</li> <li>▪ femoral</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>▪ Describe the anatomy of inguinal region, spermatic cord and testis</li> <li>▪ Describe the embryology of testicular descent and processus vaginalis</li> <li>▪ Provide an anatomical and pathological classification of groin hernias</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify signs and symptoms of reducible, irreducible and strangulated hernias</li> <li>▪ Distinguish inguinal from femoral hernias</li> </ul>	<ul style="list-style-type: none"> <li>▪ Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>▪ List management options (non-surgical and surgical): <ul style="list-style-type: none"> <li>- indications</li> <li>- contraindications</li> <li>- basic procedural details</li> </ul> </li> <li>▪ Indications/contraindications for laparoscopic repair</li> <li>▪ Describe details of common management options, as well as possible risks/ complications and how to deal with them, postoperative care</li> <li>▪ Management of recurrent hernias</li> <li>▪ Post hernia repair pain</li> </ul>		<ul style="list-style-type: none"> <li>▪ Open (mesh) repair of inguinal hernia</li> <li>▪ Open repair of femoral hernias</li> <li>▪ Open repair of strangulated and non-strangulated femoral and inguinal hernias</li> <li>▪ Laparoscopic inguinal hernia repair</li> </ul>
<b>Paediatric inguinal hernia/congenital hydrocele</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Explain the anatomy of the inguinoscrotal region and spermatic cord in a child</li> <li>▪ Describe/ differentiate between normal and abnormal embryology of testicular descent and processus vaginalis</li> </ul>			<ul style="list-style-type: none"> <li>▪ Outline surgical management: <ul style="list-style-type: none"> <li>- indications</li> <li>- basic procedural details</li> </ul> </li> <li>▪ Timing of surgery in children vs. adults</li> </ul>		
Mid SET	<ul style="list-style-type: none"> <li>▪ Understand acute hernia management in children</li> </ul>	<ul style="list-style-type: none"> <li>▪ Discuss signs and symptoms (history) of inguinal hernias in children</li> <li>▪ Discuss signs and symptoms of hydroceles and hydroceles of the cord in children</li> </ul>		<ul style="list-style-type: none"> <li>▪ Describe details of surgical management, including possible risks and complications</li> <li>▪ Plan management of acutely irreducible inguinal hernia</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inguinal herniotomy</li> </ul>	
<b>Umbilical/para-umbilical/epigastric hernia</b>						
Early SET	<ul style="list-style-type: none"> <li>▪ Explain the embryology and anatomy of umbilicus/ abdominal wall</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interpret examination findings of umbilical hernia</li> </ul>		<ul style="list-style-type: none"> <li>▪ Summarise surgical management: <ul style="list-style-type: none"> <li>- indications</li> <li>- basic procedural details</li> </ul> </li> <li>▪ Describe operative management options (including indications for mesh repair), possible complications and how to deal with them, postoperative care</li> </ul>		<ul style="list-style-type: none"> <li>▪ Repair of umbilical/ paraumbilical hernia (with or without mesh)</li> </ul>

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Exomphalos/Gastroschisis</b>						
Early SET				<ul style="list-style-type: none"> <li>Recognise that there are congenital abdominal wall defects requiring emergency management and transfer</li> </ul>		
Late SET				<ul style="list-style-type: none"> <li>Describe principles of surgical management and indications for referral</li> </ul>		
<b>Incisional/ventral hernias</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe normal and abnormal abdominal wall anatomy</li> <li>Identify/explain etiological factors</li> </ul>	<ul style="list-style-type: none"> <li>Recognise typical signs and symptoms, in particular with regard to irreducibility and strangulation</li> </ul>	<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Outline management options (non-surgical and surgical): <ul style="list-style-type: none"> <li>indications</li> <li>basic procedural details</li> </ul> </li> <li>Provide details of operative management options, possible complications and how to deal with them, postoperative care</li> </ul>		
Mid SET		<ul style="list-style-type: none"> <li>Recognise the importance of defect size and its implications on choice of repair</li> <li>Recognises risk factors influencing outcomes of successful repair</li> </ul>		<ul style="list-style-type: none"> <li>Pre-operative planning</li> <li>Types of mesh and physiological properties</li> </ul>		<ul style="list-style-type: none"> <li>Open repair of abdominal incisional hernia, with and without mesh/ bowel resection</li> <li>A retro-rectus mesh repair</li> </ul>
Late SET	<ul style="list-style-type: none"> <li>Identify pathophysiology of massive incisional hernias and repair</li> </ul>			<ul style="list-style-type: none"> <li>Mesh locations and types of repairs and its associated risks and benefits</li> <li>Provide details of management options associated with massive abdominal wall defects and the possible complications</li> <li>Assessment of abdominal domain and its physiological implications after repair</li> </ul>	<ul style="list-style-type: none"> <li>Laparoscopic incisional hernia repair (indications and contraindications)</li> <li>Incisional hernia repair using separation of components</li> <li>Techniques to restore abdominal domain</li> </ul>	<ul style="list-style-type: none"> <li>Open repair of irreducible incisional hernia</li> </ul>
<b>Abdominal wound dehiscence/burst abdomen</b>						
Early SET	<ul style="list-style-type: none"> <li>Identify etiological factors</li> </ul>	<ul style="list-style-type: none"> <li>Recognise symptoms and signs <ul style="list-style-type: none"> <li>superficial</li> <li>fascial</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Plan and carry out pre-operative management</li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>Describe definitive surgical management</li> <li>Role of VAC dressing/delayed closure</li> </ul>		<ul style="list-style-type: none"> <li>Definitive closure of abdominal wound dehiscence</li> <li>Management of the open abdomen</li> </ul>

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Open abdomen / laparostomy</b> <i>See also Trauma Module</i>						
Early SET	<ul style="list-style-type: none"> <li>Describe the anatomy of the peritoneal cavity, including peritoneal reflections</li> <li>Define the normal range of intra-abdominal pressure</li> <li>Explain the pathophysiological consequences of raised intra-abdominal pressure</li> </ul>	<ul style="list-style-type: none"> <li>Recognise the clinical signs of raised intra-abdominal pressure</li> </ul>	<ul style="list-style-type: none"> <li>Describe the technique for measuring intra-abdominal pressure including significant measure</li> <li>Measures to reduce intra-abdominal pressure</li> </ul>	<ul style="list-style-type: none"> <li>Describe the indications for laparostomy</li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>Describe details of managing a laparostomy wound</li> <li>Define indications / suitability for wound closure</li> </ul>		<ul style="list-style-type: none"> <li>Laparostomy</li> <li>Application of vacuum dressing</li> <li>Definitive wound closure</li> </ul>
Late SET						<ul style="list-style-type: none"> <li>Graduated Fascial closure techniques</li> </ul>
<b>Other abdominal wall hernias</b> <ul style="list-style-type: none"> <li>Spigelian</li> <li>Lumbar</li> <li>Obturator</li> </ul>						
Early SET	<ul style="list-style-type: none"> <li>Describe the relevant abdominal wall anatomy</li> </ul>	<ul style="list-style-type: none"> <li>Recognise symptoms and examination findings</li> </ul>	<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Explain management options: <ul style="list-style-type: none"> <li>indications</li> <li>basic procedural details</li> </ul> </li> <li>Provide details of operative management, possible complications and how to deal with them, postoperative care</li> </ul>		
Mid SET						<ul style="list-style-type: none"> <li>Open hernia repair (with or without mesh)</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>Laparoscopic repair of other hernias</li> </ul>	
<b>Stomal hernia</b> <i>See Colorectal Module</i>						
<b>Epididymo-orchitis</b> <i>See Emergency Module</i>						
<b>Testicular torsion</b> <i>See Emergency Module</i>						

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Haematocele/Scrotal haematoma</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe normal and abnormal anatomy of testis, spermatic cord</li> <li>Identify etiological/predisposing factors</li> </ul>	<ul style="list-style-type: none"> <li>Recognise symptoms and signs testicular viability</li> <li>Implications of anti-coagulation</li> </ul>	<ul style="list-style-type: none"> <li>Describe role of ultrasound in assessment</li> </ul>	<ul style="list-style-type: none"> <li>Identify indication for urgent conservative surgical management, including basic procedural details</li> </ul>		
Mid SET						<ul style="list-style-type: none"> <li>Scrotal exploration and drainage</li> </ul>
<b>Epididymal cyst</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe normal and abnormal anatomy of testis, epididymis and spermatic cord</li> <li>Explain the embryology of testis and epididymis</li> </ul>	<ul style="list-style-type: none"> <li>Discuss examination findings</li> </ul>	<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Explain principles of surgical management: <ul style="list-style-type: none"> <li>indications</li> <li>basic procedural details</li> </ul> </li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>Describe details of surgical management, including possible complications and how to deal with them</li> </ul>		<ul style="list-style-type: none"> <li>Excision of epididymal cyst scrotal exploration and drainage</li> </ul>
<b>Adult hydrocele (acquired)</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe normal and abnormal anatomy of testis and tunica vaginalis</li> </ul>	<ul style="list-style-type: none"> <li>Identify characteristic examination findings</li> <li>Exclusion of malignancy/infective causes</li> </ul>	<ul style="list-style-type: none"> <li>Select and interpret appropriate investigation modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Identify indications for and management options (non-surgical and surgical)</li> <li>Identify basic procedural details</li> </ul>		
Mid SET				<ul style="list-style-type: none"> <li>Describe details of surgical management, including possible complications and how to deal with them</li> </ul>		<ul style="list-style-type: none"> <li>Operative cure of hydrocele</li> </ul>
<b>Mal-descent of the testis – paediatric and adult</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe normal and abnormal embryology of testis</li> <li>Review the anatomy of testis, spermatic cord and inguinoscrotal region</li> </ul>	<ul style="list-style-type: none"> <li>Interpret examination findings</li> </ul>				
Mid SET	<ul style="list-style-type: none"> <li>Describe the pathology and pathological consequences of undescended testis</li> </ul>		<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Explain the principles of surgical management: <ul style="list-style-type: none"> <li>indications</li> <li>basic procedural details</li> <li>possible complications including malignancy</li> </ul> </li> </ul>		

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	ANATOMY PHYSIOLOGY PATHOLOGY	CLINICAL ASSESSMENT	INVESTIGATIONS	PRINCIPLES OF MANAGEMENT	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
<b>Mal-descent of the testis – paediatric and adult (continued)</b>						
Late SET					<ul style="list-style-type: none"> <li>Orchidopexy</li> <li>Laparoscopic exploration for absent testis</li> </ul>	
<b>Varicocele</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the anatomy of testis, spermatic cord and inguinoscrotal region</li> <li>Explain the etiology, pathology and possible consequences</li> </ul>	<ul style="list-style-type: none"> <li>Interpret examination findings</li> </ul>	<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> </ul>	<ul style="list-style-type: none"> <li>Summarise principles of surgical management: <ul style="list-style-type: none"> <li>indications</li> <li>basic procedural details</li> </ul> </li> <li>Describe details of surgical management, including possible complications and how to deal with them, postoperative care</li> </ul>		
Mid SET						<ul style="list-style-type: none"> <li>Surgical treatment of varicocele (inguinal approach)</li> </ul>
Late SET					<ul style="list-style-type: none"> <li>Laparoscopic treatment of varicocele</li> </ul>	
<b>Testicular tumours - benign / malignant</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the embryology of the testis</li> <li>Differentiate between normal and abnormal anatomy of testis, spermatic cord, inguinoscrotal region and retroperitoneum</li> <li>Describe lymphatic drainage of the testis</li> <li>Review classification and staging of testicular neoplasms</li> </ul>	<ul style="list-style-type: none"> <li>Interpret history and examination findings</li> </ul>			<ul style="list-style-type: none"> <li>Orchidectomy via inguinal approach</li> </ul>	
Mid SET			<ul style="list-style-type: none"> <li>Select and interpret appropriate medical imaging modalities where indicated</li> <li>Identify serum tumour markers</li> </ul>	<ul style="list-style-type: none"> <li>Summarise principles of multi-disciplinary management</li> <li>Implement staging procedures</li> <li>Plan multi-disciplinary management</li> <li>Describe details of surgical management</li> <li>Plan follow-up</li> </ul>	<ul style="list-style-type: none"> <li>Testicular exploration and/or radical orchidectomy (inguinal approach)</li> </ul>	

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<b>Vasectomy</b>						
Early SET	<ul style="list-style-type: none"> <li>Describe the anatomy of scrotum and spermatic cord</li> </ul>		<ul style="list-style-type: none"> <li>Interpret pathology tests used in determination of efficacy:               <ul style="list-style-type: none"> <li>histology</li> <li>semen analysis</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Explain details of procedure and complications including consent</li> <li>Perform pre- and post-operative counselling</li> </ul>		
Mid SET						<ul style="list-style-type: none"> <li>Vasectomy</li> </ul>
<b>Nephro-/uretero-/vesico-lithiasis</b> <i>See Emergency Module</i>						
<b>Phimosis/ paraphimosis</b> <i>See Emergency Module</i>						
<b>Other peripheral nerve entrapments</b> <i>See Skin &amp; Soft Tissue Module</i>						