MODULE TITLE:	ABDOMINAL WALL, RETROPERITONEUM, UROGENITAL
Module Rationale and Objectives	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. The graduating trainee will be able to: ▪ describe common surgical pathologies of the abdominal wall and retroperitoneum ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that pertain to the abdominal wall, retroperitoneum and urogenital tract, including referral to other specialists where indicated ▪ select appropriate investigative tools ▪ adapt their skill in the context of each patient and each procedure ▪ identify and manage risk ▪ recognise the need to refer patients to other professionals ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have basic knowledge of the normal embryology, anatomy, and pathology, of: ▪ abdominal cavity and its walls ▪ inguinoscrotal region ▪ external genitalia ▪ urogenital tract
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Adult groin hernias ▪ **inguinal** ▪ **femoral**		
Early SET		▪ Open (mesh) repair of inguinal hernia ▪ Open repair of femoral hernias ▪ Open repair of strangulated and non-strangulated femoral and inguinal hernias ▪ Laparoscopic inguinal hernia repair
Paediatric inguinal hernia / congenital hydrocele		
Mid SET	▪ Inguinal herniotomy	
Umbilical / para-umbilical / epigastric hernia		
Early SET		▪ Repair of umbilical/ paraumbilical hernia (with or without mesh)
Exomphalos / Gastroschisis		
Incisional / ventral hernias		
Mid SET		▪ Open repair of abdominal incisional hernia, with and without mesh/ bowel resection ▪ A retro-rectus mesh repair
Late SET	▪ Laparoscopic incisional hernia repair (indications and contraindications) ▪ Incisional hernia repair using separation of components ▪ Techniques to restore abdominal domain	▪ Open repair of irreducible incisional hernia

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Abdominal wound dehiscence / burst abdomen		
Mid SET		▪ Definitive closure of abdominal wound dehiscence ▪ Management of the open abdomen
Open abdomen / laparostomy *See also Trauma Module*		
Mid SET		▪ Laparostomy ▪ Application of vacuum dressing ▪ Definitive wound closure
Late SET		▪ Graduated Fascial closure techniques
Other abdominal wall hernias ▪ Spigelian ▪ Lumbar ▪ Obturator		
Mid SET		▪ Open hernia repair (with or without mesh)
Late SET	▪ Laparoscopic repair of other hernias	
Stomal hernia *See Colorectal Module*		
Epididymo-orchitis *See Emergency Module*		
Testicular torsion *See Emergency Module*		
Haematocele / Scrotal haematoma		
Mid SET		▪ Scrotal exploration and drainage
Epididymal cyst		
Mid SET		▪ Excision of epididymal cyst scrotal exploration and drainage
Adult hydrocele (acquired)		
Mid SET		▪ Operative cure of hydrocele
Mal-descent of the testis – paediatric and adult		
Late SET	▪ Orchidopexy ▪ Laparoscopic exploration for absent testis	
Varicocele		
Mid SET		▪ Surgical treatment of varicocele (inguinal approach)
Late SET	▪ Laparoscopic treatment of varicocele	
Testicular tumours - benign / malignant		
Early SET	▪ Orchidectomy via inguinal approach	
Mid SET	▪ Testicular exploration and/or radical orchidectomy (inguinal approach)	
Vasectomy		
Mid SET		▪ Vasectomy

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Nephro-/uretero-/vesico-lithiasis *See Emergency Module*		
Phimosis/ paraphimosis *See Emergency Module*		
Other peripheral nerve entrapments *See Skin & Soft Tissue Module*		

MODULE TITLE:	BREAST
Module Rationale and Objectives	The clinical features of breast disease require early detection, careful investigation and appropriate operative management. This module addresses issues that need to be considered in diagnosing and making decisions about the immediate as well as long-term needs of the patient. The graduating trainee will be able to: ▪ describe common surgical pathologies of Breast Diseases ▪ identify and recognise the symptoms and signs of these conditions ▪ assess and treat any common breast conditions likely to be encountered in consultative general surgical practice ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ recognise which conditions to refer on to a specialised multidisciplinary oncology service ▪ employ a consultative approach with colleagues and other professionals ▪ critically appraise new trends in the surgical management of the breast ▪ select appropriate investigative tools and monitoring techniques in a cost effective manner ▪ convey bad news to patients in a way that conveys sensitivity to the patient's social, cultural and psychological needs ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ breast ▪ axilla ▪ lymphatic systems ▪ pituitary gonadal axis ▪ steroid hormone biochemistry and molecular biology
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Benign breast disease		
Early SET	▪ Image-guided fine needle aspiration and/or core biopsy	▪ Clinical fine needle aspiration ▪ Skin punch biopsy ▪ Core biopsy ▪ Excisional biopsy
Mid SET		▪ Wire / carbon localised excision biopsy ▪ Microdochectomy
Late SET	▪ Office ultrasound	
Indeterminate proliferative lesions		
Mid SET		▪ Localised excision biopsy
Nipple discharge		
Mid SET		▪ Microdochectomy ▪ Central duct excision
Breast pain		
Inflammatory conditions, breast abscess		
Early SET	▪ Ultrasound-guided aspiration of deep/recurrent collections	▪ Clinical aspiration of palpable breast abscess
Mid SET		▪ Excision of central ducts in chronic inflammation
Late SET	▪ Lay open/excise mammary fistula ▪ Management of complex mammary fistula ▪ Operative management of mammary fistula ▪ Office ultrasound	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Ductal Carcinoma in Situ		
Mid SET		▪ Wire/ carbon/seed localised biopsy ▪ Wide local excision (complete local excision) ▪ Mastectomy ▪ Sentinel node biopsy (probe and blue dye)
Breast screening *See also Surgical Oncology Module*		
Mid SET		▪ Surgical management of positive screening findings
Early breast cancer		
Early SET		▪ Wire / carbon localised biopsy
Mid SET		▪ Wide local excision (complete local excision) of breast cancer ▪ Mastectomy ▪ Sentinel node biopsy
Late SET	▪ Principles of oncoplastic surgery ▪ Breast reconstruction ▪ Skin sparing mastectomy ▪ Nipple sparing mastectomy	▪ Axillary dissection
Locally advanced breast cancer		
Early SET		▪ Punch biopsy
Mid SET	▪ Reconstructive techniques post radical excision	▪ Wide local excision (complete local excision) of breast cancer ▪ Mastectomy
Late SET	▪ Breast conservation post primary/neoadjuvant chemotherapy	▪ Axillary dissection
Advanced breast cancer		
Mid SET	▪ Complex salvage surgery: - breast and chest wall - axilla	▪ Post neoadjuvant Mastectomy and axillary surgery ▪ Skin grafting ▪ Insertion permanent central venous catheter (portacath): **See also Vascular Module**
Late SET	▪ Pleurodesis – chemical or talc	
Male breast disease		
Mid SET		▪ Subcutaneous mastectomy for gynaecomastia, recognition of cosmesis ▪ Mastectomy and axillary surgery for cancer; **See also Early Breast Cancer**
Multidisciplinary care *See also Surgical Oncology Module*		
Axillary nodes unknown primary *See also Surgical Oncology Module*		
Mid SET		▪ Axillary node biopsy ▪ Mastectomy
Late SET	▪ Office ultrasound and guided needle biopsy of axillary node	▪ Axillary dissection
Lymphoedema *See also Vascular Module*		

MODULE TITLE:	COLORECTAL
Module Rationale and Objectives	Colorectal problems are a common condition in General Surgery. The individual presenting with colorectal disease is frequently experiencing significant symptoms which impacts on preoperative decision making and timing of any surgical intervention. This module covers issues relevant to clinical decision making and surgical management, including evidence based interventions in the perioperative period. The graduating trainee will be able to: ▪ describe common surgical pathologies including colorectal cancer, diverticular disease, Crohn's disease, ulcerative colitis, haemorrhoids, perianal sepsis (abscess, fistula), and fissure in ano. ▪ describe and assess the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ take a thorough history from the patient and perform a competent examination ▪ clearly elicit features in the history and examination that predict perioperative and postoperative outcomes ▪ order and interpret appropriate investigations ▪ recognise the most common disorders and differentiate those amenable to operative and non-operative treatment ▪ plan and manage appropriate surgical or non-surgical treatment, including principles of enhanced recovery after abdominal surgery ▪ demonstrates procedural knowledge and technical skill, including the use and workings of rigid sigmoidoscopy, banding devices, stapling devices, energy sources, laparoscopic and endoscopic equipment and devices ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ small bowel, colon, and rectum ▪ anus and anal sphincter ▪ pelvis
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Haemorrhoids including external anal skin tags		
Mid SET		▪ Banding of haemorrhoids ▪ Sclerotherapy ▪ Haemorrhoidectomy ▪ Management of post haemorrhoidectomy bleeding
Late SET	▪ Stapled haemorrhoidectomy ▪ Procedures for anal stenosis ▪ DH-HAL: Doppler guided haemorrhoid artery ligation	
Fissure in Ano		
Mid SET	▪ Fissurectomy ▪ Botox injection	▪ Internal sphincterotomy
Late SET	▪ Advancement flap repair	
Perianal and Ischiorectal abscess		
Early SET	▪ Fournier's gangrene / necrotising fasciitis: **See Skin & Soft Tissue Module**	▪ Surgical drainage of perianal and ischiorectal abscess ▪ Appropriate use of drains
Anal fistula		
Mid SET		▪ Anal fistulotomy ▪ Use of seton drains
Late SET	▪ Surgery for complex or high fistula ▪ Advancement flap repair ▪ LIFT procedure ▪ Fibrin glue ▪ Fistula plugs	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Ano-rectal incontinence		
Mid SET	▪ Surgical techniques for anal incontinence: anterior anal sphincter repair ▪ Sacral nerve stimulation	▪ Stoma formation (open and laparoscopic)
Rectal prolapse		
Late SET	▪ Laparoscopic resection/rectopexy ▪ Abdominal resection/rectopexy ▪ Perineal approaches	
Pruritus ani		
Colorectal polyps		
Mid SET	▪ Endoscopic tattoo ▪ Transanal local excision ▪ Total proctocolectomy and ileal pouch anal anastomosis ▪ Laparoscopic bowel resection ▪ Minimally invasive transanal	▪ Colonoscopy and polypectomy ▪ Open colectomy, anterior resection
Late SET	▪ Transanal endoscopic microsurgery ▪ Advanced colonoscopic polypectomy	
Colorectal cancer		
Mid SET	▪ Colonic stenting ▪ Laparoscopic colectomy	▪ Colonoscopy ▪ Colectomy ▪ Right hemicolectomy ▪ High anterior resection ▪ Ileostomy and colostomy (end and loop) and reversal ▪ Hartmann’s procedure
Late SET	▪ Ultralow anterior resection +/- colonic pouch ▪ Abdominoperineal resection ▪ Coloanal anastomosis	
Diverticula		
Mid SET	▪ Laparoscopic bowel resection	▪ Colonoscopy ▪ Anterior resection ▪ Hartmann’s procedure
Late SET	▪ Restoration of continuity after Hartmann’s procedure	
Ulcerative colitis		
Mid SET		▪ Colonoscopy, including surveillance biopsies
Late SET	▪ Total proctocolectomy and ileal pouch anal anastomosis ▪ Recognition and management of ileo-anal pouch complications	▪ Emergency subtotal colectomy and ileostomy
Crohn’s disease		
Mid SET	▪ Laparoscopic bowel resection	▪ Loop ileostomy ▪ Small and large bowel resection ▪ Surgical drainage of perianal and ischiorectal abscess ▪ Use of setons ▪ Use of drains
Late SET	▪ Surgery for complex fistula in Crohn's ▪ Strictureoplasty ▪ Panproctocolectomy and ileostomy	▪ Emergency subtotal colectomy and ileostomy

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Colitis/ Proctocolitis / Proctitis ▪ **radiation** ▪ **ischaemic** ▪ **bacterial, including pseudomembranous colitis** ▪ **parasitic** ▪ **other, e.g. microscopic colitis**		
Late SET	▪ Topical formalin application ▪ Argon beam coagulation therapy	▪ Resection (Hartmann's procedure; total colectomy and end ileostomy)
Carcinoma anus/ anal warts/ perianal malignancies, including Paget's disease		
Mid SET	▪ Inguinal node dissection ▪ Pap smear ▪ High resolution anoscopy	▪ Biopsy ▪ Local excision
Late SET	▪ Abdomino-perineal resection	
Emergency conditions ▪ **haemorrhage** ▪ **perforation** ▪ **fistula both internal and external** ▪ **ischaemia** ▪ **trauma and foreign bodies** ▪ **complications of surgery** ▪ **complications of colonoscopy** ▪ **anastomotic dehiscence**		
Early SET		▪ Diagnostic laparoscopy / laparotomy
Mid SET	▪ On table lavage	▪ On table gastroscopy and colonoscopy ▪ Colonic resection ▪ Colostomy and ileostomy ▪ Repair of perforation ▪ Foreign body removal
Large bowel obstruction/volvulus/pseudo-obstruction		
Early SET		▪ Placement of rectal tube
Mid SET	▪ On table lavage	▪ Resection ▪ Anastomosis ▪ Colostomy formation ▪ Colonoscopic decompression of pseudo obstruction / volvulus
Constipation / obstructed defecation/ megacolon		
Mid SET	▪ Appendicostomy	▪ Colonoscopy ▪ Colectomy and ileo-rectal anastomosis
Stoma (ileostomy/ colostomy)		
Mid SET		▪ Formation and closure (open and laparoscopic)
Late SET	▪ Parastomal hernia repair ▪ Stoma revision	
Irritable bowel syndrome **Non-surgical/non-specific abdominal pain**		
Mid SET		▪ Colonoscopy

MODULE TITLE:	EMERGENCY (excluding Trauma and Emergencies defined by other subspecialties)
Module Rationale and Objectives	By its very nature, an emergency situation requires decisive decision-making and effective timing of any surgical intervention. This module addresses issues that need to be considered in both decision-making and surgical management. The trainee should have expertise in all aspects of the management of General Surgery emergency conditions. The graduating trainee will be able to: ▪ describe common acute surgical pathologies of the abdomen, head and neck, chest, and limbs ▪ identify and recognise the symptoms and signs of these conditions ▪ efficiently and effectively examine the patient ▪ describe and select appropriate diagnostic testing ▪ order and interpret appropriate imaging investigations ▪ formulate a differential diagnosis based on investigative findings ▪ identify appropriate treatment options, and their indications and contraindications ▪ safely and effectively perform appropriate surgical procedures ▪ 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) ▪ appreciate the role of other disciplines in emergency care and team-based management
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ the abdominal cavity and its contents ▪ head and neck ▪ the thorax and its contents ▪ the upper and lower limbs
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
ABDOMINAL **Acute Appendicitis**		
Early SET		▪ Open appendicectomy ▪ Laparoscopic appendectomy
Mid SET		▪ Drainage of appendiceal abscess ▪ Conversion to hemicolectomy
Peritonitis of various aetiologies, pancreatitis, cholangitis and gastro intestinal bleeding *See also Upper GI/HPB, Colorectal, Small Bowel, and Transplantation Modules*		
Abdominal haemorrhage **▪ abdominal wall** **▪ intra-peritoneal** **▪ retroperitoneal**		
Mid SET	▪ Drainage and control of retroperitoneal haemorrhage	▪ Extra-peritoneal drainage of collection
Spontaneous bacterial peritonitis		
Mid SET	▪ Removal and insertion of peritoneal dialysis catheter	▪ Laparotomy
UROLOGICAL **Urinary retention and urinary tract infection**		
Early SET		▪ Catheterisation ▪ Suprapubic catheterisation
Phimosis and paraphimosis		
Early SET		▪ Perform non-operative reduction of paraphimosis
Mid SET		▪ Circumcision - elective - acute

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Epididymo-orchitis		
Mid SET		▪ Incision and drainage of scrotal abscess
Testicular torsion		
Early SET		▪ Scrotal exploration of testes and orchidopexy ▪ Trans-scrotal orchidectomy (where indicated)
Ureteric obstruction, including calculi and pyonephrosis		
Mid SET	▪ Emergency ureteric stenting for infected obstructed kidney	
GYNAECOLOGY **Ectopic pregnancy**		
Mid SET	▪ Operations for ectopic pregnancy, repair of Fallopian tube	▪ Salpingectomy
Ovarian cysts		
Mid SET	▪ Oophorectomy	▪ Ovarian cystectomy
ENT **Epistaxis**		
Early SET	▪ Nasal packing	
SEPSIS **Focal Sepsis**		
Early SET		▪ Drainage of an abscess
Mid SET		▪ Debride necrotising fasciitis: **See Skin & Soft Tissue Module** ▪ Open drainage of abscesses of the abdominal cavity and abdominal solid organs ▪ Fournier's gangrene: **See Skin & Soft Tissue Module**
Sepsis Syndrome *See also Sepsis Module and CCriSP Manual*		
Early SET		▪ Gain access for central line placement

MODULE TITLE:	ENDOCRINE
Module Rationale and Objectives	The general surgeon is expected to be able to investigate, assess and manage commonly occurring diseases of the endocrine glands and to be competent in accurately identifying conditions that require surgery, and those which are best treated by other means. They also expected to be able to recognise the need and appropriate time to refer such patients to other professionals. The graduating trainee will be able to: ▪ describe common surgical pathologies of thyroid, parathyroid, adrenal, pancreas, and gut endocrine organs ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ recognise, assess and treat any common thyroid, parathyroid, adrenal, pancreatic endocrine and neuro-endocrine tumour conditions likely to be encountered in consultative general surgical practice ▪ recognise which conditions to refer on to a specialised multidisciplinary service ▪ critically evaluate the advantages and disadvantages of different investigative modalities ▪ select appropriate investigative tools and monitoring techniques in a cost effective manner ▪ appropriately adjust the way they communicate with patients to accommodate cultural and linguistic differences ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ branchial arch development ▪ regional anatomy of neck ▪ surgical anatomy of the neck ▪ thyroid ▪ parathyroid ▪ adrenal ▪ pancreas/neuroendocrine system
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Multinodular goitre, thyroiditis, thyrotoxicosis, thyroglossal cyst *See Head & Neck Module*		
Mid SET	▪ Total Thyroidectomy ▪ Autotransplant parathyroid	▪ Hemithyroidectomy ▪ Tracheostomy
Late SET	▪ Sternal split ▪ Re-operative thyroid surgery ▪ Sistrunk operation: **See Head & Neck Module** ▪ Principles of intraoperative neuromonitoring	▪ Hemithyroidectomy ▪ Total Thyroidectomy ▪ Autotransplant parathyroid
Thyroid tumours ▪ **benign** ▪ **malignant**		
Late SET	▪ Selective lateral lymph node dissection (levels II to V) ▪ Central compartment node dissection (level VI and VII) ▪ Principles of intraoperative neuromonitoring ▪ Principles of surgical management of locally advanced thyroid cancer ▪ *See also multinodular goitre*	▪ *See also multinodular goitre*
Parathyroid tumours and hyperplasia		
Mid SET	▪ Parathyroidectomy – open and minimally invasive (MIP) ▪ Neck exploration + frozen section including excision adenoma, 31/2 gland excision, total parathyroidectomy +/- autotransplantation	
Late SET	▪ Re operative parathyroid surgery ▪ Cervical thymectomy	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Pancreatic endocrine tumours and hyperplasia, neuro-endocrine tumours		
Mid SET	▪ Pancreatic tumour enucleation, distal pancreatectomy, pancreatoduodenectomy	▪ Bowel resection for small bowel tumours (carcinoid) ▪ Liver biopsy
Late SET	▪ Non-anatomical and anatomical liver resection	
Adrenal gland functional abnormalities and tumours, and retro peritoneal tumours		
Mid SET	▪ Adrenalectomy, including open and laparoscopic anterior, posterior, lateral and abdominal	
Late SET	▪ Retroperitoneal lymph node dissection and resection of adrenal tumours	

MODULE TITLE:	ENDOSCOPY
Module Rationale and Objectives	Gastrointestinal endoscopy, and the knowledge and skills that this entails, is an integral part of General Surgery. The skilled endoscopist, far from acting as a technician, employs endoscopy in the appropriate situation to guide clinical decisions or improve patient outcomes. The skilled and safe practice of Gastrointestinal Endoscopy, in both diagnostic and therapeutic domains, requires knowledge across a wide range of areas considered elsewhere in the General Surgery Curriculum. Such knowledge is important for safe conduct of procedures, accurate diagnosis, and correct management. Important areas of knowledge and skill relevant to Gastrointestinal Endoscopy include, but are not limited to gastrointestinal anatomy/physiology, pharmacology of sedative medication, gut embryology, gastrointestinal disease including malignant, inflammatory and functional disorders, emergency gastrointestinal presentations, nutrition, audit and quality assurance, and public health issues. By graduation, it is expected that the trainee will be able to: ▪ Describe the structure and function of the endoscope and ancillary equipment ▪ Safely administer conscious sedation ▪ Understand and apply principles of electrophysiology as they apply to therapeutic endoscopy ▪ Understand the principles of anti-sepsis as they apply to GI endoscopy ▪ Describe the indications and contra-indications for Gastrointestinal Endoscopy ▪ Perform safe insertion for upper and lower GI endoscopy, including knowledge of troubleshooting problems with insertion ▪ Make accurate diagnosis and demonstrate good lesion recognition ▪ Understand correct therapeutic techniques and begin to employ these safely and accurately ▪ Understand and participate in quality improvement/assurance processes as they apply to GI endoscopy ▪ Demonstrate positive traits in professionalism and communication in the endoscopy suite

SET LEVEL	TECHNICAL EXPERTISE SKILL
PERI-PROCEDURAL **Structure and Function of the Endoscope and Ancillary Equipment**	
Early - Mid SET	▪ Prepare an endoscopy video processor and endoscope for use without assistance ▪ Develop an effective stance and hand grip to optimise use of controls with the left hand ▪ Identify the site of a blocked channel and correct the blockage ▪ Troubleshoot basic equipment problems during procedure
Sedation	
Early - Mid SET	▪ Undertake a pre-procedural assessment with regards to risks associated with conscious sedation ▪ Delivers skilled titration of sedative medication and reversal agents when sedation is deeper than expected
Principles of Electrosurgery	
Early - Mid SET	▪ Deploy a diathermy unit checking for safety and electrical integrity ▪ Select appropriate settings on an electrosurgical unit ▪ Deploy and use a snare in a manner that minimises risk to normal surrounding tissues
Infection Control and Safety	
Early - Mid SET	▪ Appropriate handling of the scope
GASTROSCOPY **Preparation for Gastroscopy**	
Early - Mid SET	▪ Assess risk of intra- and post- procedure pulmonary aspiration in an individual patient ▪ Gains consent for the procedure in an appropriate process
Gastroscopy Insertion	
Early - Mid SET	▪ Successful oesophageal intubation - Key performance indicator > 95%, done under constant direct vision ▪ Correctly identify anatomic landmarks, and steer tip accurately towards direction of lumen ▪ Complete insertion to second part of duodenum is achieved in majority of cases
Gastroscopy Withdrawal	
Early - Mid SET	▪ Uses tip control to optimise mucosal view in duodenum, minimise blind areas and visualise ampulla ▪ Uses distension and retroflexion in stomach to assess areas of mucosa poorly seen in forward viewing position - Key performance indicator > 95% ▪ Inspect the oesophagus on withdrawal in a manner suitable to identify mucosal pathology ▪ Makes an assessment of the likely cause of pathology based on close examination of a mucosal surface

SET LEVEL	TECHNICAL EXPERTISE SKILL
Therapeutic Gastroscopy	
Late SET	▪ Use tip control and positioning of shaft to optimise access to an area of interest ▪ Assess the risk of re-bleeding of a patient with peptic ulcer using endoscopic examination and implement an appropriate management plan ▪ Demonstrate use of available endoscopic haemostatic techniques to treat or prevent bleeding from submucosal vessels
COLONOSCOPY **Preparation for Colonoscopy**	
Early - Mid SET	▪ Describe preparation for colonoscopy to a patient and prescribe appropriately ▪ Arranges additional preparation when required
Colonoscopy Insertion	
Late SET	▪ Maintains a luminal view sufficient to allow safe insertion ▪ Correctly identifies the direction of lumen and anatomic landmarks ▪ Demonstrate a strategy for passing an acute angle by angulation, withdrawal and timed deflection of the tip, including judicious use of “slide by” manoeuvres ▪ Demonstrates use of water injection, minimal insufflation and adequate shaft lubrication ▪ Aspirates distended loops and straighten scope shaft, while steering into the lumen to facilitate scope advancement ▪ Employs a technique to achieve successful ileal intubation
Colonoscopy Withdrawal	
Late SET	▪ Use tip control to optimise mucosal view ▪ Use washing, position change and aspiration appropriately ▪ Utilises double flexure pass when appropriate
Colonoscopy Polypectomy	
Late SET	▪ Uses tip control and positioning of shaft to optimise working area and view of polyp ▪ Inject fluid accurately to the submucosal space in a manner that increases the ease and safety of polypectomy ▪ Examines polypectomy defect closely for completeness and risk of perforation ▪ Uses adjunctive equipment if necessary to achieve haemostasis and retrieve tissue ▪ Deploys endoscopic clips if required to control bleeding or close mucosal defects ▪ Performs physical examination if appropriate to detect signs of perforation ▪ Retrieve a resected specimen for pathology processing - Key performance Indicator: 90% of resected polyps retrieved

MODULE TITLE:	**HEAD & NECK**
Module Rationale and Objectives	General surgeons need to have a thorough knowledge of infections, tumours and lesions of the head and neck and be able to recognise and treat compromise of the upper airway. Trainees are also required to have a high level of knowledge of investigations, differential diagnosis, potential risks and/or complications and appropriate management strategies. The graduating trainee will be able to: ▪ describe common surgical pathologies of deep neck space infections, congenital cysts and sinuses of the head and neck, metabolic and neoplastic conditions of salivary glands, and primary and secondary malignancies presenting in the head and neck ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ recognise the symptoms of, accurately diagnose, and manage common problems in the head and neck ▪ select appropriate investigative tools ▪ adapt their skill in the context of each patient and each procedure ▪ identify and manage risk ▪ recognise the need to refer patients to other professionals, including multidisciplinary teams ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ the head (extracranial) ▪ the neck (upper aero-digestive tract and soft tissues)
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	**TECHNICAL EXPERTISE**	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Upper aero-digestive tract neoplasia		
Early SET		▪ Cervical lymph node biopsy
Mid SET		▪ Open feeding gastrostomy or PEG ▪ Tracheostomy
Salivary gland pathology **▪ tumour**		
Mid SET	▪ Excision of submandibular gland ▪ Parotidectomy	
Salivary gland pathology **▪ infections** **▪ inflammatory disease** **▪ calculi**		
Mid SET	▪ Excision of submandibular gland ▪ Submandibular dochotomy and stone extraction	▪ Drainage of acute suppuration
Upper airway foreign body / occlusion / trauma		
Mid SET	▪ Extracting foreign body	▪ Emergency tracheotomy ▪ Cricothyroidotomy
Cervical infections lymphadenitis / abscess		
Mid SET		▪ Incision and drainage of cervical abscess ▪ Emergency tracheotomy
Lumps in the neck **▪ carotid body tumour** *(See also Vascular Module)* **▪ branchial cyst / sinus** **▪ thyroglossal cyst** *(See also Endocrine Module)* **▪ pharyngeal pouch**		
Mid SET	▪ Excision of branchial cyst ▪ Excision of thyroglossal cyst/ fistula / Sistrunk procedure	

MODULE TITLE:	SEPSIS & THE CRITICALLY ILL OR COMPROMISED PATIENT
Module Rationale and Objectives	Sepsis and other critical conditions require informed and decisive action on the part of the surgeon. This module identifies the key areas in which trainees are expected to have expertise in order to be able to minimise infection risks and consequences in critically ill or compromised patients and to respond promptly and appropriately as the need for assessment and management of sepsis in such patients arises. The graduating trainee will be able to: Pathology of sepsis: ▪ describe common surgical pathologies of sepsis in specific organs or regions ▪ describe infectious pathologies likely to be associated with surgically treated diseases ▪ describe infectious pathologies associated with medically complex, malnourished and immune suppressed patients Prophylaxis of sepsis: ▪ display well informed, evidence based team leadership in prophylaxis and management of sepsis in critically ill or compromised patients ▪ anticipate and aim to prevent the onset of sepsis and sepsis related complications in surgical patients ▪ describe mechanisms for limiting the development and spread of infectious diseases, especially multi-resistant organisms, among critically ill and compromised surgical patients ▪ describe evidence-based prophylaxis against development of peri-surgical sepsis Recognition and diagnosis of sepsis and sepsis syndromes: ▪ apply the CCrISP principles to identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ select appropriate investigative tools and monitoring techniques Management planning and treatment: ▪ identify appropriate treatment options, and their indications and contraindications ▪ determine the appropriate priorities of care and level of care for patients affected by sepsis ▪ demonstrate awareness of the basic pharmacology and principles of antibiotic based therapeutics ▪ effectively manage septic complications of operative procedures and the underlying disease process ▪ identify the likely causative factor(s) of a patient's critical illness and implement management accordingly ▪ prioritise, initiate and coordinate the timely management of critically ill patients ▪ accurately identify the risks, benefits and mechanisms of action of various treatment modalities and interventions Ethics and Professional Communications: ▪ understand the importance of a multidisciplinary approach to the management of critically ill patients ▪ recognise the importance of effective communication with other professionals and recognise the need for timely referral and for timely response to requests for surgical review and surgical treatment ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the, anatomy, microbiology, physiology, and pathology, of: ▪ organ-specific sepsis ▪ Systemic Inflammatory Response Syndrome (SIRS)/Multiple Organ Dysfunction Syndrome (MODS) ▪ system specific dysfunction (e.g. renal impairment) ▪ co-morbidities that may alter management and/or adversely affect outcome
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Critically ill surgical patient e.g.: ▪ **severe pancreatitis, anastomotic leak** ▪ **strangulated small bowel / ischaemic colon / perforated small bowel / colon (see also Emergency Surgery Module)** ▪ **massive haemorrhage (see also Emergency Surgery Module)** ▪ **Severe cholangitis** *(See also Upper GI & HPB - Hepatic, Pancreatic & Biliary Module)*		
Early SET	▪ Cricothyroidotomy/ tracheostomy	▪ Establish and maintain emergency airway ▪ Needle thoracostomy / intercostal chest drain ▪ Establish definitive emergency vascular access - central and peripheral
Late SET	▪ Understand surgical strategies in the critically ill patient	
Gangrene / necrotising fasciitis *See Skin & Soft Tissue Module*		

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Tetanus		
Early SET	▪ Wound debridement	
Subphrenic/pelvic/intra-abdominal abscess		
Mid SET		▪ Transrectal drainage ▪ Laparotomy/ laparostomy/minimally invasive techniques for drainage of complex abscesses
Psoas abscess		
Mid SET	▪ Trans/ Retroperitoneal drainage	
Intra-abdominal sepsis/peritonitis *See also Abdominal Wall Module*		
See also above: Subphrenic/pelvic/ intra-abdominal abscess		
Mid SET	▪ Laparostomy	▪ Laparotomy for sepsis control
The immuno- suppressed patient *See Transplantation Module*		
Late SET	▪ Understand surgical strategies in the critically ill patient	
HIV/AIDS and other atypical infections including TB *See also above: The immuno-suppressed patient*		
Mid SET		▪ Insertion of central venous access with management
The splenectomised patient *See also above: The immuno-suppressed patient*		
Mid SET	▪ Laparoscopic elective splenectomy	▪ Open elective splenectomy **See also Upper GI/HPB Module**
Post transplantation patients *See Transplantation Module*		
Nutritional support		
Mid SET		▪ Feeding gastrostomy/ jejunostomy (open, endoscopic, and laparoscopic) ▪ Vascular access for nutrition (including surgical and radiological implantable and tunnelled devices)
Other medical system disease		
Acute pain control		
Patients on specific medications: Anticoagulant, Immunomodulators, Oncological agents		

MODULE TITLE:	SKIN & SOFT TISSUE
Module Rationale and Objectives	Skin cancer is increasing in prevalence, and if undiagnosed or untreated can be lethal. Infections of the skin and soft tissue require early identification and prompt management. General surgery trainees are required to become competent in accurately identifying conditions that require surgery, and those which are best treated by other means. The graduating trainee will be able to: ▪ describe common surgical pathologies of benign and malignant skin lesions, and the various types of skin and soft tissue infections. ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnoses and treat commonly encountered conditions of the skin and soft tissues ▪ select appropriate investigative tools ▪ adapt their skill in the context of each patient and each procedure ▪ identify and manage risk ▪ recognise the need to refer patients to other professionals ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology and pathology of the skin and subcutaneous tissues. In addition, the trainee should know: ▪ regional surgical anatomy of body surfaces ▪ histology of the skin and appendages ▪ principles of wound healing and cosmesis
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Skin cancer ▪ **basal cell carcinoma** ▪ **squamous cell carcinoma** ▪ **intra-epithelial carcinoma** ▪ **Merkel cell tumour** ▪ **Melanoma** *(See also Surgical Oncology Module)*		
Early SET		▪ Excision of skin cancer and wound closure using direct suturing
Mid SET	▪ Block dissection of regional lymph nodes	▪ Excision of skin cancer and wound closure using: - cutaneous flaps - full-thickness/split skin grafts ▪ Sentinel lymph node biopsy
Benign skin and subcutaneous lesions ▪ **Nevus** ▪ **Solar keratosis** ▪ **Papilloma / wart** ▪ **Seborrheic keratosis** ▪ **Lipoma** ▪ **Sebaceous cyst** ▪ **Ganglion** ▪ **Keloid and hypertrophic scar**		
Early SET		▪ Simple excision of lesion ▪ Diathermy ablation/curettage (warts)
Ingrown toenail		
Early SET		▪ Nail avulsion ▪ Wedge resection of nail
Mid SET		▪ Zadek's operation

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Cellulitis **Soft tissue abscess** **Wound infection**		
Early SET		▪ Incision and drainage of abscess ▪ Wound debridement
Synergistic soft tissue infections e.g.: **▪ Fournier's gangrene** **▪ gas gangrene** **▪ necrotising fasciitis, etc.**		
Mid SET	▪ Reconstructive techniques	▪ Extensive wound debridement/ amputation ▪ Defunctioning colostomy (as indicated)
Late SET	▪ Advanced reconstructive techniques	
Hidradenitis suppurativa		
Early SET		▪ Incision and drainage
Mid SET	▪ Reconstructive techniques where indicated	▪ Excision
Hand Infections		
Mid SET	▪ Incision and drainage of hand and finger spaces	
Chronic leg ulcer / pressure ulcers *See also Vascular Module*		
Early SET		▪ Wound debridement ▪ Split skin grafting
Late SET	▪ Flap repair (as indicated)	
High risk foot (diabetic / neuropathic) *See also Vascular Module*		
Early SET		▪ Incision and drainage of suppuration
Mid SET	▪ Major limb amputations	▪ Wound debridement ▪ Local amputations
Pilonidal sinus / abscess		
Early SET		▪ Incision and drainage of abscess ▪ Excision and marsupialisation
Mid SET	▪ Surgical management of Pilonidal sinus	▪ Excision and primary closure with or without a flap
Hyperhidrosis		
Mid SET	▪ Endoscopic thoracic sympathectomy ▪ Lumbar sympathectomy	
Carpal tunnel syndrome		
Mid SET		▪ Carpal tunnel release
Other peripheral nerve entrapments		
Mid SET	▪ Ulnar neurolysis ▪ Other neurolysis	
Late SET	▪ Exploration of Guyon's canal ▪ Decompressive surgery for pronator syndrome	
Peripheral nerve injuries		
Mid SET	▪ Acute primary nerve repair	

MODULE TITLE:	SMALL BOWEL
Module Rationale and Objectives	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 small intestinal disorders. It is important that general surgeons maintain a current understanding of the most appropriate time and manner of intervention. The graduating trainee will be able to: ▪ Describe normal & abnormal anatomy of duodenum, jejunum, and ileum and their blood supply and lymphatic drainage ▪ describe common surgical pathologies of duodenum, jejunum, and ileum ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that pertain to the duodenum, jejunum, and ileum including referral to other specialists where indicated ▪ select appropriate investigative tools ▪ adapt their skill in the context of each patient and each procedure ▪ identify and manage risk ▪ recognise the need to refer patients to other professionals ▪ convey bad news to patients in a way that conveys sensitivity to the patient's social, cultural and psychological needs ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology of: ▪ peritoneal cavity ▪ small bowel – digestion and absorption; immune and endocrine functions; motility
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Small bowel obstruction (SBO)		
Mid SET	▪ Laparoscopy for SBO	▪ Laparotomy ▪ Division of adhesions ▪ Bowel resection/ bypass
Intussusception		
Mid SET		▪ Small bowel resection
"Foreign bodies" in the GI tract		
Mid SET		▪ Enterotomy and closure
Duodenal adenoma and carcinoma		
Late SET	▪ Endoscopic duodenal stenting ▪ Surgical resection	
Duodenal diverticula		
Mid SET	▪ Duodenal diverticulectomy	
Duodenal obstruction		
Mid SET		▪ Open gastrojejunostomy ▪ Duodeno-jejunostomy
Late SET	▪ Laparoscopic gastrojejunostomy	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Small bowel ischaemia ▪ **acute** ▪ **chronic** *See also Vascular Module*		
Mid SET	▪ Revascularisation ▪ Embolectomy	▪ Resection
Small bowel neoplasia / tumours		
Mid SET		▪ Diagnostic laparoscopy ▪ Bowel resection/ bypass ▪ Mesenteric nodal resection
Late SET	▪ Laparoscopic therapy	
Small bowel bleeding		
Mid SET		▪ Bowel resection
Late SET	▪ On table enteroscopy	
Meckel's diverticulum		
Mid SET		▪ Meckel's diverticulectomy ▪ Small bowel resection
Late SET	▪ Laparoscopic Meckel's diverticulectomy	
Small bowel fistula		
Mid SET	▪ Management of open abdomen	▪ Small bowel resection ▪ Defunctioning Jenunostomy/ Ileostomy
Inflammatory conditions of the small bowel *See also Colorectal Module*		
Mid SET	▪ Laparoscopic ileocolic resection	▪ Small bowel resection ▪ Ileocolic resection
Late SET	▪ Laparoscopic assisted small bowel resection ▪ Strictureoplasty	
Infectious disorders of the small bowel		
Mid SET		▪ Small bowel resection
Diverticulosis of the small intestine		
Mid SET		▪ Small bowel resection ▪ Diverticulectomy
Intestinal failure (including post Bariatric bypass) *See also Sepsis Module (Nutrition)*		
Mid SET		▪ Insertion of a tunnelled central venous line for long-term TPN
Malabsorption syndromes		
Radiation enteritis		
Small bowel trauma *See Trauma Module*		
Other small bowel problems including functional bowel disease and slow transit		

MODULE TITLE:	SURGICAL ONCOLOGY	
Module Rationale and Objectives	A general surgeon is required to have a thorough understanding of surgical oncology. It is important that general surgeons maintain a current understanding of the most appropriate timing and manner of intervention. The graduating trainee will be able to: ▪ describe common surgical pathologies of melanoma and soft tissue sarcoma ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that pertain to surgical oncology including referral to other specialists where indicated ▪ select appropriate investigative tools ▪ adapt their skill in the context of each patient and each procedure ▪ identify and manage risk ▪ recognise the need to refer patients to other professionals ▪ 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)	
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the general principles of various aspects of cancer management, including: ▪ cancer screening ▪ cancer diagnosis ▪ cancer staging ▪ multidisciplinary care ▪ adjuvant therapies ▪ cancer follow-up ▪ palliative care	
Definitions	*Operative Management - Knows:*	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.
	Operative Management - Does:	In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Fundamentals of cancer biology		
Principles of screening for malignancy		
Familial cancer syndromes including: **▪ FAP** **▪ HNPCC** **▪ BRCA1,2** **▪ Li Fraumeni** **▪ Neurofibromatosis** **▪ MEN syndrome**		
Carcinoma including breast, colon, oesophageal, gastric, pancreatic, skin, thyroid *See also individual Modules - tumours*		
Mid SET	▪ Regional lymphadenectomy	▪ Regional nodes
Late SET	▪ Define adequate oncologic resection	
Melanoma		
Mid SET	▪ Regional node dissection	▪ Appropriate resection +/- skin grafting ▪ Sentinel node biopsy
Late SET	▪ Isolated limb infusion/perfusion	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Sarcoma		
Late SET	▪ Limb sacrifice and reconstruction	
Sarcoma – Retroperitoneal *See also Endocrine Module - Adrenal*		
Early SET	▪ Radical resection of retroperitoneum ▪ Reconstruction	
Metastatic disease of unknown primary		
Mid SET		▪ Open biopsy
Lymphatic malignancies		
Early SET		▪ Lymph node excision and specimen handling
Mid SET	▪ Laparoscopic biopsy	
Vascular access *See also Vascular Module*		
Early SET		▪ Removal of above devices
Mid SET		▪ Insertion of subcutaneous venous access port/ Hickman catheter (open and percutaneous) ▪ Management of complications
Malignant ascites / pleural effusions ▪ **Peritoneal malignancy** ▪ **Pseudomyxoma** ▪ **Mesothelioma**		
Mid SET	▪ Denver shunt	
Principles of adjuvant therapy for malignant disease *See also individual Modules*		
Principles of follow-up for malignant disease *See also individual Modules*		
Multidisciplinary care *See also individual Modules*		
Palliative care and pain management		

MODULE TITLE:	TRANSPLANTATION
Module Rationale and Objectives	A general surgeon is expected to have an understanding of the anatomy, physiology, pathophysiology, investigations and differential diagnosis of organ failure. The surgeon should maintain a current understanding of indications for the provision of and the procedures of organ transplantation to overcome organ failure (in particular, liver, kidney, pancreas and small bowel). The general surgeon should be aware of the implications for management of patients with organ failure presenting with general surgical conditions. The general surgeon should be capable of participating in multi-organ donation. The general surgeon should also be prepared for and capable of caring for the characteristic complications of organ transplantation that includes serious sepsis and malignancy. The graduating trainee will be able to: ▪ describe the causes, risk factors for, and effects of organ failure ▪ identify and recognise the symptoms and signs of the diseases that lead to organ failure and of the development of organ failure ▪ describe and select appropriate investigations, diagnostic strategies and describe the diagnostic tests that may be required ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that lead to liver failure, renal failure, diabetes and intestinal failure and be able to provide management, advice and referral for transplantation where indicated ▪ advise on the appropriate investigative procedures ▪ remain current with respect to the care of the patient with incipient or established organ failure ▪ refer patient for consultation with appropriate other professions
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology of the kidney liver, small bowel and pancreas. Trainees should know the pathological processes that lead to: ▪ liver failure ▪ renal failure ▪ intestinal failure ▪ diabetes mellitus
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Renal failure **▪ acute** **▪ chronic**		
Early SET	▪ Placement of venous dialysis catheter	
Mid SET	▪ Placement of peritoneal dialysis catheter	
Late SET	▪ Multi-organ donation ▪ Living donor ▪ Kidney donation: - laparoscopic - open ▪ Renal transplantation ▪ AV fistula and management of complications; **See also Vascular Module**	
Acute rejection following renal transplantation		
Mid SET	▪ Renal biopsy and complications ▪ Transplant nephrectomy	
Tertiary hyperpara-thyroidism *See also Endocrine Module*		
Mid SET	▪ Parathyroidectomy associated with renal failure	
Late SET	▪ Outline: - success rate - follow-up of parathyroidectomy in renal failure - procedure of parathyroid transplantation	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Brain death / Donation after cardiac death (DCD)		
Late SET	▪ Operation of multi-organ donation	
Malignancy in transplantation		
Late SET	▪ Identify procedures that could require a referral for specialist support	
Liver failure ▪ **acute** ▪ **chronic**		
Early SET		▪ Abdominal paracentesis
Mid SET	▪ Upper GI endoscopy and interventions for bleeding	▪ Laparoscopic assessment of the liver, including ultrasound
Late SET	▪ Interventions for portal hypertension ▪ Surgical procedure of liver transplantation	
Pancreatic endocrine failure		
Late SET	▪ Multi-organ donation	
Short bowel syndrome *See also Small Bowel Module*		
Mid SET	▪ Insertion of a Hickman line for long-term TPN	
Late SET	▪ Multi-organ donation	
Operating on the immunosuppressed / post transplantation patient		

MODULE TITLE:	TRAUMA
Module Rationale and Objectives	The general surgeon is an integral part of the Trauma Team. By their very nature, these patients require attention from a competent and confident practitioner. It is therefore imperative that during training all trainees have sufficient knowledge and experience to be able to fulfil this role. The graduating trainee will be able to: ▪ understand the mechanisms of injury and the patterns of injury that may result from both blunt and penetrating trauma, ▪ describe common surgical pathologies that will result from trauma ▪ describe the pathophysiology of shock, acute brain injury, respiratory failure, sepsis, renal failure, multi organ failure, and burns ▪ identify appropriate treatment options, and their indications and contraindications ▪ participate in a trauma team including team leader role ▪ safely and effectively assess and resuscitate the injured patient ▪ implement the principles of EMST/ATLS, CCrISP, and DSTC ▪ effectively manage the care of patients with trauma, including multiple system trauma ▪ identify and manage risk in an environment of complexity and uncertainty ▪ appropriately adjust the way they communicate with patients to accommodate cultural and linguistic differences ▪ work in collaboration with members of an interdisciplinary team where appropriate ▪ recognise the need to refer patients to other professionals ▪ understand the need for early initiation of rehabilitation ▪ effectively use resources to balance patient care and systemic demands ▪ in acute circumstances, the consenting process may require conforming to state legislation ▪ communication and collaboration with other surgical specialties ▪ clear understanding of the potential disaster, humanitarian and military responsibilities of general surgeons ▪ disaster planning ▪ epidemiology and prevention ▪ trauma quality improvement, benchmarking and audit ▪ trauma systems and resources allocation
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology, and pathology, of: ▪ head and neck ▪ spine ▪ limbs ▪ thorax ▪ abdomen ▪ pelvis
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Initial trauma management Resuscitative phase - ED		
Early SET	▪ Basic airway management techniques ▪ DPL principles ▪ FAST ▪ Principles of damage control laparotomy ▪ Laparostomy	▪ Vascular access ▪ Central venous access ▪ Intra osseous puncture and access ▪ Intercostal catheter ▪ Splinting of extremities ▪ Control of external haemorrhage ▪ Pelvic binding (stabilisation) ▪ Cricothyroidotomy ▪ Nasopharyngeal packing ▪ Clear cervical spine appropriately
Mid SET	▪ Emergency thoracotomy	▪ FAST ▪ Damage control laparotomy ▪ Laparostomy
Late SET	▪ Retroperitoneal exposure (great vessels)	▪ Emergency thoracotomy

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Ongoing ICU management Definitive care phase		
Early SET		▪ Compartment pressure measurement
Mid SET	▪ Enteral feeding access	▪ Laparostomy (open abdomen) and its management ▪ Tracheo(s)tomy ▪ Limb fasciotomy
Late SET		▪ Staged abdominal closure
Daily ward management - Definitive care phase ward and rehabilitation		
Early SET		▪ Principles of wound/drain care
Mid SET		▪ Tracheo(s)tomy care
Skin / Soft Tissues		
Early SET	▪ Surgical airway	▪ Wound exploration ▪ Wound debridement ▪ Foreign body removal (use of image intensifier) ▪ Wound closure or open management based on the nature of the soft tissue injury ▪ Split skin grafting ▪ VACC therapy applications and limitations
Mid SET	▪ Wound management in specific areas	▪ Escharotomy ▪ Local flap coverage
Blast injuries		
Early SET		▪ Lavage and debride contaminated wounds ▪ Intercostal catheters
Mid SET	▪ Attend to life threatening injuries	▪ Surgical airway ▪ Thoracotomy ▪ Emergency laparotomy ▪ Haemorrhage control ▪ Escharotomy in burns
Head / Brain		
Early SET	▪ Extra dural drainage	▪ Control of severe bleeding from scalp lacerations ▪ Nasal packing
Mid SET	▪ Control of severe maxilla-facial bleeding	▪ Definitive wound management of head/face/orbit wounds
Late SET	▪ For rural practice: craniotomy and craniectomy	
Face / Neck		
Early SET	▪ Surgical airway	
Mid SET	▪ Access and vascular control in Zone I and III ▪ Repair of carotid injury ▪ Repair of oesophageal injury ▪ Surgical exploration of Zone II	▪ Surgical airway
Spine		
Early SET		▪ Application of spine immobilisation devices
Mid SET	▪ Application of tongs	
Chest		
Early SET	▪ ED resuscitative thoracotomy	▪ Chest tube insertion

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Chest (continued)		
Mid SET	▪ Diaphragmatic repair from the abdomen ▪ Pericardial window (extra-peritoneal vs. intra-peritoneal) ▪ Diaphragmatic repair from chest	
Late SET	▪ Vascular control in the chest ▪ Periclavicular approaches for the thoracic outlet ▪ Repair simple cardiac wounds ▪ Thoracoscopy, thoracotomy ▪ VATS	▪ Diaphragmatic repair from the abdomen
Abdomen		
Early SET		▪ Local wound exploration
Mid SET	▪ Exploration of the retroperitoneum – left and right medial visceral rotation manoeuvers ▪ Control of major vessels	▪ Damage control laparotomy ▪ Temporary abdominal closure ▪ Trauma laparoscopy ▪ Control of the environment, preparation and execution ▪ Systematic approach ▪ Haemorrhage and contamination control ▪ Anatomical liver packing ▪ Pringle manoeuvre ▪ Splenectomy ▪ Repair resection hollow viscus injury
Late SET	▪ Major abdominal vascular repair ▪ Vascular isolation of the liver ▪ Splenic and kidney salvage techniques ▪ Exploration of the retroperitoneum – left and right medial visceral rotation manoeuvers	
Pelvis		
Early SET		▪ Application of pelvic binder
Mid SET		▪ Trauma laparotomy
Late SET	▪ Pre-peritoneal packing for pelvic traumas	▪ Pelvic packing
Extremities		
Early SET		▪ Realignment ▪ Splinting ▪ Washout and debridement of open wounds ▪ Compartment pressure measurement
Mid SET	▪ Vascular exploration and control on extremities	▪ Amputations ▪ Fasciotomy

MODULE TITLE:	UPPER GI & HPB - BARIATRIC/OBESE PATIENTS
Module Rationale and Objectives	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 disorders. It is important that general surgeons maintain a current understanding of the most appropriate time and manner of intervention. It is also important that they keep abreast of the most current developments in investigative and surgical procedures. The graduating trainee will be able to: ▪ describe common surgical pathologies of the foregut and associated structures ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that pertain to the foregut ▪ effectively manages patients ▪ maintains skills and learns new skills ▪ analyses their own clinical performance for consistent improvement ▪ recognise the need to refer patients to other professionals ▪ communicate information to patients (and their family) about procedures, outcomes, and risks associated with surgery for the morbidly obese patient in ways that encourage their participation in informed decision making (consent)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology and pathology, of: ▪ foregut
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
MORBID OBESITY		
Early SET		▪ Gastric band deflation
Mid SET		▪ Removal of Gastric Band (open or laparoscopic) in emergency situations ▪ Management of internal hernia after gastric bypass in emergency situations
Late SET	▪ Options for managing complications	

MODULE TITLE:	UPPER GI & HPB - HEPATIC, PANCREATIC & BILIARY
Module Rationale and Objectives	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 disorders. It is important that general surgeons maintain a current understanding of the most appropriate time and manner of intervention. It is also important that they keep abreast of the most current developments in investigative and surgical procedures. The graduating trainee will be able to: ▪ describe common surgical pathologies of the foregut and associated structures ▪ identify and recognise the symptoms and signs of these conditions ▪ describe and select appropriate diagnostic testing ▪ identify appropriate treatment options, and their indications and contraindications ▪ diagnose and manage pathological conditions that pertain to the foregut ▪ effectively manages patients ▪ maintains skills and learns new skills ▪ analyses their own clinical performance for consistent improvement ▪ recognise the need to refer patients to other professionals ▪ 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)
Anatomy, Physiology, Pathology	Trainees should have thorough knowledge of the normal embryology, anatomy, physiology and pathology, of: ▪ foregut
Definitions	*Operative Management - Knows:* 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. *Operative Management - Does:* In addition to the above, trainees must be competent at performing the procedure.

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
HEPATIC **Primary liver malignancy** **▪ HCC** **▪ cholangioca** **▪ others**		
Mid SET		▪ Staging Laparoscopy
Late SET	▪ Liver resection in patient with cirrhosis ▪ Intra Operative US ▪ Laparoscopic Liver Biopsy in Cirrhosis	
Liver metastases		
Mid SET		▪ Staging laparoscopy ▪ Staging at laparotomy
Late SET	▪ Principles of hepatic mobilisation, localisation of the tumour and dissection of the liver ▪ Intra Operative US	▪ Laparoscopic Liver Biopsy
Incidental liver lesions **▪ adenoma** **▪ FNH** **▪ haemangioma** **▪ non-parasitic cysts**		
Mid SET		▪ Evaluation at open operation ▪ Laparoscopic liver biopsy
Late SET	▪ Principles of hepatic mobilisation, localisation of the tumour and dissection of the liver ▪ Intra Operative US	
Liver infections **▪ abscess pyogenic** **▪ parasitic** **▪ others**		

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	OPERATIVE MANAGEMENT - DOES -
Portal hypertension		
Early SET	▪ Operative strategies for patient with portal hypertension	
Mid SET	▪ Management of variceal bleeding	
Ascites		
Early SET	▪ Impact of ascites on abdominal surgery	
Mid SET	▪ Operative management of patient with ascites	
Hepatic trauma *See also Trauma Module*		
Mid SET	▪ Understand the principles of use of various haemastatic agents ▪ Understand the role of low CVP anaesthesia in liver injuries	▪ Laparotomy ▪ Assessment of severity of injury ▪ Methods to obtain haemostasis including packing a liver injury for referral/transfer
Hepatic Failure (Acute & Chronic)		
Mid SET	▪ Methods to achieve haemostasis	
BILIARY **Gallstone disease**		
Mid SET		▪ Cholecystectomy for uncomplicated and complicated disease, including performance of operative cholangiography ▪ Open exploration of the common bile duct ▪ Laparoscopic transcystic exploration of the common bile duct
Late SET	▪ Laparoscopic exploration of the common bile duct	▪ Open cholecystectomy including techniques for the “difficult” gall bladder
Gall bladder polyp		
Mid SET		▪ Laparoscopic cholecystectomy
Late SET	▪ Role of laparoscopic IOUS	
Gallbladder carcinoma/cholangiocarcinoma		
Mid SET	▪ Laparoscopic assessment ▪ Laparoscopic IOUS	▪ Staging laparoscopy ▪ Laparoscopic liver biopsy
Benign biliary bile duct/strictures injuries		
Mid SET	▪ Roux-en-Y hepatico-jejunostomy	▪ Intra-operative - recognition - call for help or - drain and refer ▪ Postoperative - recognition - laparoscopic or open drainage and refer
Choledochal anomalies		
Late SET	▪ Biliary resection ▪ Roux-en-Y hepatico-jejunostomy	
PANCREATIC **Acute pancreatitis**		
Mid SET	▪ Percutaneous necrosectomy	▪ Operative recognition of acute pancreatitis ▪ Percutaneous abscess drainage
Late SET	▪ Open, laparoscopic and endoscopic cysto-gastrostomy ▪ Open necrosectomy ▪ Laparoscopic necrosectomy	

SET LEVEL	TECHNICAL EXPERTISE	
	OPERATIVE MANAGEMENT - KNOWS -	**OPERATIVE MANAGEMENT - DOES -**
Chronic pancreatitis		
Late SET	▪ Pancreatico-jejunostomy ▪ Distal pancreatectomy ▪ Role for splenic preservation	
Periampullary and ductal pancreatic carcinoma		
Mid SET	▪ Biliary-enteric anastomosis and gastro-enterostomy	▪ Laparoscopic staging
Late SET	▪ Pancreatic-duodenectomy ▪ Distal pancreatectomy	▪ Gastro-enterostomy
Pancreatic cysts & Cystic tumours trauma		
Mid SET	▪ Pancreatic duodenectomy ▪ Distal pancreatectomy	▪ Laparoscopic staging
Late SET		▪ Gastro-enterostomy
Other pancreatic tumours including: *See also Endocrine Module* ▪ **endocrine tumours** ▪ **incidental tumours**		
Mid SET	▪ Pancreatic duodenectomy ▪ Distal pancreatectomy	
Pancreatic-duodenal trauma *See also Trauma Module*		
Mid SET	▪ Techniques for repair of a duodenal injury/± pancreatic injury ▪ Assess the extent of injury at laparotomy	▪ Damage control ▪ Laparotomy
Late SET	▪ Distal pancreatectomy	
ERCP complications		
SPLEEN AND HAEMOPOIETIC SYSTEM **Splenic trauma**		
Mid SET		▪ Trauma splenectomy
Late SET	▪ Understand the principles of use of various haemostatic agents ▪ Splenorrhaphy	
ITP/other indications for splenectomy		
Mid SET	▪ Laparoscopic splenectomy	▪ Elective splenectomy for a normal sized spleen
Massive spleen		
Late SET	▪ Splenectomy for massive spleen	
Lymph nodes including lymphoma		
Early SET		▪ Open node biopsy; - cervical - axillary - femoral
Mid SET	▪ Laparoscopic abdominal nodal biopsy **See also Surgical Oncology Module**	▪ Open abdominal nodal biopsy