Paragraph

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SYLLABUS

SCHEDULES OF KNOWLEDGE AND OPERATIVE SKILLS

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Schedule 1 Em	lergency Surgery	
Training required for all general surgeons	3	Advanced modules
to enable them to manage the emergency	"take"	(especially applicable to military surgery)
(to be taken in conjunction with the sched Trainees by the end of training shall be e	ule for critical care)	Trainees with a particular interest in
knowledge and experience of the assessm	ent and management of	trauma may develop expertise in one
the following groups of conditions and of	the relevant basic science:-	or more of the following topics:-
Assessment of the acute abdomen		Triage (major accidents)
Appendicitis and right iliac fossa pain		Battle triage
Acute intestinal obstruction		Dattie triage
Intestinal pseudo-obstruction		Field hospitals
Biliary tract emergencies		14.5
Acute pancreatitis Strangulated hernia		or obtain
Intestinal ischaemia		The Diploma in Disaster
Swallowed foreign bodies		Medicine and Surgery
Gastrointestinal bleeding		TT 1
Toxic megacolon		Head injuries
Acute ano-rectal sensis		take primary responsibility for the initial
Ruptured aortic aneurysm		management of head injuries. Appropriate
Acutely ischaemic limb		training should be available for those who
Acute presentations of urological disease		will have this responsibility
Acute presentations of gynaecological dis	ease	
TraumaAssessment of the multiply injured patientClosed abdominal injuries, especially splenic, hepatic and pancreatic injuriesClosed chest injuriesStab and gunshot woundsArterial injuriesInjuries of the urinary tractInitial management of head injuries and interpretation of CT scans		
This training is exemplified by the follow	ing procedures. <i>competence</i> at which should be ach	l jeved by the following stages of higher
surgical training (though often sooner):-	01	
By completion of year 1	By completion of high	er surgical training
	Usually by mid-training	Usually later in training
Appendicectomy Drainage of superficial abscesses Drainage of ano-rectal sepsis Urethral catheterisation Suprapubic cystostomy Exploration of scrotum for torsion Reduction of paraphimosis Diagnostic peritoneal lavage	 Diagnostic laparoscopy Closure of perforated peptic ulcer Endoscopy for upper GI Bleeding; haemostasis Suture of bleeding peptic ulcer * Emergency hernia repair Laparotomy for small bowel obstruction Hartmann's operation Ileostomy Colostomy Splenectomy for trauma Embolectomy Fasciotomy Ultrasound for emergency surgical conditions: -Emergency hepatobiliary conditions -Abdominal trauma -Free fluid inside abdomen -Abdominal aortic aneurysm -Acute appendicitis Ploural affusion and pariagrafial offusion 	 Castrectomy for bleeding Laparotomy for large bowel obstruction Laparotomy for perforated colon Emergency cholecystectomy Laparotomy for abdominal injury Splenic repair Operation for ruptured liver Pancreatic debridement /drainage of pancreatic abscess Laparotomy for post operative complications Lateral thoracotomy Median sternotomy Rectal injuries

* Individual index procedures

• These items are grouped as the index procedure of "emergency laparotomy"

Schedule 2 Critical Care

Trainees must have an understanding of the disturbances of normal physiology and of the bacteriological, pathological and immunological changes that affect the seriously ill patient.

They should have a knowledge of the following topics, including the relevant basic science, to enable them to recognize and institute the management of life threatening conditions and to make appropriate referrals for intensive care:-

Hypotension Haemorrhage Haemorrhagic and thrombotic disorders Blood transfusion and blood component therapy Septicaemia and the sepsis syndrome Antibiotic therapy and the management of opportunist infection Gastro-intestinal fluid losses and fluid balance Nutritional failure and nutritional support Respiratory failure Renal failure Fluid overload and cardiac failure Myocardial ischaemia Cardiac arrhythmias Multiple organ failure Pain control Cardiac arrest, respiratory arrest and brain death Organ donation

A detailed knowledge of the methods and results of invasive monitoring will not be required.

[Emergency surgery is the subject of schedule 1]

The following practical skills are required:-

Current cardio-pulmonary resuscitation techniques Chest drain insertion Central venous pressure line insertion

Trainees should have an understanding of the value and limitations of ITU care, and the social and ethical consequences of choosing not to institute or continue treatment

Schedule 3 Sub-specialty: Breast Surgery		
General surgery	Sub-specialty	
	Essential sub-specialty training	Advanced sub-specialty training
Trainees, by the end of training, shall be expected to have a knowledge of the diagnosis and surgical management of the following groups of conditions, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics related to breast disease:- In addition trainees should have a	knowledge of the following topics in relation to breast disease:-
Carcinoma of the breast Benign breast disease	Epidemiology Screening programme Histo/cytopathology	Genetics related to surgery Immunocyto-chemistry Clinical trials
and of:-	Mammography Ultrasound	Neo-adjuvant therapy and related surgery
Hormone therapy for benign and malignant breast disease	Stereotaxis Adjuvant chemotherapy: Chemotherapy for advanced disease Radiotherapy Counselling	

This training is exemplified by *competence* to perform the following operations:-

Hospice care

Course

Treatment of breast abscess	* Wide excision of breast tumours	Reconstruction module
FNA	Needle localization	<u>neconou action niovato</u>
Trucut biopsy	Mammary duct fistula	Myocutaneous flaps
Excision of breast lump	* Breast duct excision	Tissue expanders
* Mastectomy	* Microdochectomy	Complications and re-operation
	Axillary dissection	Breast reduction
Be familiar with (have assisted at) the	Be familiar with (have assisted at) the	
procedures in column 2	procedures in column 3	

Appropriate referral to oncologists, Radiotherapists or orthopaedic surgery and have attended a Breast Training

* Index procedures

Schedule 4 Sub-specialty: Coloproctology

General surgery	Sub-specialty	
	Essential sub-specialty training	Advanced sub-specialty training
Trainees, by the end of training shall be expected to have a knowledge of the diagnosis and surgical management of the following conditions, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:-	
Neoplasms of large bowel Inflammatory bowel disease (inc.medical management) Diverticular disease Irritable bowel syndrome Haemorrhoids Anal fissure Rectal prolapse Acute appendicitis/RIF pain Intestinal obstruction Intestinal pseudo-obstruction Intestinal ischaemia Peritonitis	Anal tumours Pelvic autonomic nerves Screening for colorectal cancer Genetics of colorectal cancer Place of radiotherapy and chemotherapy in treatment Anorectal physiology Anorectal ultrasound Faecal incontinence Chronic constipation Intestinal fistulae Colonic bleeding Radiation enterocolitis Other small bound conditions	
This training is exemplified by <i>commetence</i>	e to perform the following operations:-	
This training is exemplified by <i>competence</i>	<i>e</i> to perform the following operations:-	-
Froctoscopy/rigid sigmoidoscopy Flexible sigmoidoscopy Outpatient haemorrhoid treatment Haemorrhoidectomy Fissure-in-ano Acute anorectal sepsis Small bowel resection Right hemicolectomy Left hemicolectomy Sub-total colectomy Colonic obstruction Colonic perforation Hartmann's procedure Colostomy Ileostomy Appendicectomy Diagnostic Laparoscopy Inguinal herniorrhaphy Femoral herniorrhaphy Repair of recurrent groin hernia Umbilical and para umbilical hernia repair Incisional and para-stomal hernia repair Adult circumcision Hydrolode Epididymal cyst The use of staplers	 biagnostic colonoscopy * Therapeutic colonoscopy * Fistula-in-ano * Anterior resection of rectum AP resection of rectum Ileorectal anastomosis Panproctocolectomy Closure of Hartmann's * Prolapse surgery Diverticular disease/fistula Colostomy complications Ileostomy complications Must also have achieved competence at the full range of procedures in column 1 of the Upper GI schedule 	Sphincter repair Recto-vaginal fistula Ileo-anal and colonic pouch Colo-anal anastomosis Re-operation for pelvic malignancy Re-operation for inflammatory bowel disease Operation for intestinal fistula Complex fistula-in-ano Posterior approach to rectum Transanal microsurgery Posterior pelvic clearance Laparoscopy: advanced Block dissection of groin Rectal injuries
be familiar with (have assisted at) procedures in column 2	be familiar with (have assisted at) procedures in column 3	

* Index procedures

Schedule 5 Sub-specialty: Endocrine Surgery			
General surgery	Subspecialty		
	Essential sub-specialty training	Advanced sub-specialty training	
Trainees, by the end of training shall be expected to have a knowledge of the patho-physiology, diagnosis and surgical management of the diseases of the following endocrine organs, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics in relation to endocrine disease:-		
Thyroid Parathyroid Pituitary Adrenal cortex Adrenal medulla Gut as endocrine organ Endocrine pancreas and the management of :- Thyrotoxicosis Adrenal insufficiency Hyper/hypo thyroidism Carcinoid syndrome	Counselling and screening in familial disease Anaesthetic and pharma-cological problems Radio-immuno assays Imaging techniques Histo/cyto pathology		
This training is exemplified by <i>competenc</i>	<i>e</i> to perform the following operations:-		
	* Thyroid lobectomy Thyroidectomy - toxic goitre Total thyroidectomy Retrosternal goitre Thyroglossal cystectomy	At least three of the modules:-Re-operative thyroid surgery, Including nodal dissectionParathyroidectomy Reoperative parathyroidectomyEndocrine pancreatic tumoursAdrenalectomy (inc.laparoscopic)Optional extras:- Block dissection of neck Pituitary surgerySome surgeons, in addition to training in endocrine surgery, may also train in salivary gland surgery:-Submandibular gland excision Parotidectomy	
Be familiar with (have assisted at) the procedures in column 2	Be familiar with (have assisted at) the procedures in column 3		

Schedule 6: Technical Sub-specialty: Endoscopic Surgery			
Subspecialty			
Essential sub-specialty training	Advanced sub-specialty training		
In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:-	Trainees should, additionally, have a knowledge of the following topics:-		
Pre and post operative management of laparoscopic cases Port complications Technology of video imaging, cameras, insufflator etc. The methods of manipulation of images Laparoscopic instruments, clips, staplers and port types Management of equipment failure Ultrasound interpretation, internal and external techniques Recognition and management of laparoscopic complications Use and dangers of diathermy Anaesthetic problems in laparoscopic surgery Medico-legal implications of video- endoscopic surgery <u>Course</u> : Cholecystectomy and	Theory and pracice of choledochoscopy Theory of different forms of diathermy Laparoscopic ultrasound Advanced instrumentations and equipment Endoscopic suturing devices Theory, uses and dangers of lasers and other energy sources e.g. harmonic scalpel Creation and maintenance of new endoscopic spaces Uses of assistance robots and robotic instruments Minilaparoscopy <u>Courses</u> in the relevant advanced endoscopic techniques ERCP skills are advantageous		
	Subsp Essential sub-specialty training In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:- Pre and post operative management of laparoscopic cases Port complications Technology of video imaging, cameras, insufflator etc. The methods of manipulation of images Laparoscopic instruments, clips, staplers and port types Management of equipment failure Ultrasound interpretation, internal and external techniques Recognition and management of laparoscopic complications Use and dangers of diathermy Anaesthetic problems in laparoscopic surgery Medico-legal implications of video- endoscopic surgery <u>Course</u> : Cholecystectomy and appendicectomy techniques		

This training is exemplified by *competence* to perform the following operations:-

Diagnostic laparoscopy:-	* Laparoscopic cholecystectomy ¹	Many advanced endoscopic
Closed and open techniques	Conversion to open cholecystectomy	procedures are still experimental and
Inserion of one port and Veress needle	Operative cholangiography	others are developing, but an advanced
Induction of pneumo-peritoneum	Laparoscopic appendicectomy	trainee should be aware of them and
Laparoscopic biopsy	* Laparoscopic hernia repair ²	have assessed their potential, e.g.
	Laparoscopic adhesiolysis	
	Thoracoscopy Laparoscopy in acute	* Laparoscopic anti-reflux procedures
	emergencies	Laparoscopic splenectomy
Be familiar with (have assisted at) the	Other advanced laparoscopic	Laparoscopic large bowel resection
procedures in column 2	procedures, as appropriate	Laparoscopic rectopexy
		Laparoscopic exploration of CBD
	and have the following skills:-	Laparoscopic closure of perforated
	Placement of secondary ports	duodenal ulcer
	Laparoscopic suturing and knotting	
	Control of laparoscopic bleeding	
	Use of retrieval bags	
	Stone retrieval	
*Index procedures: the <i>total</i> number of laparoscopic procedures should also be recorded		

"index procedures; the total number of laparoscopic procedures should also be recorded

(1) A surgeon who is to practice Laparoscopic cholecystectomy as a consultant must have spent a minimum of 6 months with a recognized endoscopic trainer.

(2) Laparoscopic hernia repair is included subject to approval by SERNIP.

Schedule 7 Sub-specialty: General Paediatric Surgery		
General surgery	Subspecialty	
Trainees, by the end of training, shall be expected to have a knowledge of the diagnosis and surgical management of the following groups of conditions in children, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics so as to facilitate appropriate referral to specialist units:-	
RIF pain Testicular pain Paediatric trauma Burns Intussusception Pyloric stenosis Hirschprung's disease Ano-rectal anomalies Tracheo-oesophageal fistula Spina bifida	Congenital small bowel obstruction Intestinal malrotation Associated anomalies Paediatric oncology Management of less complex abdominal trauma	
This training is exemplified by <i>competenc</i>	e to perform the following operations:-	
Appendicectomy * Herniotomy Circumcision Reduction of paraphimosis Exploration for testicular torsion	 * Orchidopexy Repair of incarcerated inguinal hernia * Pyloromyotomy Reduction of intussusception Thyroglossal cyst Central venous access 	Neonatal and complicated cases should be transferred to a Specialist Paediatric Unit
Be familiar with (have assisted at) the procedures in column 2	Be familiar with (have assisted) at the procedures in column 3	

Schedule 8 Sub-specialty: Transplantation			
General surgery	Subspecialty		
	Essential sub-specialty training	Advanced sub-specialty training	
Trainees, by the end of training, shall be expected to have a knowledge of the following topics, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:-		
Pathology of renal and hepatic disease Patho-physiology of renal and hepatic failure Peritoneal-and haemo-dialysis Management of fluid and electrolyte disorders	Selection of patients for transplantation Post-operative management Immuno-pathology of rejection Management of rejection Immunosuppression Opportunist infections Immunosuppression and cancer Transmission of viral and fungal diseases Tissue typing The HLA system Bladder dysfunction In vitro preservation of organs		
This training is exemplified by <i>competenc</i>	e to perform the following operations:-		
Arterial & venous anastomosis Harvesting saphenous vein In addition there will be opportunities for:- Appendicectomy Herniorrhaphy Intestinal resection and anastomosis Laparotomy for acute abdomen Splenectomy Attendance at organ retrievals provides unique experience of retroperitoneal dissection and trainees should take advantage of such opportunities throughout HST	 Donor nephrectomy Donor hepatectomy Renal transplantation Uretero-neocystostomy Uretero-ureterostomy Renal biopsy Transplant nephrectomy Vascular access Peritoneal access Parathyroidectomy Adrenalectomy Drainage of intra- and extraperitoneal collections Live donor transplantation Arterial thrombectomy 	Kenal procedures:-Work bench preparation of the kidneyIleal and colonic conduitsUretero-pyelostomyBladder (psoas) hitchBoari flapPartial nephrectomyBilateral nephrectomySecondary vascular accessRenal artery reconstructionRenal vein reconstructionPancreatic module:-Donor pancreatectomyPancreatic transplantationHepatic module:-Liver transplantationRecipient hepatectomyRoux loop construction	
Participate in the procedures in column 2 when possible	Be familiar with (have assisted at) the procedures in column 3		

- * Index procedures
- These items are grouped as the index procedure "Exploration of renal transplant (for biopsy, revision of ureteric drainage, sepsis or nephrectomy)"

Schedule 9 Sub-specialty: Upper GI Surgery			
General surgery	Subspecialty		
	Essential sub-specialty training	Advanced sub-specialty training	
Trainees, by the end of training, shall be expected to have a knowledge of the diagnosis and surgical management of the following groups of conditions, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:-	This training is exemplified by <i>competence</i> to perform the following operations:- (A trainee will not generally attain competence in all modules)	
Neoplasms of the upper GI tract Management of perforations of the upper GI tract Management of intestinal obstruction Management of GI bleeding Gallstone disease Jaundice Gastro-oesophageal reflux and its complications Peptic ulceration and its complications Radiation enteritis Acute and chronic pancreatitis and their complications Abdominal trauma	Epidemiology and aetiology of oesophago-gastric, pancreato-biliary and liver cancer Principles of screening for caner The use and limitations of multimodality treatment for upper GI cancer Oesphageal motility disorders Chronic pancreatitis Crohn's disease Other small bowel conditions	Upper GI:-* Oesophagectomy* Total and subtotal gastrectomy Extended lymphadenectomy* Laparoscopic anti-reflux surgery and conversion Collis-Nissen procedure* Redo gastric surgery Redo anti-reflux surgery Laparoscopic Heller's myotomy and conversion Long oesophageal myotomy Pharyngeal pouch Operations for morbid obesity	
Inis training is exemplified by competence Inguinal herniorrhaphy Femoral herniorrhaphy Repair of recurrent groinhernia Umbilical and para umbilical hernia repair Incisional and para-stomal hernia repair Hydrocoele Epididymal cyst Small bowel resection Sutured and stapled anastomoses Diagnostic laparoscopy Diagnostic upper GI endoscopy Appendicectomy Closure of perforated ulcer Control of upper GI bleeding	 e to perform the following operations:- Endoscopic control of upper GI bleeding Oesophageal dilatation Operations for upper GI Bleeding Laparoscopic cholecystectomy Conversion to open cholecystectomy Exploration of common bile duct Biliary bypass Gastrectomy Formation of Roux-en-Y loop Splenectomy Plus a minimum of one of the following from column 3:- Oesophagectomy/total gastrectomy Laparoscopic anti-reflux surgery and conversion Pancreatectomy Liver resection 	Endoscopic procedures:- • Oesophageal stenting • Laser recanalization • Mucosal resection • Variceal banding / sclerotherapy <u>HPB</u> :- Repair of biliary stricture Whipple's procedure Pancreatectomy (distal and total) Drainage of infected pancreatitis Drainage of pancreatic pseudo-cyst Liver injuries Hydatid disease Liver transplantation Porto-systemic shunt <u>Endoscopic procedures</u> :- ERCP • Endoscopic sphincterotomy • Biliary stenting • Pancreatic stenting	
Be familiar with (have assisted at) the procedures in column 2	Must also have achieved competence at the full range of procedures in column 1 of the coloproctology schedule Be familiar with (have assisted at) the procedures in column 3		

* Index procedures

• These items are grouped as the index procedure of "therapeutic upper GI endoscopy"

(1) A surgeon who is to practice Laparoscopic cholecystectomy as a consultant must have spent a minimum of 6 months with a recognized endoscopic trainer.

Schedule 10 Sub-specialty: Vascular Surgery		
General surgery	Subspecialty	
	Essential sub-specialty training	Advanced sub-specialty training
Trainees, by the end of training, shall be expected to have a knowledge of the diagnosis and surgical management of the following groups of conditions, and of the relevant basic science:-	In addition to a greater depth of knowledge, trainees should have an understanding of the following topics:-	
Ischaemic limb Arterial trauma Venous thromboembolism Hyper/hypo coagulable state Chronic venous insufficiency and of the following investigations:- Arteriography Continuous wave doppler Duplex ultrasound	Atherosclerosis Angioplasty/stenting Thrombolysis Reno-vascular disease Raynaud's/vasospastic disorders Lymphoedema Cerebrovascular disease Vasculitis Mesenteric ischaemia Graft prosthetics Graft surveillance Autonomic dysfunction Reperfusion injury Sclerosant therapy	
This training is exemplified by <i>competenc</i>	to perform the following operations:-	
Vascular suture/anastomosis Approach to/control of infra-renal aortic, iliac and femoral arteries Control of venous bleeding Balloon thrombo-embolectomy Above knee amputation Fasciotomy Long saphenous varices	 * Abdominal aortic aneurysm repair: elective * Abdominal aortic aneurysm repair: emergency Ilio-femoral bypass * Femoro-popliteal above knee bypass * Femoro-popliteal below knee bypass Infra popliteal bypass * Carotid endarterectomy Axillo-femoral bypass * Carotid endarterectomy Axillo-femoral by pass Thrombo-embolectomy Redo surgery Infected femoro-popliteal grafts Per-operative: thrombolysis angiography Below knee amputation Short saphenous varices Recurrent varicose veins Artenal injuries 	Supra renal aortic aneurysm Aortic dissection Renal/visceral artery reconstruction Per-operative angioplasty Carotid body tumour Thoracic outlet syndrome Thoracoscopic sympathectomy Arterio venous malformations Upper limb arterial reconstruction Portal hypertension Venous reconstruction Lumbar sympathectomy Through knee amputation Vascular access for dialysis Vena caval filter placement Infected aortic graft
Be familiar with (have assisted at):-	Be familiar with (have assisted at) the procedures in column 3	
Abdominal aortic aneurysm repair Fem-pop bypass Fem-fem X over graft BK amputation	As advanced	

* Index procedures

Schedule 11 Professionalism and leadership

1. Good Clinical Care	
Knowledge:	Core Skills:
	1. Patient assessment
1. Patient assessment	1. Accurate history and physical examination
2. Clinical reasoning	2. Interpret investigations and vital signs
3. Record keeping	3. Respond promptly to patient questions
4. Time management	4. Know when to ask senior for help
5. Patient safety	5. Respectful to patients
6. Infection control	2. Clinical reasoning
	1. Develop a provisional diagnosis and a list of differential diagnoses
	2. Order appropriate investigations and formulates a treatment plan
	3. Record keeping
	1. Format notes logically and legibly
	2. Keep and borrow notes in orderly and traceable manner
	3. Observe patient data privacy ordinance
	4. Time management
	1. Prioritise tasks
	2. Communicate with senior and other team members on progress of tasks
	5. Patient safety
	1. Participate in M&M meetings
	2. Keep up to date of treatment guidelines
	3. Ensure safe use of equipment
	4. Act promptly when patient deteriorates
	5. Pay attention to medication safety and drug allergy
	6. Infection control
	1. Hand hygiene
	2. Maintain full aseptic technique when performing procedure
	3. Follow local infection control protocols
2. <u>Communication</u>	
Knowledge:	Core Skills:
1. Communication with	1. Communication with patients
patients	1. Establish rapport with patients and relatives
2. Breaking bad news	2. Provide appropriate information or referral
3. Communication and	3. Address emotional needs
working with colleagues	2. Breaking bad news
	1. Recognise the impact of bad news on patient and relatives
	2. Act with empathy, honesty and sensitivity, avoiding undue optimism or
	pessimism
	3. Communication with colleagues
	1. Communicate with colleagues accurately, clearly and promptly
	2. Utilise the expertise of the whole multidisciplinary team
	3. Resolve conflict and enhance collaboration
3. Teaching	
Knowledge:	Core skills:
1. Education theory	1. Prepare appropriate teaching material
2. Appraisal methods	2. Supervise medical students, nurse, interns or basic trainees
3. Counselling and debriefing	3. Interpret feedback during teaching
skills	4. Lead journal clubs
4. Presentation techniques	, ,