



Fellowship in Upper GI Surgery

Education and Training

Dated 26th February, 2009

INTRODUCTION

The purpose of this document is to define the learning objectives of an upper GI surgery fellowship as administered by the Australian and New Zealand Gastric and Oesophageal Surgeons Association (ANZGOSA). This fellowship is designed to follow the current FRACS for General Surgery training. It is an expectation of the RACS that a qualified surgeon is knowledgeable in the management of GI surgery, therefore, this fellowship and subsequent curriculum will not restate those learning objectives required of all general surgeons but rather build upon these concepts.

The purpose of Fellowship education in Upper GI Surgery is to provide a structured educational and training experience necessary to achieve expertise in the understanding, diagnosis, and management (including the necessary surgical skills) in the treatment of diseases of the oesophagus, stomach and duodenum.

This curriculum provides:

- Upper GI Surgery Program Directors with a basis for instruction and evaluation of Fellows
- Fellows with a guide to the study of Upper GI Surgery and defines the essential areas of knowledge and technical skills that need to be mastered.
- Upper GI Units with a set of guidelines to reach sufficient standards for accreditation to qualify for fellow placement.

Definitions

Upper Gastrointestinal Surgeon

An Upper GI surgeon is an expert surgeon who has obtained additional training and experience in the multidisciplinary approach to the diagnosis, treatment, and rehabilitation of Upper GI patients and devotes a major portion of his or her professional practice to these activities as well as Upper GI education and research.

Upper Gastrointestinal Training Program

An Upper GI training program should provide core knowledge and expertise to prepare its graduates to be expert Upper GI surgeons who interact with a multidisciplinary team to provide comprehensive care for Upper GI patients as well as leadership in the surgical, medical and lay communities in matters pertaining to Upper GI disease.

Upper Gastrointestinal Unit

A surgical unit with a significant workload in Upper GI surgery, including preoperative work-up, operative care and post op follow-up of a wide range of Upper GI surgical diseases. There should be access to and involvement in multi-disciplinary care and meetings. The unit workload may be across more than one campus (public or private) but must remain coordinated through a central organizational process.

PROGRAM REQUIREMENTS

General Requirements

An Upper GI Fellowship consists of a minimum of 24 months of continuous education and training following completion of a general surgery fellowship. A portion of the program should be devoted to clinical research. Fellows should have access to faculty who can mentor them in basic science research and have the option for such an experience if desired.

An adequate opportunity should be provided to interact with interventional radiologists, gastroenterologists, medical oncologists, radiation oncologists, and pathologists. These experiences may be obtained by formal rotations on specialty services, participation in structured multidisciplinary conferences or attendance at specialty tumour clinics.

Initial outpatient assessment, preoperative decision making, peri-operative management, and patient follow-up are essential to the training experience. To the greatest extent possible, Upper GI fellows should participate in the preoperative evaluation, assessment, treatment planning, and postoperative ambulatory care of patients in whose surgery they participate. As a guide, Upper GI fellows should see preoperative and postoperative ambulatory patients at least one full day out of five, or its equivalent.

Clinical experience alone is insufficient education in Upper GI surgery. The training program must develop a regularly scheduled didactic program consisting of conferences, lectures, debate series, and/or journal club, covering not only clinical surgical problems but also non-surgical, basic science, clinical research, and ethical problems. Upper GI fellows must participate, and program directors must be able to provide proof of fellow attendance at didactic conferences.

The Upper GI surgery fellowship program must not conflict with the regular general surgical training programs at the participating institution. Upper GI fellows' clinical responsibilities must be in accordance with the guidelines of governing surgical trainee review bodies. In most circumstances, an Upper GI fellow should not be responsible for the same patients or for the same service as the most senior general surgical trainee. In other words, the fellows' experience should not diminish the experience of general surgery trainees in their final year of training. Rather, an Upper GI surgery fellowship program should complement an institution's general surgery training program by developing a focus of excellence in Upper GI management that can be observed and experienced by all surgical trainees and attending staff.

The Upper GI fellowship sponsoring institution must be accredited by the responsible national organization overseeing healthcare quality issues. The General Surgery training program of the sponsoring institution (if applicable) must be fully accredited by the appropriate national governing body charged with oversight of surgical training programs.

The institution must provide an appropriate educational environment and ensure appropriate trainee supervision. Patient support services, work hours, and on-call schedules should be reasonable and allow Upper GI fellows to participate in scholarly activities such as in-house didactic conferences as well as local, regional and national meetings. Access to a library and on-site electronic literature retrieval capabilities are required.

The program director must be certified (or equivalent) in General Surgery and a member of ANZGOSA.

The faculty must demonstrate evidence of scholarly activity in Upper GI disease, as evidenced by participation in basic science research; clinical research protocols; presentations at local, regional, or national meetings; and/or publications in peer-reviewed journals.

Each Upper GI fellow's progress during the program must be formally evaluated in writing and feedback provided to the fellow at least semi-annually by the Upper GI program director and faculty. The Upper GI fellow should be advised of any deficiencies in time to correct problems prior to completion of the fellowship.

Upper GI Fellows must be given the opportunity to evaluate the program overall, as well as all rotations, conferences, and faculty. These evaluations should be obtained in as confidential a manner as possible. The program director should regularly assess the post-training clinical and research activities of past Upper GI surgery fellows to determine whether the goals of the training programs are being achieved, namely, the production of effective Upper GI surgery specialists.

Additional Essential Upper GI Training

The fellowship must provide exposure to and experience in the multidisciplinary management of Upper GI disease.

The fellowship must provide opportunities to participate in multidisciplinary clinics, tumor boards, or conferences. Specialists involved in these opportunities should include interventional radiologists, gastroenterologists, medical oncologists, radiation oncologists and pathologists.

Upper GI fellows also should gain experience in providing supportive care to Upper GI patients, including pain management, parenteral and enteral alimentation, as well as rendering emergency surgical care. Upper GI fellows also should have an understanding of rehabilitative services in various settings.

Research Training

Clinical research must be included in the training program. Upper GI fellows should have opportunities to design and implement clinical research protocols, and each fellow should initiate or participate in an investigative project and should be sufficiently familiar with statistical methods to properly evaluate research results. Presentation and peer-reviewed publication of at least one research project is expected.

The Training Board in Upper GI Surgery

Membership of the Training Board

The Training Board will be comprised of:
Six members nominated by the Executive of ANZGOSA.

Chairman of the Training Board

The Chairman will be elected by, and from within, the six nominated Board members.
The minimum term of appointment shall be 3 years, with a maximum of 6 years.
The Chairman may be re-elected on a three year basis.
The Chairman will represent ANZGOSA on any Post Fellowship Committee established by the RACS.

Secretary of the Training Board

The Secretary shall be elected by and from the members of the training Board.
The Chairman may also act as Secretary if agreed to by the Executive.

Co-opted Person(s)

The Chairman of the Board has the right to co-opt any suitable person to the Committee.
Such appointee will have no voting rights, but will be co-opted for activities such as program site inspections and applicant interviews.
The term of appointment is 6 months, renewable for additional 6 monthly terms if appropriate.

Training Board Meetings

The Training Board may meet at any time during the year, but will always meet during the Annual Scientific Congress, at which time the office bearers will be appointed.

Training Board Responsibilities

- a. Establish and supervise training in Upper GI surgery in Australia and New Zealand.
- b. Assist with the syllabus for the three year advanced general surgical training program.
- c. Advise the Censor-in-Chief, the Board in General Surgery, the Executive of the Section of Upper GI Surgery, and the Executive of ANZGOSA, on any matter pertaining to training in Upper GI surgery.
- d. The Training Board in Upper GI Surgery will abide by any regulations applicable to all Boards, as determined from time to time by the College.
- e. Accreditation for Upper GI training positions in Australia and New Zealand
- f. Selection of fellows and unit allocation of fellows.

Core Competencies

The goals and objectives of the ANZGOSA are to achieve the following core competencies in Upper GI training

- 1) Patient care: This will include: technical expertise (including operative, endoscopic and laparoscopic skills); medical knowledge; judgment and clinical decision making.
- 2) Interpersonal and Communication skills
- 3) Scholar and teacher
- 4) Professionalism
- 5) Leadership

1. Patient care

Fellows will be expected to perform pre-operative assessment of patients, demonstrate an understanding of the management options, indications and contraindications and complications associated with recommended procedures.

An understanding of and ability to order, integrate and interpret peri-operative testing and evaluation related to Upper GI surgery.

Demonstrate a high level of medical knowledge related to the conditions of disorders of the oesophagus and stomach.

Demonstrate clinical, intra-operative and peri-operative decision-making that is based upon sound medical knowledge, which minimises complications and demonstrates an awareness of the limitations of clinical experience and technical skills.

Develop fundamental competency of technical laparoscopic and endoscopic skills related to the practice of Upper GI surgery.

2. Interpersonal and Communication skills.

The Fellow is able to provide concise and accurate communication of clinical information, with colleagues and other health related personnel.

Provide effective communication with patients and family members that create and sustain a professional relationship.

Demonstrate caring attitudes towards patients and families.

Maintain comprehensive and clear medical records.

3. Scholar and Teacher

The Fellow should be diligent in updating knowledge and skill bases by constantly viewing the medical literature and attending professional meetings and interaction with colleagues.

Critically evaluate medical information and apply appropriately to clinical decisions.

Facilitate the learning of undergraduates, surgical trainees, health professionals and the community.

Contribute to the dissemination of and application of medical knowledge through research, teaching and communication in general.

4. Professionalism

Demonstrate a commitment to the patients, profession and community through ethical practice.

Display honesty and admission of limitations to provide patients with optimal care.

Display compassion and respect for all patients and be the advocate for patients needs.

Have a commitment to teamwork and offer assistance to colleagues in need.

Recognise medico-legal issues, respect patient confidentiality and apply appropriate government regulations to medical practice.

5. Leadership

Manage and lead clinical teams in an efficient and harmonious manner to optimise patient management.

Serve in administration and leadership roles as appropriate.

Work in collaboration with multidisciplinary teams to advance the field of Upper GI surgery.

Requirements

Completion of the Upper GI fellowship will involve the following.

1. Satisfactory completion of the curriculum requirements.
2. Completion of research requirements.
3. A minimum of 24 months of clinical training in the surgical management of gastro-oesophageal disorders in posts accredited by the ANZGOSA. This may be nationally or overseas. The clinical training may be altered according to specific sub-speciality requirements.

Endoscopy training should be included and must satisfy the conjoint committee requirements and may require an additional period of training. In particular, endoscopic interventional techniques cannot be covered adequately without additional training.

If bariatric surgery is included, a further 12 months of training might be required to allow sufficient case load to achieve competencies.

4. Adequate clinical and operative caseload.

There should be flexibility in the clinical exposure required depending on the complexity and profile of the unit. In general, there should be adequate case mix and case load to reach the required proficiency. The Fellow will maintain a detailed logbook (see example).

The emphasis will be on obtaining competence rather than achievement of numbers alone however it is expected that a training unit will have a minimum of 30 gastro-oesophageal resections for malignancy (including gastric carcinoma, GIST and oesophageal carcinoma) per year.

5. Assessment:

The Fellow must achieve satisfactory assessment reports from the respective unit or units.

- a. The assessment should be performed at three-monthly intervals as a common report by all consultants on the unit. Any deficiencies should be addressed and documented with a clear strategy to rectify these deficiencies.
 - b. There is to be no examination at the completion of the fellowship at this stage, although this may be subject to review as the Fellowship program develops.
6. If a Fellow has been assessed as achieving an unsatisfactory performance, a meeting between the unit and the fellow must be held where the reasons for the unsatisfactory performance are enunciated. A written report is sent to the ANZGOSA training committee where a decision regarding further training (12 months) or dismissal from the program is made. In general, additional training should not extend beyond a 12 month term. The Fellow has the opportunity for an appeals process.
 7. Additional research training for a higher degree will not replace the clinical training requirements.

Log Book Documentation for Upper GI Fellowship (Web-based)

| Procedure | Surgeon mentor scrubbed | Surgeon mentor in theatre | Surgeon mentor available | Assisting surgeon mentor | Total |
|--|--------------------------------|----------------------------------|---------------------------------|---------------------------------|--------------|
| Oesophageal Surgery (Neoplasia) | | | | | |
| Oesophagectomy (Two-stage - open) | | | | | |
| Oesophagectomy (Three stage – open) | | | | | |
| Oesophagectomy (Total laparoscopic) | | | | | |
| Oesophagectomy (Thorascopically-assisted) | | | | | |
| Oesophagectomy, colonic interposition | | | | | |
| Oesophagectomy (free jejunal graft) | | | | | |
| Local excision oesophageal tumour (open) | | | | | |
| Local excision oesophageal tumour (Laparoscopic) | | | | | |
| Other (specify) | | | | | |
| | | | | | |
| Gastric Surgery (Neoplasia) | | | | | |
| Total Gastrectomy + oesophagectomy (D1) | | | | | |
| Total Gastrectomy + oesophagectomy (D2) | | | | | |
| Total Gastrectomy (D1 node dissection) | | | | | |
| Total Gastrectomy (D2 node dissection) | | | | | |
| Total Gastrectomy (Laparoscopic) | | | | | |
| Distal Gastrectomy (D1 node dissection) | | | | | |
| Distal Gastrectomy (D2 node dissection) | | | | | |
| Distal Gastrectomy (Laparoscopic) | | | | | |
| Proximal Gastrectomy (D1 node dissection) | | | | | |
| Proximal Gastrectomy (D2 node dissection) | | | | | |
| Proximal Gastrectomy (Laparoscopic) | | | | | |
| Gastric tumour, Local excision (Open) | | | | | |
| Gastric tumour, Local excision (Laparoscopic) | | | | | |
| Other (specify) | | | | | |
| | | | | | |
| Oesophageal (Reflux/motility) | | | | | |
| Fundoplication (Open) | | | | | |
| Fundoplication (Laparoscopic) | | | | | |
| Para-oesophageal Hernia Repair (open) | | | | | |
| Para-oesophageal Hernia Repair (laparoscopic) | | | | | |
| Epiphrenic diverticulectomy (Open) | | | | | |
| Epiphrenic diverticulectomy (Laparoscopic) | | | | | |
| Oesophageal myotomy (Open) | | | | | |
| Oesophageal myotomy + fundoplasty (Open) | | | | | |
| Oesophageal myotomy (Laparoscopic) | | | | | |
| Oesophageal myotomy + fundoplasty (Laparoscopic) | | | | | |

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| Zenker's diverticulectomy (Open) | | | | | |
| Zenker's diverticulectomy (Endoscopic) | | | | | |
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| | | | | | |
| Endoscopy | | | | | |
| Upper GI endoscopy | | | | | |
| Endoscopy with biopsy | | | | | |
| Endoscopy with EMR | | | | | |
| Endoscopy with HALO | | | | | |
| Endoscopy with stent placement | | | | | |
| Endoscopy with PEG | | | | | |
| Endoscopy for GI Haemorrhage | | | | | |
| Endoscopy for varices (banding, injection) | | | | | |
| Endoscopic Anti-reflux procedure (RFA, plication) | | | | | |
| Endoscopy with other intervention (specify) | | | | | |
| Endoscopy + APC | | | | | |
| Endoscopy + Laser | | | | | |
| Endoscopy + foreign body removal | | | | | |
| Endoscopy + dilation | | | | | |
| Gallbladder Surgery | | | | | |
| Cholecystectomy (Laparoscopic) | | | | | |
| Cholecystectomy + IOC (Laparoscopic) | | | | | |
| Cholecystectomy (Open) | | | | | |
| Cholecystectomy + IOC (Open) | | | | | |
| Cholecystectomy + CBD exploration - Transcystic (Laparoscopic) | | | | | |
| Cholecystectomy + CBD exploration - Transcystic (Open) | | | | | |
| Cholecystectomy + CBD exploration – Main duct (Laparoscopic) | | | | | |
| Cholecystectomy + CBD exploration – Main duct (Open) | | | | | |
| Choledochoscopy | | | | | |
| CBD exploration (without cholecystectomy) (Open) | | | | | |
| CBD exploration (without cholecystectomy) (Laparoscopic) | | | | | |
| Transduodenal sphincteroplasty | | | | | |
| Other (specify) | | | | | |

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| Pancreas and Duodenum | | | | | |
| Transduodenal resection (polyp) | | | | | |
| Transduodenal resection (carcinoma) | | | | | |
| Peptic ulcer (underrunning) | | | | | |
| Pancreatic duct sphincteroplasty | | | | | |
| Pancreaticoduodenectomy (open-laparoscopic) | | | | | |
| Pancreatico duodenectomy (pylorus preserving) | | | | | |
| - Vascular reconstruction | | | | | |
| Retroperitoneal node dissection | | | | | |
| Distal pancreatectomy (open laparoscopic) | | | | | |
| Spleen preserving distal pancreatectomy | | | | | |
| Central pancreatectomy | | | | | |
| Enucleation of pancreatic endocrine tumour | | | | | |
| Other (specify) | | | | | |
| Total pancreatectomy | | | | | |
| Duodenal preserving pancreatectomy (Begers) | | | | | |
| Pancreas sparing duodenectomy | | | | | |
| Freys procedure | | | | | |
| Pancreaticojejunostomy | | | | | |
| Pseudocyst gastrostomy | | | | | |
| Pseudocyst enterostomy | | | | | |
| External drainage pseudocyst | | | | | |
| Pancreatic necrosectomy - open | | | | | |
| - laparoscopic | | | | | |
| - percutaneous | | | | | |
| Local excision duodenal tumour | | | | | |
| Duodenal exclusion procedures | | | | | |
| Pancreatic Duct sphincteroplasty | | | | | |
| Operations for visceral aneurisms | | | | | |
| Operations for nerve ablation procedures | | | | | |
| Pancreas transplantation | | | | | |
| Other (specify) | | | | | |
| Abdominal wall hernias | | | | | |
| Others (specify) | | | | | |
| | | | | | |
| Adjunctive Thoracic Operations | | | | | |
| Staging thoracoscopy | | | | | |
| Thoracotomy for post-operative sepsis | | | | | |
| Thoracotomy for post-operative bleeding | | | | | |
| Thoracotomy for thoracic duct leak | | | | | |
| Insertion Intercostal tube | | | | | |

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| MDT Meetings | | | | | |
| | | | | | |
| Gastric Cancer (New Cases) | | | | | |
| Gastric Cancer (Reviews) | | | | | |
| Oesophageal Cancer (New Cases) | | | | | |
| Oesophageal Cancer (Reviews) | | | | | |
| GIST | | | | | |
| Other cases | | | | | |
| | | | | | |
| Bariatric Surgery and Other | | | | | |
| | | | | | |
| Gastric Band (Laparoscopic) | | | | | |
| Gastric Band (Removal) | | | | | |
| Gastric Band (Revision) | | | | | |
| Tube Gastrectomy (Laparoscopic or Open) | | | | | |
| Roux en Y Gastric Bypass (laparoscopic) | | | | | |
| Roux en Y Gastric Bypass (open) | | | | | |
| Roux en Y Gastric Bypass (revisional) | | | | | |
| Splenectomy | | | | | |
| Adrenalectomy | | | | | |
| Jejunostomy/Gastrostomy | | | | | |
| Reversal of bariatric procedure | | | | | |
| Other | | | | | |
| Liver Surgery | | | | | |
| Segmentectomy | | | | | |
| Right Hepatectomy | | | | | |
| Left Hepatectomy (segments 2,3,4) | | | | | |
| Left Hepatectomy (segments 2,3) | | | | | |
| Liver Cyst | | | | | |
| Metastatectomy/Non anatomical resection | | | | | |
| Ablative treatment (eg RFA) for liver tumour | | | | | |
| Other | | | | | |

Comments

Selection Criteria

1. Application and Eligibility

All candidates who have successfully completed FRACS or equivalent in General Surgery and have appropriate medical registration are eligible to apply for the Fellowship in Upper GI surgery.

Applications for the Fellowship will be interviewed in May for the following year. Applications will be considered by the executive of the ANZGOSA.

2. Selection Tools

Selection of candidates into the Upper GI Fellowship program will be determined by the following selection tools:

| | |
|------------------|-----|
| Curriculum Vitae | 30% |
| Interview | 30% |
| Referees reports | 40% |

Curriculum Vitae

Consideration should be given to the following

- Experience in General Surgery
- Experience in Upper GI surgery
- Time from FRACS or equivalent
- Higher degree
- Research
- Publications - quality of journals etc
- Presentations at national or international meetings
- Administrative involvement and organisational skills
- Other activities – leadership qualities

Interviews

Structured

Referees reports

Apart from requesting written references nominated by the candidate (2), telephone references from personnel who have worked with the candidate in the previous year (2) should also be undertaken.

Notification of the successful candidates (with CV's) to appropriate hospital administration for approval and comment prior to confirmation.

Feedback to failed candidates.

Hospital Accreditation

Guidelines for a unit

Surgical and Related Staff

An Upper GI Surgery Unit would be defined as a clinical team of at least 2 predominantly Upper GI surgeons and related staff. This may include other Upper GI surgeons.

Surgeons

The Unit should consist of a Unit Head and at least one other surgeon with the following specifications:

- a. FRACS
- b. Postgraduate experience in Upper GI surgery, either within Australia, New Zealand or overseas
- c. Experience in one or more of the following:
 1. Interventional endoscopy (eg oesophageal stent placement, Barrett's oesophagus ablation etc)
 2. Oesophageal and Gastric Endoscopic Ultrasound
 3. Oesophageal Cancer Surgery
 4. Gastric Cancer Surgery
 5. Antireflux Surgery and advanced laparoscopic surgery
 6. Bariatric surgery
 7. Postgraduate Research Degree/Diploma
- d. Member of ANZGOSA.
- e. At least 50% of practice related to Upper GI surgery

Other Medical Staff

The Unit shall have allocated to it:

An Advanced Trainee in General Surgery or its equivalent and/or a Upper GI Fellow

An HMO (RMO) as either an Intern or second year level dedicated to the Unit.

Nurse Unit Manager and Staff

The Upper GI Unit should have access to one ward, or part thereof, to serve the majority of the patients admitted to that Unit. Some of the nursing staff on this ward should have a specific interest in Upper GI surgery. Ideally, the ward should be shared with the Gastroenterology Unit and/or other Gastrointestinal Surgery Units of the hospital.

Ancillary Staff

The Unit should have available, other allied health professionals to provide a spectrum of care (for example dietician, physiotherapy, occupational therapy and medical social worker, pastoral care and liaison psychiatry).

The Hospital and Supportive Services

To support an Upper GI Unit, the hospital involved should be equivalent size to, at least, a 300 bed metropolitan teaching hospital with availability of the following services:

1. Laboratory and Anatomical Pathology with a 24 hour frozen section service.
2. Intensive Care Unit and/or High Dependency Unit with the capacity to manage epidural anaesthesia.
3. Operating Theatres with a fully staffed recovery room.
4. Anaesthetic Department with at least one member of the anaesthetic staff with a particular interest in gastrointestinal surgery and pain management and regional anaesthesia.
5. Operating theatre nursing and technical staff with at least one team with a specific interest in Gastrointestinal Surgery.
6. Access to emergency endoscopy services either under the Banner of the UPPER GI unit or the Gastrointestinal Medical service.
7. There should be support for time and venue for a MDT meeting
8. Accident and Emergency Department adequately staffed
9. Radiological sciences and an accredited imaging department with facilities for x-ray screening, CT scan, Visceral Angiography, MRI and Nuclear medicine.
10. Oncology and Radiotherapy access either within the hospital, network or region for ambulatory care or inpatient radiotherapy and chemotherapy. Specifically the availability of an inpatient consultative service in medical oncology and radiotherapy.

Specifications and Function of the Upper GI Surgery Unit

Operating facilities

Each surgeon should have, on average, one half day operating per week.

Pre-admission Process

The Unit should have access to a pre-admission clinic or similar arrangement to assess elective surgical patients to facilitate same day surgical admissions.

Outpatient or Private Office Assessment

The Unit should have a dedicated outpatient clinic.

After Hours Cover

The unit should provide 24 hour cover for the unit's inpatients.

Weekly Ward Rounds and Meetings

The Unit shall meet on a regular basis to conduct meetings to discuss the patients, protocols or any other business combined at some stage with a visit to the patients (ward round).

Quality Assurance and Audit

The Unit should be involved in a regular mortality and morbidity meeting, at least on a monthly basis with a six monthly or annual review. Quality assurance programmes (for example Clinical Indicators or quality projects) should become standard and reviewed at the weekly Unit meetings or audit meetings.

Research

The Unit shall have an interest in research either by encouraging individual research projects within the hospital or collaborating with existing clinical research projects.

Academic Affiliation

The Unit should have an affiliation with one of the University Medical Schools and be involved in Undergraduate Teaching Programmes.

Basic and Advanced Training in General/Upper GI Surgery

Members of the Unit should be involved with the RACS activities to encourage surgical trainees in basic and advanced training in General and Upper GI Surgery. The Unit should also encourage overseas trainees or Upper GI surgeons to visit the Unit.

CME and Recertification

The Unit head should be responsible for ensuring that the Guidelines provided by ANZGOSA are fulfilled and participate in CME activities.

The purpose of hospital accreditation is to ensure the highest quality of training for the Upper GI Fellowship and that the approved posts provide an appropriate supervision and learning environment to the prescribed standard.

1. The process for accreditation for appropriate centres for training in Upper GI surgery will be initiated by the Upper GI unit in conjunction with the hospital administration. The appropriate documentation will be completed and sent to the ANZGOSA training committee (see details).
2. The inspection will consist of at least 2 members of the ANZGOSA committee. Accreditation will be provided on a five year basis. Provisions for limited accreditation for one year and subsequent review should be available.
3. The recommendation of the supervisory team will be communicated to the ANZGOSA training committee and subsequently sent to the CEO (or other appropriate representative) of the hospital for comments. The final draft will be presented to the ANZGOSA executive for final approval
4. The accreditation committee should allow for at least a half day for the process.

Meetings would normally include:

- a) Meeting with CEO (or representative) and administrative staff of hospital and supervisor of Upper GI training to discuss general issues
- b) Meeting with members of the Upper GI unit to discuss case load and other issues
- c) Individual, confidential meetings with current trainee(s)/fellow.
- d) Inspection of the facilities.
- e) Briefing session to the whole team regarding issues of concern.

Upper GI Accreditation Assessment Form

Hospital
Inspecting Team
Members of Surgical Team

Date of Inspection

Quality of presentation
Quality of provided material

| Clinical Coverage | NS | S | G | E | Comments |
|---|----|---|---|---|----------|
| Major operations Numbers: | | | | | |
| Minor operations Numbers: | | | | | |
| Consultant led ward rounds | | | | | |
| Emergency vs elective mix | | | | | |
| On call emergency roster | | | | | |
| Outpatient services and patient reviews | | | | | |
| Multidisciplinary Clinics | | | | | |
| Operating Lists Numbers: | | | | | |
| Fellow log Books/ level of supervision | | | | | |
| Support Services | | | | | |
| Radiology | | | | | |
| Oncology | | | | | |
| Gastroenterology | | | | | |
| Endoscopy, ERCP, EUS | | | | | |
| Emergency Department | | | | | |
| Hospital | | | | | |
| Structure of surgical department | | | | | |
| General education facilities | | | | | |
| Surgical Education Training Program | | | | | |
| Audit process | | | | | |
| Hospital management support | | | | | |
| Physical Environment desk office /space | | | | | |
| Computer/internet access | | | | | |
| Library facilities | | | | | |
| | | | | | |

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| | | | | | |
| Team Structure – Unit Activities | | | | | |
| Adequate consultant and supervisory staff | | | | | |
| Adequate interns and surgical trainees | | | | | |
| Adequate secretarial staff | | | | | |
| Adequate staff for teaching | | | | | |
| Audit meetings | | | | | |
| Radiology meetings | | | | | |
| Pathology meetings | | | | | |
| Unit ward rounds/business meetings | | | | | |
| Research | | | | | |
| Number of publications | | | | | |
| Quality of publications | | | | | |
| Number of presentations state, national and international | | | | | |
| Structure for research higher degrees | | | | | |
| Infrastructure support for research | | | | | |

Comments:

Recommendations

Suggestions for Improvement

Signatures:

Detailed Assessment Form – Request for Hospital Accreditation

Standard 1 – Education Facilities and systems required

All fellows must have access to the appropriate educational facilities and systems required to undertake training

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|---|---|---|
| 1. Computer facilities with IT support | Computer facilities and Internet/Broadband access | Computer and facilities available for information and management, online references and computer searches. Terminals available at flexible sites which may include remote access. 24-hour computer access acknowledging security issues |
| 2. Tutorial room available | Feedback from supervisor and fellow/trainee | Tutorial room available when required |
| 3. Access to private study area | Designated study area Feedback from fellow/trainee | Designated study area/room available isolated from busy clinical areas. 24-hour access acknowledging security issues. |
| 4. Educational activities with the unit | Weekly hospital educational program Feedback from fellow/trainee | Weekly meetings Opportunities for trainees to present cases/topics |

Standard 2 – Quality of education, training and learning

Fellows will have opportunities to participate in range of desirable activities, the focus of which is inclusive of their educational requirements

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|--|---|---|
| 5. Co-ordinated schedule of learning experiences for each fellow | Publicised monthly timetable of activities which incorporate the learning needs of the fellow | Weekly Imaging meeting. One structured tutorial per week. |
| 6. Access to external educational activities for trainee | Documented hospital HR policy on educational leave for trainees. Documentation on equipment provided Feedback from fellow/trainee | Fellow given negotiated educational leave to attend obligatory RACS/Speciality courses For other significant course, modern educational approaches to distance learning eg. Videoconferencing available of being explored. Evidence to confirm leave is provided |
| 7. Opportunities for research, enquiry and scholarly activity | Recent or current research funding, publications, current research projects, recognised innovation in medicine, clinical care or medical administration | Regular research meetings Fellow enabled to access medical records (with ethical approval if necessary). |

Standard 3 – Surgical supervisors and staff

Program managed by appropriate and accessible supervisor supported by the institution and committed surgeons, delivering regular education, training, assessment and feedback

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|---|--|---|
| 8. Designated supervisor of Upper GI training | Documentation of supervisor Feedback from fellow/trainee | Clearly identifiable and named supervisor FRACS and member of ANZGOSA Regularly available and accessible to fellow |
| 9. Specialist surgical staff appropriately qualified to carry out surgical training | Documentation on qualifications of specialist surgical staff | Surgeons have FRACS (or equivalent) in that speciality and current experience in subspecialty areas where required for training. |
| 10. Surgeons committed to the training program | Weekly scheduled educational activities of surgeons Feedback from fellow/trainee | Surgeons attend scheduled educational and audit meetings All surgeons foster the learning of core competencies (shared between surgeon and hospital) |
| 11. Regular supervision, workplace-based assessment and feedback to fellow | Documentation on hospital/department practices relating to supervision, workplace based assessment and feedback to fellows. Feedback from fellow/trainee | Goals discussed and agreed between surgeon and fellow at the commencement of each surgical rotation One- to one regular supervision One-to-one constructive feedback on performance every three months Opportunities for fellows to rectify any weaknesses |
| 12. Hospital support for surgeons involved in education and training | Documentation on weekly service and educational activities of surgical staff HR policy on educational leave Secretarial services available for supervisor's role Feedback from Surgeons | Negotiated time for supervision/teaching Negotiated leave for surgeons who attend meetings and educational courses Accessible secretarial services for supervisor's role related to training |

Standard 4 – support services for fellows

Hospitals and their networks committed to the education, training, learning and wellbeing of fellows who in turn acknowledge their professional responsibilities

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|--|---|---|
| 13. Hospital support for fellows | Safe hours practiced Safety procedures for fellows leaving the hospital outside of normal working hours Hospital environment is free of intimidation, harassment and abuse of fellows Level and accessibility of HR services Feedback from fellow/trainee | Rosters and work schedules in Australia take into account the principles outlined in the AMA National Code of Practice, Hours of Work, Shift Work, and Rostering for Hospital Services, and in New Zealand the principles outlined in the Multi Employer Collective Agreement (MECA) Hospital promotes fellow safety and provides security when necessary. Hospital does not allow fellow to be intimidated, harassed or abused. Readily accessible Human Resources service available to fellows including counselling if required. Allocation of clinical rotations take fellow's career aspiration into account |
| 14. Fellow's professional responsibilities | Feedback from employers | Fellow's recognition of the concept of Duty of Care. Joint fellow/supervisor and College responsibility |

Standard 5 – Clinical load and theatre sessions

Trainees must have access to a range and volume of clinical and operative experience which will enable them to acquire the competencies required to be an Upper GI Surgeon

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|--|---|---|
| 15. Supervised consultative ambulatory clinics in consultative practice (Surgical Outpatient Clinic) | Documentation on frequency of consultative clinics Documentation which shows fellows see new and follow-up patients Documentation on alternatives provided if no consultative clinics available in hospital | Fellow attends a minimum of one consultative clinic per week Fellow sees new and follow-up patients under supervision Fellow attends alternative consultative clinics |
| 16. Beds available for Upper GI Surgery patients | Documentation on accessible beds | Sufficient beds to accommodate caseload required for training |
| 17. Consultant led ward rounds with educational as well a clinical goals | Documentation on the frequency of consultant led scheduled rounds Feedback from fellow/trainee | Two per week Teaching of fellow on each ward round |

| | | |
|--|--|--|
| 18. Caseload and case-mix | Summary statistics of number and case-mix of surgical cases managed by Upper GI service in the previous year | Regular elective and acute admissions. This will vary depending in the type of service and case-mix. (General guidelines will be provided as Upper GI program develops). Number and case-mix varies and the focus is on competence acquisition. |
| 19. Operative experience for fellows | Documentation on weekly theatre schedule Evidence of fellow's exposure to emergency operative surgery Evidence of fellow's access to "index" cases from fellow's log book and feedback | Minimum of three elective theatre sessions per week per fellow (focus is on opportunities to gain competencies and is based on combination of theatre time, case numbers and case-mix). No conflicting service demands which interfere with required operative experience by trainee. Number and level of surgical procedures varies with stage of training (fellowship). The focus is on competence acquisition. Rosters and work schedule enable fellow to participate in emergency surgery. Fellow has priority access to those specialised indexed cases required for Upper GI training. |
| 20. Experience in peri-operative care | Timetable of postoperative wards | Scheduled daily postoperative ward rounds & discussion with consultants |
| 21. Access to ambulatory care surgery (Day Surgery) | Documentation on access to ambulatory care surgery | Regular weekly experience with ambulatory care surgical procedures (if possible) |
| 22. Involvement in acute/emergency care of surgical patients | Documentation showing frequency of involvement in acute/emergency care of surgical patients | Weekly (minimum of 1 in 7) involvement in acute/emergency care of surgical patients |
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Standard 6 - Equipment and clinical support services

A hospital must have the facilities, equipment and clinical support services required to manage surgical cases in a particular specialty

| | | |
|--------------------------------|---|--|
| 23. Theatre equipment | Documentation on equipment available Feedback from surgeons and trainees | |
| 24. Support/ancillary services | Documentation on services Feedback from surgeons and trainees | |

Standard 7 – Clinical governance, quality and safety

A hospital involved in surgical training must be fully accredited and have the governance structure to deliver and monitor safe surgical practices

| Accreditation Criterion | Factors Assessed | Minimum Requirements |
|---|---|--|
| 25. Head of Surgical Department and governance role | Documentation on structure of surgical department Position description and reporting lines | Designated Head with negotiated role in governance and leadership |
| 26. Hospital Credentialing or Privileging Committee | Documentation on Credentialing or Privileging Committee and its activities | Clinicians credentialed at least every 5 years |
| 27. Surgical audit and peer review program | Documentation on audit and peer review program for unit | Monthly audit review of morbidity/mortality All surgical staff participate Opportunities for fellow to participate |
| 28. Experience available to fellow in root cause analysis | Documentation on root cause analysis education Feedback from fellow/trainee | Training and participation occurs in root cause analysis. |

Curriculum

At the conclusion of the fellowship in Upper GI surgery, the fellow will be able to provide comprehensive, state-of-the-art medical and surgical care to patients with surgical disorders/diseases of the oesophagus, stomach, non-complex biliary tract/pancreas/liver, duodenum and spleen. The curriculum for training will consist of 5 modules. The modules of the curriculum include:

Module I Anatomy

Module II Pathophysiology

Module III Peri operative Care

- Subunit A General Principles
- Subunit B Radiology
- Subunit C Oncology

Module IV Clinical

- Subunit A Non-neoplastic oesophageal disorders
- Subunit B Oesophageal Tumours
- Subunit C Gastric and Duodenal Tumours
- Subunit D Spleen and Haemopoietic system
- Subunit E Biliary Tree/Hepatic (non complex)
- Subunit F Pancreatic
- Subunit G Morbid Obesity

Module V Research and Education

MODULE I

Anatomy

Recommended Reading
Mandatory Courses
Optional Courses:
Assessment:

1. Objectives:

- (a) Embryology of the development of foregut, dorsal mesogastrium (liver, biliary tract, pancreas and spleen), diaphragm, thoracic structures (oesophagus, azygos system, thoracic duct etc) and potential anomalies.
- (b) The anatomy of the thorax, oesophagus, diaphragmatic hiatus, stomach, biliary tract, pancreas and spleen.

3. Content

2.1 Embryology of the oesophagus, mediastinum, azygos system, chest, oesophagus, stomach, biliary tract, spleen and diaphragm with knowledge of developmental anomalies.

2.2 Endoscopic anatomy of oesophagus, stomach and duodenum

2.2.1 Endoscopic anatomy of the oesophagus:

- Cricopharyngeus, cervical oesophagus landmark
- Atrial and aortic arch relationships
- Squamo-columnar junction
- Lower oesophageal sphincter

2.2.2 Endoscopic anatomy of stomach

- Topographical definition of gastric cardia, fundus, body, antrum, incisura and pylorus

2.3 Anatomy of oesophagus

2.3.1 Anatomy and relationships of the cervical and thoracic oesophagus

- Relationships to mediastinal structures including recurrent laryngeal nerves, azygos veins, heart, great vessels, bronchi and thoracic duct.

2.3.2 Lymphatic drainage of oesophagus

2.3.3 Neural innervation of oesophagus

2.3.4 Lower oesophageal sphincter

- Embryology and composition of the diaphragm
- Anatomy and relationships of the diaphragmatic hiatus

- Knowledge of the attachments of the diaphragm
 - Intrinsic anatomy of the sphincter mechanism
- 2.3.5 Histological Structure
- Microscopic anatomy of oesophageal wall
 - Correlations with endoscopic ultrasound

2.3 Stomach and Duodenum

- 2.3.1 Anatomy and relationships of the stomach and duodenum
- Relationships to upper abdominal organs
 - Anatomical demarcation of cardia, body, antrum, pylorus and duodenal segments.
- 2.3.2 Blood supply of stomach
- 2.3.2 Lymphatic drainage of stomach including numbered lymphatic stations.
- 2.3.3 Neural innervation of stomach
- Vagal and sympathetic nerves
 - Coeliac axis
- 2.3.4 Histological Structure
- Microscopic anatomy of oesophageal wall
 - Correlations with endoscopic ultrasound
 - Pacemaker cells
- 2.3.4 Neuro-Hormonal physiology of satiety and weight homeostasis

2.5 Spleen

- 2.5.1 Anatomy of the spleen
- spectrum of normal anatomy and relationship to adjacent structures
 - developmental anomalies including site of possible splenunculi
 - normal and anomalous anatomy of splenic venous and arterial blood supply including patterns of segmental branching

MODULE II**Pathophysiology**

**Recommended Reading:
Assessment:**

1. Objectives:

Upon completion of this module, the Fellow will:

- 1.1 Have a thorough knowledge and understanding of the normal physiology of the oesophagus, stomach, duodenum, and spleen.
- 1.2 Have a thorough knowledge of relevant investigations including interpretation of manometry, pH profile and gastro-oesophageal motility and its correlation with the clinical situation.
- 1.3 A thorough knowledge of the underlying aetiology, pathogenesis and natural history of pathological conditions of the oesophagus, stomach, duodenum and spleen.

2. Content**2.1 Physiology of the Oesophagus**

- 2.1.1 Cricopharyngeal function
- 2.1.2 Peristalsis
- 2.1.3 Lower Oesophageal Sphincter Physiology
- 2.1.4 Epithelial physiology (squamous, gastric, junctional epithelium)
- 2.1.5 Oesophageal motility
- 2.1.6 Oesophageal epithelium and the transitional zone
- 2.1.7 Factors in the production of oesophageal pain

2.2 Interpretation of Normal Manometry

- 2.2.1 Resting pressure of LOS
- 2.2.2 Factors in relaxation
- 2.2.3 Neurohormonal control

2.3 Interpretation of Normal 24 hour pH studies

2.3.1 The normal range

2.3.2 Correlation

2.4 Pathology of the Oesophagus

Non neoplastic disorders

2.4.1 Oesophageal Infections

- Viral epidemiology, molecular aspects of carcinogenesis, mechanisms of chronic inflammation, serological markers of disease activity prognosis and complications.
- Pyogenic and fungal infections: classification, incidence, microbiology and pathogenesis of bacterial abscess, risk factors and natural history.
- Amoebiasis and other parasitic infestations.

2.4.2 Reflux oesophagitis

- Aetiology and pathophysiology, complications and prognosis
- Barrett's epithelium
- Classifications

2.4.3 Caustic and acid ingestion

2.4.4 Motility disorders

- Achalasia
Primary spasm
- Diabetes
Scleroderma
Involvement in neurological disorders

2.4.5 Trauma :(blunt and penetrating)

Classification and mechanisms of injury, pathophysiology and complications

- Foreign body
- Iatrogenic perforation
- Boerhaave's syndrome
Aetiology and pathophysiology

Neoplasms of the Oesophagus

This section implies a knowledge of the basic pathophysiology of neoplasia: This includes mechanisms of carcinogenesis, genetic alterations, mechanisms of chronic inflammation and principles of tumour biology including the metastatic process.

2.4.6 Benign neoplasms: Classification, histology, aetiology and pathogenesis natural history

- Leiomyoma
- GIST
- Lipoma
- Other benign lesions

2.4.7 Primary malignancies

- Adenocarcinoma oesophagus
Epidemiology and risk factors, staging, pathology and pathogenesis, complications and natural history
- SCC oesophagus
- Epidemiology and risk factors, staging, pathology and pathogenesis, complications and natural history

2.4.8 Secondary malignancies. Staging, pathogenesis, prognostic variables including molecular markers, natural history.

- Melanoma
- Neuroendocrine
- Other secondaries

2.5 Pathology of the Stomach

Non-neoplastic disorders

2.5.1 Gastric Infections

- Viral epidemiology, molecular aspects of carcinogenesis, mechanisms of chronic inflammation, serological markers of disease activity prognosis and complications.
- Helicobacter pylori:
classification, incidence, microbiology, associations and pathogenesis and natural history.

2.5.2 Non-infective Gastritis

- Aetiology and pathophysiology, complications and prognosis
- Atrophic gastritis and H pylori infection

2.4.3 Caustic and acid ingestion

- 2.4.4 Motility disorders
 - Idiopathic Gastro paresis
 - Post-operative Gastro paresis
 - Diabetic gastro paresis
 - Involvement in neurological disorders
- 2.4.5 Trauma :(blunt and penetrating)
 - Classification and mechanisms of injury, pathophysiology and complications
 - Foreign body
 - Iatrogenic perforation

Neoplasms of the Stomach

This includes mechanisms of carcinogenesis, genetic alterations, mechanisms of chronic inflammation and principles of tumour biology including the metastatic process.

- 2.4.6 Benign neoplasms: Classification, histology, aetiology and pathogenesis natural history
 - Leiomyoma
 - Lipoma
 - Other benign lesions
- 2.4.7 Borderline malignancies
 - GIST
- 2.4.8 Gastric malignancy
 - Adenocarcinoma stomach
 - Epidemiology and risk factors, staging, pathology and pathogenesis, complications and natural history
 - Lymphoma
 - Epidemiology and risk factors, staging, pathology and pathogenesis, complications and natural history
 - Other malignant conditions

2.5 Physiology of the Luminal Duodenum

- 2.5.1 The duodenal mucosa – physiology.
- 2.5.2 Neural and hormonal influences of exocrine secretion
- 2.5.5 Regulation of duodenal motility
- 2.5.6 Neuroendocrine (gut) hormone physiology

2.6 Pathology of Duodenum

Non neoplastic

2.6.1 Definition and classification of Duodenal ulcers

2.6.2 Acute Duodenitis

- aetiology and pathogenesis

2.6.3 Coeliac disease

- aetiology, pathophysiology and complications

Neoplastic conditions of the Duodenum

2.6.4 Benign Neoplasms of the Duodenum: A detailed knowledge of the classification, aetiology, pathogenesis, histology and natural history is required of the following conditions:

- Lipoma, Brunner's gland adenoma
- GIST
- Carcinoid, Zollinger Ellison Syndrome
- Neuroendocrine tumours

2.6.5 Malignant Tumours of the Duodenum - Histological classification

- GIST
- Primary adenocarcinoma: Epidemiology and risk factors; Pathogenesis - genetics and molecular biology, pathology and patterns of spread; Staging classification
- Lymphoma

2.6.6 Ampullary and duodenal tumours

- Staging and histological classification
- epidemiology, risk factors, pathogenesis and association with other diseases
- patterns of spread and natural history

2.6.7 Duodenal injuries

- epidemiology, pathophysiology and mechanisms of injury
- classification

2.8 Physiology of the spleen

2.8.1 Immune and haematological function of the spleen

2.8.2 Interpretation of tests of immune spleen function

2.9 Pathology of the spleen

2.9.1 Aetiology and pathogenesis of hypersplenism

2.9.2 Aetiology, pathophysiology and prognosis of hypersplenism including OPSI

2.9.3 Splenic Infarct and abscesses

2.9.4 Parasitic Infections of the spleen including Hydatid disease

2.9.5 Splenic Tumours: Aetiology, pathology and natural history

- Benign: splenic cysts
- Malignant: lymphoproliferative disorders, sarcoma, haemangiothelioma

2.9.6 Vascular: Aetiology, pathophysiology and complications

- splenic vein thrombosis
- splenic artery aneurism

3.0 Physiology of weight homeostasis

3.1 Pathophysiology of obesity

MODULE III

Peri-operative Care

This module will consist of 3 subunits. These include: (a) General principles in the peri-operative care of patients with Upper GI disorders, (b) Principles of Imaging (c) Principles of Oncology.

Subunit I

General Principles

Objectives

During this module the fellow should learn the following concepts

1. Demonstrate the ability to manage the peri-operative assessment and complications of patients with Upper GI disorders
2. Develop a detailed peri-operative and operative strategy for oesophageal, gastric, duodenal and splenic resections based on preoperative assessment and imaging of the patient with Upper GI disease.
3. Assess the overall risk of surgery by recognizing the implications of abnormalities of liver haematologic and biochemical testing on both hepatic and non-hepatic procedures.

Content

- 1.1 Demonstrate a detailed knowledge of the impact of co-morbidities and other risk actors on the impact of management of Upper GI disease.
 - 1.1.1 Evaluation of the high-risk patient in Upper GI Surgery - correlation of ASA and APACHE scores with operative morbidity and mortality.
 - 1.1.2 Prognostic effect of poor nutritional state (depletion and obesity) on peri-operative morbidity and measures to minimise these effects.
 - 1.1.3 The impact of respiratory disease on gastro-oesophageal surgery and strategies to minimise these effects.
Disorders of coagulation and management.
Minimising the impact of diabetes and cardio-respiratory disorders.

- 1.2 Peri operative complications and critical care management in patients with complex Upper GI disorders including
 - 1.2.1 Preoperative assessment of respiratory function prior to surgery including
 - History
 - Lung function tests
 - 1.2.2 Prophylaxis against common complications
 - Understanding of DVT prophylaxis and treatment
 - Measures to prevent sepsis
 - 1.2.4 Detailed operative plan based on preoperative Imaging
- 1.3 Management of complications
 - 1.3.1 Gastro paresis
 - 1.3.2 Anastomotic leak (thoracic and intra-abdominal)
 - 1.3.3 Bleeding and coagulation disorders
 - 1.3.4 Recurrent laryngeal nerve palsy
 - 1.3.3 Thoracic duct and lymphatic leaks
 - 1.3.4 Bronchopleural fistula
- 1.4 Sepsis
 - 1.4.1 Acquire a detailed knowledge of the various syndrome of systemic sepsis and its management including multi organ failure and supportive therapy.
 - 1.4.2 Management of abdominal collections and abscesses, radiological percutaneous techniques for abdominal collections: indications and outcomes.
 - 1.4.3 Approaches to peritoneal sepsis.
 - 1.4.4 Knowledge of the spectrum of organisms involved in sepsis associated with Upper GI diseases.
 - 1.4.5 Knowledge of common antibiotics used in the treatment of Upper GI sepsis including indications and toxicity.
 - 1.4.6 Gut enteric organisms - translocation and pathogenesis in sepsis
- 1.5 Nutrition
 - 1.5.1 Nutritional assessment: identification of malnutrition and nutritional risk factors
 - 1.5.2 Specific metabolic and nutritional problems associated with Upper GI disease: dysphagia, gastric outlet obstruction
 - 1.5.3 alterations in metabolism following major oesophago-gastric resection.
 - 1.5.4 Indications and timing for peri-operative nutrition enteral or parenteral.
methods of administration: jejunostomy, naso-enteric, parenteral.
 - 1.5.5 The role of preoperative nutrition in malignancy, severe achalasia, caustic injury.
Principles of dietary immunomodulation.

Basic understanding of calorific requirements and protocols in nutrition.

1.5.6 Complications of parenteral and enteral nutrition.

Subunit II

IMAGING

1. Objectives

Upon completion of this unit, the Fellow will:

- 1.1 Understand the physics and technology of Ultrasound and Doppler, CT Scan, MRI Scan, PET Scan and other nuclear imaging procedures including RBC scan, Octreotide scan and radionuclide Liver-Spleen Scan.
- 1.2 Understand the relative advantages, disadvantages and indications of each modality.
- 1.3 Interpret the detailed information provided by the imaging of the oesophagus, stomach, duodenum and spleen to the clinical situation.
- 1.4 Understand the role and application of endoscopic ultrasound in upper GI surgery

2. Content

- 2.1 The applied physics and technology of Ultrasound, Doppler, CT scan, MRI scan, PET Scan, radionuclide Liver Spleen Scan and other nuclear medicine imaging procedures.
- 2.2 The interpretation of images and application to clinical investigation.
- 2.3 Imaging algorithm for the investigation of oesophageal, gastric, duodenal and splenic disorders including:
 - 2.3.1 Malignancy of the oesophagus, stomach, duodenum
 - 2.3.2 Benign neoplasms oesophagus, stomach, duodenum
 - 2.3.3 Reflux disease and hiatus hernia
 - 2.3.4 Motility disorders particularly achalasia
 - 2.3.6 Cystic and non-cystic lesions of spleen

3. Clinical Skills

- 3.1 Apply the understanding of the relative merits of each imaging modality to efficiently investigate and stage lesions of the oesophagus, stomach, duodenum and pancreas.

- 3.2 Interpret images to correctly identify normal structure, anomalies and pathological abnormalities.
- 3.3 Integrate the findings of the various images with the clinical situation.
- 3.4 Perform and interpret endoscopic and laparoscopic ultrasound.

Subunit III

ONCOLOGY

Objectives

- 1.6.1 Understand the mechanisms of action of the classes of chemotherapeutic agents currently available for Upper GI malignancies.
- 1.6.2 Understand the physics, mechanism of action and technology of radiation therapy.
- 1.6.3 Apply this understanding to the multidisciplinary management of Upper GI malignancies.
- 1.6.4 **Chemotherapy**
Knowledge should include:
 - (1) Classes of drugs
 - (2) Mechanisms of action
 - (3) Toxicities
 - (4) Combination therapy and available protocols
- 1.6.5 **Radiation therapy**
 - (1) Applied physics and technology
 - (2) Mechanism of action
 - (3) Toxicity
 - (4) Combination protocols with chemotherapy
- 1.6.6 **Multidisciplinary management**
- 1.6.7 **Relative roles of surgery, ablation, chemotherapy and radiation therapy as:**
 - (a) Definitive management
 - (b) Neo- and adjuvant therapy
 - (c) Therapy for recurrent disease
 - (d) Palliative therapy
- 1.6.8 **Clinical Skills**
 - (a) Apply knowledge of tumour biology, chemotherapy and radiation therapy to recommend an appropriate treatment strategy for the management of individual Upper GI malignancies.
 - (b) Participate regularly in multidisciplinary tumour review conferences.
 - (c) Interact with interventional Radiologists, Medical Oncologists, Radiation Oncologists, Oncology Nurses and Allied Health Professionals, Palliative Care Physicians and Nurses.

MODULE IV

CLINICAL

Objectives:

Upon completion of this unit the fellow will understand:

- (a) The pathophysiology, presentation and natural history of disorders of the oesophagus, stomach, duodenum, biliary tract and spleen.
- (b) The investigative procedures available to efficiently diagnose the disease.
- (c) The treatment options available for the condition and the results, including the risks and benefits of the operative and non-operative procedures.
- (d) The pre, intra- and postoperative management, including the management of complications of therapy.

Optional: advanced laparoscopic workshop(s) in Upper GI Surgery

Subunit A

NON-NEOPLASTIC OESOPHAGEAL DISORDERS

Content:

| | | | |
|---|--|---|---|
| <p>GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD)</p> <ul style="list-style-type: none"> - Minimal change - Ulcerative oesophagitis - Stricture - Barrett's - Respiratory | <p>Describe and differentiate the clinical symptoms of this condition</p> <p>Describe the appropriate investigations (gastroscopy, manometry, 24 hr pH, barium swallow)</p> <p>Detailed knowledge of operative and postoperative complications of fundoplication</p> <p>Detailed knowledge of outcomes following various treatment options including QOL</p> | <p>Describe and evaluate the management of these conditions.</p> <p>Indications and options of conservative management, laparoscopic minimally invasive and open surgical techniques</p> <p>Describe early and late complications of operative intervention</p> | <ul style="list-style-type: none"> - Endoscopic assessment and techniques - Laparoscopic fundoplication - Laparoscopic repair hiatus hernia - Re-operative fundoplication - Medical management |
|---|--|---|---|

| | | | |
|--|---|---|---|
| <p>HIATUS HERNIAS</p> <p>Para-oesophageal , traumatic or Congenital Hiatus Hernia</p> <p>Acute gastric volvulus</p> | <p>Describe the clinical features and various presentations of mechanical complications</p> <p>Determine the optimum imaging techniques</p> <p>Describe the acute clinical presentation of this condition</p> <p>Have a detailed knowledge of the optimum imaging techniques in characterising this problem</p> | <p>Detailed knowledge of the management including abdominal and thoracic approaches versus conservative management</p> <p>Detailed knowledge of various surgical techniques.</p> <p>Detailed knowledge of indications and options of management including nasogastric decompression versus immediate surgery</p> <p>Knowledge of complications and outcomes</p> | <p>Laparoscopic trans-abdominal repair</p> <p>Open trans-abdominal repair</p> <p>Revisional surgery</p> <p>Materials and techniques of mesh repair</p> <p>Revisional surgery</p> <p>Resectional surgery</p> |
| <p>OESOPHAGEAL PERFORATION and FOREIGN BODIES</p> <p>Boerhaave's syndrome</p> <p>Iatrogenic perforation</p> <p>Foreign bodies</p> | <p>Describe the aetiology and mechanism of spontaneous perforation</p> <p>Assess the clinical symptoms and signs of perforation</p> <p>Describe the role of gastroscopy, contrast barium swallow, CXR and CT scan</p> | <p>Principles of non-operative, endoscopic and operative management</p> | <p>Endoscopic Assessment</p> <p>Conservative Management</p> <p>Surgical Management of acute perforation</p> <p>Endoscopic management</p> <p>Delayed surgical options</p> |
| <p>OESOPHAGEAL STRICTURES (BENIGN)</p> <p>Peptic and corrosive strictures</p> <p>Schatzki ring and webs</p> | <p>Describe the lesion and aetiology of each type</p> <p>Assess the clinical symptoms</p> <p>Describe the role of gastroscopy and barium swallow</p> | <p>Principles of non-operative, endoscopic and operative management</p> <p>Management of acute corrosive ingestion</p> | <p>Endoscopic assessment of stricture</p> <p>Conservative Management of acute corrosive injury</p> <p>Surgical Management of acute corrosive injury</p> <p>Endoscopic dilatation</p> <p>Delayed surgical options</p> <p>Anti-reflux surgery</p> |

| | | | |
|--|--|--|---|
| OESOPHAGEAL MOTILITY DISORDERS Achalasia Diffuse spasm Non-specific Hypomotility Zenker's diverticulum Epiphrenic diverticulum | Detailed knowledge of clinical presentation, classification and pathophysiological changes Optimum imaging, and manometric techniques to define nature of problem | Appreciation of appropriate options in management of achalasia including myotomy, balloon dilatation, Botox injection Appreciation of surgical options (open myotomy versus endoscopic stapled management of pharyngeal pouch Role of diverticular resection when present with achalasia. Influence of dysmotility in decision making in GORD | Endoscopic assessment Laparoscopic myotomy with or without fundoplication Open cricopharyngeal myotomy Endoscopic stapled cricopharyngeal myotomy Epiphrenic diverticulectomy (transabdominal or transthoracic) |
|--|--|--|---|

Operative skills required:

1. Insertion of ports or abdominal wall incisions appropriate for the intended procedure
2. Liver retraction
3. Laparoscopic crural dissection
4. Diaphragmatic repair without mesh
5. Diaphragmatic repair with mesh
6. Dissection and mobilization of the oesophago-gastric junction
7. Laparoscopic extra peritoneal dissection of large mediastinal sac
8. Laparoscopic intra-corporeal suturing
9. Laparoscopic extra-corporeal suturing
10. Laparoscopic Nissen or posterior 270 degree fundoplication
11. Laparoscopic Anterior 180 or 90 degree fundoplication
12. Endoscopic techniques (experimental)
13. Laparoscopic Heller's myotomy (transabdominal)
14. Laparoscopic Heller's myotomy (transthoracic)
15. Laparoscopic Heller's myotomy with fundoplasty
16. Laparoscopic epiphrenic diverticulectomy
17. Endoscopic Zenker's diverticulectomy/myotomy
18. Thoracotomy for perforation
19. Endoscopic dilatation, removal foreign body, dilatation, clipping, glue techniques

Subunit B**OESOPHAGEAL TUMOURS**

| | | | |
|---|---|--|--|
| <p>BENIGN TUMOURS</p> <p>Leiomyoma GIST Lipoma</p> | <p>Awareness of clinical presentation, natural history</p> <p>Knowledge of imaging modalities to distinguish between malignant and benign tumours of the oesophagus</p> | <p>Principles of management including indications expectant, resection and follow up protocols</p> | <p>Endoscopic assessment and diagnosis</p> <p>Endoscopic ultrasound</p> <p>Principles of resection</p> <p>Thorascopic or laparoscopic or open surgical approaches</p> |
| <p>BARRETT'S METAPLASIA</p> <p>High-grade dysplasia Carcinoma-in-situ</p> | <p>Appreciates the natural history and has a detailed knowledge of risks of malignant transformation and concomitant invasion</p> | <p>Principles of management: Anti-reflux measures versus ablation</p> <p>Screening issues</p> <p>Follow-up protocols and their merits</p> | <p>Anti-reflux medication</p> <p>Anti-reflux surgery</p> <p>Endomucosal resection</p> <p>HALO RF ablation</p> <p>APC ablation</p> <p>Oesophagectomy</p> |
| <p>CARCINOMA THORACIC OESOPHAGUS</p> <p>Adenocarcinoma SCC Neuroendocrine Metastatic Other</p> | <p>Awareness of clinical presentation</p> <p>Knowledge of imaging and other investigations to diagnose and stage disease</p> <p>Complications</p> | <p>General principles of peri-operative management</p> <p>Indications for curative or palliative procedures and likely outcomes</p> <p>The role of chemotherapy or radiotherapy in a palliative, neoadjuvant or adjuvant role</p> <p>Appreciate the management options for cervical, mid-thoracic and distal thoracic carcinoma</p> <p>Follow up protocols</p> | <p>Staging laparoscopy and/or biopsy</p> <p>Oesophagectomy – Two, three stage, Open, video-assisted or total laparoscopic</p> <p>Feeding jejunostomy</p> <p>Percutaneous or endoscopic stenting procedures</p> <p>Lymph node clearance</p> <p>Reconstructive techniques</p> |
| <p>Carcinoma of oesophago-gastric junction</p> <p>Resectable Non-resectable</p> | <p>Clinical presentation</p> <p>Knowledge of radiology, laparoscopy and nuclear tests to assess and stage disease</p> <p>Staging classification complications</p> | <p>General principles of peri-operative management</p> <p>Indications for curative or palliative procedures and likely outcomes</p> <p>The role of chemotherapy or radiotherapy in a palliative, neoadjuvant or adjuvant role</p> <p>Appreciate the management options for cervical, mid-thoracic and distal thoracic carcinoma</p> <p>Follow up protocols</p> | <p>Staging laparoscopy and/or biopsy</p> <p>Gastro-Oesophagectomy – Open, video-assisted or total laparoscopic, left thoracic approaches</p> <p>Total gastrectomy with oesophagectomy</p> <p>Percutaneous or endoscopic stenting procedures</p> <p>Lymph node clearance</p> <p>Reconstructive techniques</p> |

Operative skills required:

1. Insertion of ports or abdominal wall incisions appropriate for the intended procedure
2. Endoscopic ultrasound
3. Endoscopic mucosal resection or HALO
4. Gastric and oesophageal mobilisation
5. Left gastric lymph node dissection
6. Mediastinal lymph node dissection
7. Thorascopic oesophageal dissection
7. Dissection of carina
8. Preparation of gastric conduit
9. Preparation of colonic conduits
10. Preparation Free jejunal grafts
11. Anastomotic sutured techniques (chest/ neck)
12. Anastomotic stapling techniques (chest/neck)
13. Management of the thoracic duct
14. Transection of azygos vein
15. Intercostal tube insertion
16. Feeding jejunostomy techniques

Subunit C**GASTRIC and DUODENAL TUMOURS**

| | | | |
|--|--|--|---|
| <p>BENIGN TUMOURS</p> <p>Polyps Leiomyomata Lipomata</p> | <p>Awareness of clinical presentation, natural history</p> <p>Knowledge of imaging modalities to distinguish between malignant and benign tumours of the stomach</p> | <p>Principles of management including indications for resection and follow up protocols</p> | <p>Principles of resection</p> <p>Open, laparoscopic or endoscopic approaches</p> <p>Local excision (WLE, sub-mucosal, partial gastrectomy)</p> <p>Role of frozen section</p> |
| <p>BORDERLINE TUMOURS</p> <p>GIST Dysplastic polyps Polyp syndromes (rare) Carcinoids</p> | <p>Awareness of clinical presentation</p> <p>Knowledge of imaging and other investigations to diagnose and stage disease</p> <p>Complications</p> | <p>General principles of peri-operative management</p> <p>Indications for curative or palliative procedures and likely outcomes</p> <p>The role of chemotherapy or radiotherapy in a palliative, neoadjuvant or adjuvant role</p> <p>Follow up protocols</p> | <p>Open resection (WLE, partial gastrectomy)</p> <p>Transduodenal resection</p> <p>Subtotal gastrectomy</p> <p>Total gastrectomy (rarely)</p> <p>Role of lymphadenectomy</p> |

| | | | |
|----------------------------|---|--|---|
| GASTRIC MALIGNANCY | Awareness of clinical presentation | General principles of peri-operative management | Staging laparoscopy and/or biopsy |
| Adenocarcinoma | Knowledge of imaging and other investigations to diagnose and stage disease | Indications for curative or palliative procedures and likely outcomes | Resection (subtotal, total gastrectomy) |
| Lymphoma | | | |
| Other | | | |
| | Complications | The role of chemotherapy or radiotherapy in a palliative, neoadjuvant or adjuvant role | Lymphadenectomy (D1/D2 etc) |
| | | Follow up protocols | Surgical bypass procedures |
| | | | Palliative stenting |
| DUODENAL MALIGNANCY | Awareness of clinical presentation | General principles of peri-operative management | Local excision |
| Adenocarcinoma | Knowledge of imaging and other investigations to diagnose and stage disease | Indications for curative or palliative procedures and likely outcomes | Segmental resection |
| GIST | | | |
| | | | |
| | Complications | The role of chemotherapy or radiotherapy in a palliative, neoadjuvant or adjuvant role | Whipples resection |
| | | Follow up protocols | Lymphadenectomy |

Operative Skills

1. Abdominal incisions and placement of ports for appropriate procedure
2. Placement of and types of drains
3. Laparoscopic staging of gastric tumours
4. Local excision techniques (open or laparoscopic)
5. Local excision techniques (endoscopic)
6. Gastric mobilisation
7. Duodenal mobilisation and transection
8. Subtotal distal gastrectomy
9. Roux loop preparation
10. Total gastrectomy
11. Dissection left gastric pedicle
12. Oesophago-jejunostomy (no pouch)
13. Oesophago-jejunostomy (Lawrence pouch)
14. Gastro-oesophagectomy
15. Lymph node dissection (D1/D2)
16. Transduodenal resection
17. Duodenal resection

Subunit D**SPLEEN**

| | | | |
|--|---|--|--|
| SPLENIC TRAUMA | <p>Staging of splenic trauma</p> <p>Mechanisms of injury</p> <p>Clinical presentation</p> <p>Radiological investigations to diagnose, stage splenic injury as well as other injuries</p> <p>Complications and natural history of splenic trauma</p> <p>Detailed knowledge of acute and long term complications of splenectomy</p> | <p>Management principle of splenic trauma including the indications of conservative , radiological (angiography) and open surgical intervention</p> <p>The complications and relative merits of these techniques</p> <p>Management of the complications of splenic trauma including long term management and follow up of OPSI</p> | <p>Assessment of splenic trauma at laparotomy</p> <p>Total splenectomy</p> <p>Splenorrhaphy</p> |
| <p>Splenic tumours- Primary and secondary</p> <p>Cystic and solid</p> <p>Haematological and infections involvement of spleen</p> <p>Splenic Artery Aneurysms</p> | <p>Clinical presentation</p> <p>Radiological investigation to differentiate the pathological nature</p> <p>Knowledge of complications of splenectomy</p> | <p>Management principles including the indications for conservative therapy or splenectomy</p> <p>Peri-operative management ITP patients</p> | <p>Splenectomy (open)</p> <p>Splenectomy (laparoscopic)</p> <p>Techniques of splenectomy for massive spleen</p> |
| Lymph Nodes including Lymphoma | <p>Clinical presentation</p> <p>Radiological assessment</p> | <p>Describe the role of lymph node biopsy</p> <p>Radiologically-guided node biopsy</p> | <p>Open node biopsy (cervical, axillary femoral)</p> <p>Open abdominal node biopsy (mesenteric, retroperitoneal)</p> <p>Laparoscopic abdominal node biopsy</p> |

Operative Skills

1. Abdominal incisions and placement of ports for appropriate procedure
2. Placement of and types of drains; principles of sump drainage and peritoneal lavage
3. Splenectomy for trauma
4. Splenorrhaphy
5. Splenectomy for massive spleens, portal hypertension and tumours
6. Ligation of splenic artery aneurysm

Subunit E**MORBID OBESITY**

| | | | |
|------------------------------------|---|---|---|
| Definition | Body Mass Index Classification Clinical sequelae Preoperative assessment Medical consequences Detailed knowledge of acute and long term complications of bariatric surgery Basic principles of bariatric surgery and techniques | Conservative management of obesity The multidisciplinary team Management of the complications of bariatric surgery and long-term management | Laparoscopic band Tube gastrectomy Roux en Y bypass Other procedures |
| Management of Complications | Clinical presentation Radiological investigation to differentiate causes Knowledge of complications of bariatric procedures | Management principles including the indications for conservative versus surgical intervention | Re-do surgery Management of leak Acute mucosal prolapse or ischaemia from bands |

Operative Skills

1. Abdominal incisions and placement of ports for banding
2. Placement of and types of drains; principles of sump drainage and peritoneal lavage
3. Sleeve gastrectomy techniques
4. Roux en Y bypass
5. Re-do surgery techniques

Module IV Education and Research

Clinical research must be included in the clinical program. Upper GI fellows must meet the following research requirements as part of the fellowship:

- a. Have published or accepted for publication an article in an international peer reviewed journal (not case report/abstract)
- b. Presented at a national or international forum (not a poster)
- c. Should initiate or participate in a research project

Laboratory research or enrolment in a higher degree is optional and will not replace any time in the clinical fellowship. In addition, the fellow should have:

1. Knowledge of the design and implementation of a prospective data base
2. Knowledge of the design and conduct of prospective clinical trials
3. Knowledge of the process of translational research
4. Knowledge of statistical methods to properly evaluate the results of published research studies
5. Knowledge and skills to train students and residents in the multidisciplinary management of Upper GI patients
6. Skills to organize and conduct Upper GI related public education programs