1. Objectives of Training and Specialty Training Requirements in General Surgery

Site: [http://rcpsc.medical.org/residency/certification/training/gensur_e.html](http://rcpsc.medical.org/residency/certification/training/gensur_e.html)

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1.2 Objectives of Training

**Definition**

The specialty of General Surgery embraces the principles and techniques of safe and effective surgical care of the whole person of any age, and is the parent of all surgical specialties. The Resident in general surgery is an eclectic surgical specialist whose practice deals mainly with the alimentary tract, trauma and critical care, endocrine and breast diseases, cancer surgery and endoscopy. By virtue of training, special interest or circumstance the practice of general surgery may be narrowly focused or may extend to diseases or injuries affecting virtually any system of the body. Modern general surgical practice includes expertise in communication and collaboration, teaching and research, health care management and continuing professional development.

**General objectives**

Upon completion of training, a resident is expected to be a competent specialist in General Surgery capable of assuming a consultant's role in general surgery. The resident must acquire a thorough knowledge of the theoretical basis of general surgery, including its foundations in the basic medical sciences and research.

To achieve competency as a resident in general surgery, the resident must achieve:

- knowledge and expertise in clinical and operative management of diseases of the alimentary tract, breast and endocrine systems, trauma and critical care, general surgical oncology and ambulatory patient care for general surgery;
- mastery of surgical skills of open cavitary surgery, endoscopy, minimal access surgery, endocrine surgery, breast surgery, trauma surgery and soft tissue surgery including abdominal wall surgery; and
- effective clinical judgment and decision making in dealing with general surgical problems based on sound surgical fundamentals.

Residents must demonstrate the knowledge, skills and attitudes relating to gender, culture and ethnicity pertinent to general surgery. In addition, all residents must demonstrate an
ability to incorporate gender, cultural and ethnic perspectives in research methodology, data presentation and analysis.

Senior residency is defined as a year in which the resident is regularly entrusted with the responsibility for pre-operative, operative, and post-operative care, including the most difficult problems in General Surgery. The senior resident shall be in charge of a general surgical unit. The senior resident shall be directly responsible to the attending staff surgeons in the general surgical unit.

**Specific Objectives**
*(Revised into CanMEDS format — July 2002)*

At the completion of training, the resident will have acquired the following competencies and will function effectively as:

**Medical Expert/Clinical Decision-Maker**

Specialists possess a defined body of knowledge and procedural skills, which are used to collect and interpret data, make appropriate clinical decisions, and carry out diagnostic and therapeutic procedures within the boundaries of their discipline and expertise. Their care is characterized by up-to-date and whenever possible evidence-based, ethical, and cost-effective clinical practice and effective communication in partnership with patients, other health care providers, and the community. The role of medical expert/clinical decision-maker is central to the function of specialist physicians, and draws on the competencies included in the roles of scholar, communicator, health advocate, manager, collaborator, and professional.

**General Requirements**

- Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
- Access and apply relevant information to clinical practice.
- Demonstrate effective consultation services with respect to patient care, education and legal opinions.

**Specific Requirements**

1. The resident in general surgery is required to attain sufficient knowledge, diagnostic interpretations, judgment and skills in general surgical techniques including endoscopy and minimal access surgery to manage adult and pediatric patients with the following:
   - diseases of the alimentary tract, including esophagus, spleen, liver, pancreas and biliary tract;
   - trauma and critical illness, including emergency and intensive care;
   - surgical oncology including multidisciplinary management of cancer patients;
   - endocrine disease — including breast disease;
2. The resident in general surgery should attain sufficient knowledge and understanding of principles of surgical management in order to provide effective care exclusive of major surgical techniques related to the following:
   - head and neck disease;
   - transplantation; and
   - thoracic surgery.

3. In order to sustain medical expertise, the resident in general surgery must understand and participate in the following:
   - orthopedic trauma involving neurovascular compromise;
   - interventional imaging technologies;
   - diagnostic laboratory procedures and interpretations;
   - continuing professional development;
   - life-long learning;
   - multidisciplinary care;
   - health information systems; and
   - new technology.

Communicator

To provide humane, high-quality care, specialists establish effective relationships with patients, other physicians, and other health professionals. Communication skills are essential for the functioning of a specialist, and are necessary for obtaining information from, and conveying information to patients and their families. Furthermore, these abilities are critical in eliciting patients' beliefs, concerns, and expectations about their illnesses, and for assessing key factors impacting on patients' health.

General Requirements

Establish therapeutic relationships with patients/families.
Obtain and synthesize relevant history from patients/families/communities.
Listen effectively.
Discuss appropriate information with patients/families and the health care team.

Specific Requirements

1. Recognize that being a good communicator is an essential function of a surgeon, and understand that effective communication can foster patient satisfaction and compliance as well as influence the manifestations and outcome of a patient's illness.
2. Establish relationships with the patient that are characterized by understanding, trust, respect, empathy and confidentiality.
3. Gather information not only about the disease but also about the patient's beliefs, concerns and expectations about the illness, while considering the influence of factors such as the patient's age, gender, ethnic, cultural and socio-economic background, and spiritual values on that illness.

4. Deliver information to the patient and family in a humane manner and in such a way that it is understandable, encourages discussion and promotes patient's participation in decision-making to the degree that is compatible with current surgical practice.

5. Understand and demonstrate the importance of cooperation and communication among health professionals involved in the care of individual patients such that the roles of these professionals are delineated and consistent messages are delivered to patients and their families.

6. Demonstrate skills in working with others who present significant communication challenges such ethno-cultural background different from the physician's own, anger or confusion.

**Collaborator**

Specialists work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. It is therefore essential for specialists to be able to collaborate effectively with patients and a multidisciplinary team of expert health professionals for provision of optimal patient care, education, and research.

**General Requirements**

Consult effectively with other physicians and health care professionals.
Contribute effectively to other interdisciplinary team activities.

**Specific Requirements**

1. Develop an ability to work effectively and harmoniously with other health care workers.

2. Function competently in the initial management of conditions that, in major centres, fall within the realm of other surgical specialties.

3. Develop a care plan for a patient, who has been assessed, including investigation, treatment and continuing care, in collaboration with the members of the interdisciplinary team.

4. Identify and describe the role, expertise and limitations of all members of an interdisciplinary team required to optimally achieve a goal related to patient care, a research problem, an educational task, or an administrative responsibility.

5. Participate in an interdisciplinary team meeting, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing personal specialty-specific expertise.

6. Understand how health care governance influences patient care, research and educational activities at a local, provincial, regional, and national level.
7. Effectively communicate with the members of an interdisciplinary team in the resolution of conflicts, provision of feedback, and where appropriate, be able to assume a leadership role.

Manager

Specialists function as managers when they make everyday practice decisions involving resources, co-workers, tasks, policies, and their personal lives. They do this in the settings of individual patient care, practice organizations, and in the broader context of the health care system. Thus, specialists require the abilities to prioritize and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite health care resources. As managers, specialists take on positions of leadership within the context of professional organizations and the dynamic Canadian health care system.

General Requirements

Utilize resources effectively to balance patient care, learning needs, and outside activities.
Allocate finite health care resources wisely.
Work effectively and efficiently in a health care organization.
Utilize information technology to optimize patient care, life-long learning and other activities.

Specific Requirements

1. Understand how to function effectively in health care organizations, ranging from an individual clinical practice to local, regional and national surgical associations.
2. Understand the structure, financing, and operation of the Canadian health system, and function effectively within it, as well as be capable of playing an active role in its change.
3. Acquire the ability to access and apply a broad base of information to the care of patients in ambulatory care, hospitals and other health care settings.
4. Make clinical decisions and judgments based on sound evidence for the benefit of individual patients and the population served.
5. Understand population-based approaches to health care services and their implication for medical practice and prioritization to access.

Health Advocate

Specialists recognize the importance of advocacy activities in responding to the challenges represented by those social, environmental, and biological factors that determine the health of patients and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, and the broader community. Health advocacy is appropriately expressed both by the individual and collective responses of specialist physicians in influencing public health and policy.
**General Requirements**

Identify the important determinants of health affecting patients.
Contribute effectively to improved health of patients and communities.
Recognize and respond to those issues where advocacy is appropriate.

**Specific Requirements**

Demonstrate an understanding of the following:

- determinants of health by identifying the most important (i.e., poverty, unemployment, early childhood education, social support systems), being familiar with the underlying research evidence, and applying this understanding to common problems and conditions in general surgery;
- determination of patient's status with respect to one or more of the determinants of health and adapting the assessment and management accordingly; and assessing the patient's ability to access various services in the health and social system; and
- analysis of a general surgery practice in order to work with specialty societies and other associations in identifying current "at risk" groups and apply the available knowledge about prevention to "at risk" groups within the practice.

**Scholar**

Specialists engage in a life-long pursuit of mastery of their domain of professional expertise. They recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the appraisal, collection, and understanding of health care knowledge, and facilitate the education of their students, patients, and others.

**General Requirements**

Develop, implement and monitor a personal continuing education strategy.
Critically appraise sources of medical information.
Facilitate learning of patients, house staff/students and other health professionals.
Contribute to development of new knowledge.

**Specific Requirements**

The resident in general surgery will develop an inquiring mind and a critical attitude to scientific literature, as well as an ability to adapt to innovations and changes in general surgery which will occur during a general surgery career.

1. Clinical:
   - identify clinical problems in general surgery;
• recognize and identify gaps in knowledge and expertise around the problem;
  o formulate a management plan:
    ▪ conduct an appropriate literature search based on the clinical question
    ▪ assimilate and appraise the literature
    ▪ develop a system to store and retrieve relevant literature
    ▪ consult others (physicians and other health professionals) in a collegial manner
  o propose treatment for the clinical problem;
  o evaluate the outcome; and
    ▪ identify practice areas for research.

2. Research:
  o pose a research question (clinical, basic or population health);
  o develop a proposal to solve the research question:
    ▪ conduct an appropriate literature search based on the research question
    ▪ identify, consult and collaborate with appropriate content experts to conduct the research
    ▪ propose a methodological approach to solve the question
  o carry out the research outlined in the proposal;
  o defend and disseminate the results of the research; and
  o identify areas for further research that flow from the results.

3. Education:
  o demonstrate an understanding of, and the ability to apply, the principles of adult learning, with respect to oneself and others; and
    ▪ demonstrate an understanding of preferred learning methods in dealing with students, residents, and colleagues.

Professional
Specialists have a unique societal role as professionals with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well-being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

General Requirements
Deliver highest quality care with integrity, honesty and compassion.
Exhibit appropriate personal and interpersonal professional behaviours.
Practice medicine ethically consistent with obligations of a physician.

Specific Requirements

1. Acquire the training and experience to maintain competence as a specialist or subspecialist.
2. Have recognition of responsibility for the overall care of the surgical patient.
3. Have a comprehensive knowledge of the principles of biomedical ethics and medical jurisprudence.
4. Have an ethical relationship with colleagues, patients and relatives.
5. Have knowledge of one's limitations of professional competence.
6. Have the ability to explore and resolve interpersonal difficulties in professional relationships.
7. Demonstrate ways of attempting to resolve conflicts and role strain.
8. Have knowledge and understanding of the professional, legal and ethical codes to which physicians are bound.
9. Have the ability to recognize, analyse and know how to deal with unprofessional behaviours in clinical practice, taking into account local and provincial regulations.

1.3 Specialty Training Requirements

These specialty training requirements apply to those who begin training on or after 1 June 2003. Please also see the 1996 requirements pertaining to those who begin training before 1 June 2003.

Five years of approved residency training. Training should incorporate the principle of graded increasing responsibility. This must include at least 36 months of General Surgery rotations, of which at least one year must be spent as a senior or chief resident. This period must include:

1. two (2) years of core training in surgery (please see the Objectives attached to this document).
2. thirty (30) months of approved residency training in general surgery, one continuous year of which must be at a senior resident position;
3. six (6) months of approved residency training that may include:
   1. further approved residency in general surgery or in one or more branches of general surgery such as pediatric surgery, vascular surgery, thoracic surgery, surgical oncology, or colorectal surgery;
   2. clinical or basic research in a department approved by the Program Director, Residency Committee, and the Royal College (see "Policies and Procedures" Section IV);
   3. up to six (6) months of training in other areas which are relevant to the resident's career goals and which are acceptable to the Residency Committee of his or her medical school; this period may include up to three months in an institution that is not approved for residency training by the Royal College of Physicians and Surgeons of Canada.
      1. This period may include:
         1. further approved residency in another surgical discipline such as plastic surgery, gynecology or urology;
         2. further residency in an approved program in a non-surgical specialty such as critical care, pathology, gastroenterology or internal medicine, infectious disease, transplantation or interventional radiology;
         3. rural or remote general surgery.
1.4 Royal College Objectives of Training and Specialty Training Requirements

Click here for the Royal College Objectives of Training and Specialty Training Requirements in General Surgery

2. General Surgery Resident's Orientation

2.1 Contacts

Welcome to General Surgery Residency!

Residency Program Director
Dr Susan Reid  
MUMC site Rm. 3V1  
Phone: 905-521-2617  
Email: reid@mcmaster.ca

Residency Education Coordinator
Carrie Grigg  
MUMC site, Room 4E14  
Phone: 905-521-2100 ext. 75844  
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Residency Education Assistant
Katie Niblock  
MUMC Site, Room 4E  
Phone: 905-521-2100 ext. 73932  
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CORE Coordinator
Jane Klie  
St. Joseph’s Healthcare, G815  
Phone: 905-521-6003  
Email: kliej@mcmaster.ca

The program is primarily based in the four acute care sites in Hamilton. St Joseph's Healthcare and the three sites of the Hamilton Health Sciences (Hamilton General Hospital, Henderson Hospital, and McMaster University Medical Center). Expect to experience all sites during your five-year program.

St Joseph's Hospital is a located in downtown Hamilton - 50 Charlton St. East  
Phone # 905-522-4941 or automated # 905-522-1155
CTU Director Dr Deepak Dath  
Office: 905-521-6003  
Busy Emergency and also emphasis on minimal access surgery.  
Usually 2 chief residents.  
Seven general surgeons  
Also site of Thoracic Surgery, Head and Neck Surgery, Plastic Surgery, Urology, and Vascular.  
Hamilton General Hospital is located in the 'eastern' part of Hamilton 237 Barton St. E.  
Phone: 905-527-0271

CTU Director Dr Niv Sne  
Office: 905-527-4322 ext. 44665  
Busy Emergency that is trauma oriented.  
Usually 1 chief resident.  
Five General Surgeons.  
Also site of Orthopedics

- Trauma Service  
- Plastic surgery  
- Neurosurgery  
- Vascular  
- ICU rotation  
- Burn Unit  
- Cardiac Surgery

Henderson General Hospital has 'bread and butter' general surgery and by its affiliation with the Cancer Center also oncology. It is located on the 'Mountain' - 711 Concession St.  
Phone: 905-389-4411

CTU Director Dr Ken Sanders  
Office: 905-387-1367  
Usually 1-2 chief residents  
Four General surgeons  
McMaster University Medical Center is a site of Children's Hospital and Digestive Diseases Group and is located in the west part of Hamilton at 1200 Main St West.  
Phone: 905-521-2100  
Paging: 905-521-5030

CTU Director Dr Stephen Kelly  
Phone: 905-521-2100 x76241  
Usually 2 Chief residents  
5 General Surgeons / 3 Pediatric Surgeons  
Also site of Hepatobiliary/Colorectal service  
Pediatric Surgery
Please contact your CTU directors and chief residents regarding teaching rounds at each of your hospitals

Five Years
General Surgery rotations occur at all four sites where you will do 6 months of General Surgery each year in your first, second and fourth year. Compulsory exposure is needed to ICU, pediatric surgery and to endoscopy (usually a formal GI rotation). Other rotations are 'optional'.

Year One
- 6 months of general surgery
- 2 months of internal medicine
- 2 months of ER
- 2 months of other

Year Two
- 6 months of general surgery
- Possible Choices (usually 2 months) - Urology, Plastics Surgery, GI service, Radiology, Pathology, Orthopedics, Research

Year Three
- Mandatory-Peds Surgery, ICU and GI if not already done
- Possible Choices 2 or 3 months - Community Elective, Pathology, Vascular, Head and Neck, Thoracic

Year Four (actually 9 months)
- 6 months of general surgery usually split between the two sites that have not been experienced and one other subspecialty as listed above

Year Five - The Chief Year- starts in April ends March
- Usually 4 or 6 month rotations in two or three of the four acute care sites.
- April - June of the last year – Outpatient rotation + prep for the 'Big Quiz' but will still be on call and must attend outpatient clinics

Evaluations
- Resident In-training evaluations are to be filled out on the Webeval System after each rotation by the service attending. Residents are required to complete a Faculty Evaluation at the end of each rotation on the Webeval System. Residents will not be able to retrieve evaluations completed on the Webeval System until the appropriate Faculty Evaluation is completed. Remember this is anonymous and is the only way to improve rotations.
Mock Oral Exams
Occur twice a year, December and May and test your knowledge as well as 'examineship' i.e. style.

CAGS (Canadian Association of General Surgery)
Occurs in February and tests your knowledge. It’s a good way to see how you're doing.

POS (Principles of Surgery) Exam
This occurs during the second core year. Remember to get your application in- Carrie or Sharon will remind you! Good idea to set up a study group.

Academic Half Day - Wednesday AM

CORE Sessions 0900-1200H - Attendance Mandatory
PGY1-2 Core Program - organized by Dr Deepak Dath and is a two year cycle. These sessions will help in preparation for the POS exam. PGY3-5 Senior Sessions - Room 3N50, MUMC 0930-1100H

Research Days
Dept of Surgery, Annual Residents’ Research Day – November 1, 2006
General Surgery Resident Research Day – September 15, 2005

Research Projects
Try to get involved in a project. Talk to your fellow residents, staff or contact Dr. James Bain (MUMC 905 521-2100 ext 73555) regarding projects and mentors. Remember you need to have completed two research projects as a minimum by the end of your five years.

Career review
Personal one-on-one interviews will take place –2X/ year. As always an open door policy is in effect at other times.

Journal Club
Monthly for all levels to start in the fall.

Vacation/Leave
Please schedule this well ahead of time and fill in the appropriate forms. Check with your chief resident to make sure it will work out and not everyone is taking holidays at the
same time. All holidays must be in before February 15th for the end of the year (June). Do not stack up all your holidays till the end of the year! Try and take a week every three months. Enjoy your residency!
Dr. Susan Reid

2.2 Expectations for Surgical Residents
[PDF]Click here to download the policy Resident Expectations, Duties and Advice

Expectations for Surgical Residents

1. It is expected that during the residency the resident will develop the essential roles and key competencies that are summarized in CANMED 2000. This includes the development of skills to be able to be
   o a medical expert
   o an excellent communicator
   o an effective collaborator with other health care professionals
   o a manager of health care resources
   o a health advocate
   o a scholar with development and appraisal of medical information
   o perform in the utmost professional manner with high ethical standards

General Expectations

1. Assist in Pre-operative assessment utilizing history/physical, lab/radiology.
2. Determine level of operative risks in patients
3. Review cases with attending surgeons
4. Obtain informed operative consent and provide patient education
5. Attend and assist and perform operative interventions
6. Attend to post-operative care
7. Attend out-patient clinics
8. Interact favorably with other health care professionals
9. Teach medical students surgical principles
10. Prepare, attend and present teaching rounds
11. Attend and arrive on-time for General Surgery Grand Rounds (0730 Wednesday at MUMC)
12. Attend Academic Half Day sessions – Core Surgery or Senior Surgical Seminars depending on level of training
13. It is expected that you will “read around your cases”. This means that you should familiarize yourself with the issues involved in a certain operative procedure as well as indications, complications and the relative anatomy and embryology. Remember the right to operate on a staff person’s patient is earned by knowledge of the case, indications as well as the pathology that you are dealing with.
14. It is expected that you will also read outside of your cases. You will need to know about pathologies that you will rarely, if ever, see.

15. Complete your evaluations forms of your staff in a timely manner. Forward your Webeval evaluation form to the appropriate staff by the end of rotation.

Service Expectations

1. Morning rounds should be started at either 0630 or 0700 depending on the number of patients on the service in order to complete these rounds before the O.R. commences. During morning rounds the problem list for each patient should be reviewed and updated and investigations for the day should be decided upon and assigned to members of the team to organize.

2. It is expected that you will round on your ‘sicker’ patients again at the end of the day before you leave for the day. This way there will be no “surprises” for your colleagues that are on call that night.

3. Brief notes should be written each day on each active patient on the service.

4. Progress notes should be written on each assessment and especially when there has been a change in status.

5. Expected that you will cover at a maximum two surgical staff’s patients. In the case where there is a surgical team the ratio should be no more than two staff to one resident.

6. You are expected to attend one surgical clinic per week as a minimum and this will be established in your weekly schedule.

7. You will be expected to consult on patients in the Emergency Department with various medical problems. Expeditious backup should occur on these consults by your staff person on call.

8. The resident is responsible to communicate with the staff in an appropriate time interval. This will depend on the acuity of the problem but at the latest should be by 9 am.

9. On-call schedule will not exceed 1:4 as per the PAIRO/OCATH agreement. Cross coverage with subspecialty services at your site will only occur when that site has residents on their service.

10. When you have been on call it is expected that you should hand over patients that you have admitted to the residents on the service in the morning during your in-service rounds. Likewise when you are aware that your staff person had been on call the previous night please contact the resident that was on that same night in order to pick up the new patient and identify immediate issues that need to be dealt with.

11. When leaving post-call it is important that you hand over and sign out your patients to a fellow resident or let your staff people know that you are leaving and that they will receive calls directly regarding their patients.

12. It is expected that you will respond to your pages in a timely manner.

2.3 Post-Graduate Training Program in General Surgery

The training program in General Surgery at McMaster University is designed to prepare an individual for full and independent practice in the specialty of General Surgery. This
will allow the General Surgeon to be capable of providing full and total care of patients referred to him/her for surgical opinion in either an elective, urgent or emergency situation. This five year training program will prepare the individual for the cognitive as well as the technical skills to produce an effective consulting general surgeon. This individual will be able to liaise with his colleagues in other areas of medical practice to produce the best results for individual patients. At the end of this training program it is intended that the General Surgeon will be fully competent for practice in the community or be prepared for further training in an area of subspecialty. This training program will allow a General Surgery trainee to tailor his/her training for either practice within an academic teaching environment or in a community practice.

Following completion of the five year program, the candidate will be deemed admissible to the examination for certification in General Surgery of the Royal College of Physicians and Surgeons of Canada, with the confidence of the program that his/her training and abilities are sufficient to expect success on the first attempt. In order to fulfill these expectations the candidate will be expected to fulfill the essential roles and key competencies of specialist physicians as per CAN MED 2000 (http:\rcpsc.medical.org\english\public\reports\canmede.htm). These include –

The fulfillment of the candidate as a medical expert with the ability to demonstrate diagnostic and therapeutic skills for ethical and effective patient care. The ability to access and apply relevant information to clinical practice and to provide effective consultation services for patient care, education and legal opinions.

The candidate must demonstrate excellent skills as a communicator with patients and families as well as the Health Care team. The candidate must be able to listen and synthesize relevant history effectively and develop and establish a therapeutic relationship within the milieu.

The candidate must demonstrate effective ability to be a collaborator with other physicians and health care professionals and to function well between and within interdisciplinary teams.

The candidate must demonstrate the ability as a manager to utilize resources effectively for patient care, learning needs and be able to allocate finite health care resources wisely. The candidate must demonstrate the ability to be a health advocator in order to improve the health of patients and communities in both a treatment modality as well as in a preventative modality.

The candidate must demonstrate the ability as a scholar to develop, implement and monitor a personal continuing medical education strategy as well as critically appraise sources of medical information. The General Surgery trainee must be able to facilitate the learning of others within the health care team and contribute to the development of new knowledge.
The candidate must demonstrate excellent and upstanding professional characteristics and be able to deliver the highest quality care with integrity, honesty and compassion. The practice of medicine must be ethically consistent with the obligations of a physician and must exhibit appropriate personal and interpersonal professional behaviours.

In order to fulfill the CANMED 2000 key roles and competencies this will be obtained by achieving a wide exposure to many areas of general surgery and surgical subspecialties as well related medical specialties. Through the five years of training there will be a progressive increase in responsibility and complexity of cases in order to foster the ongoing and continual development of the general surgery trainee both professionally and personally.

**Length of Program**

The minimum period of training for a General Surgery trainee will be five years after graduation from medical school to the end of the Chief Residency year. In order to foster and enable those trainees who wish a more adequate route through their training exposure to research can be facilitated. An ability to be involved with the Clinical Investigator Program (2 year Royal College accredited training program) is possible.

**Design of Program**

**Rotations**

Academic and clinical training will take place within the related services of the institutions affiliated with McMaster University Faculty of Health Sciences. The residency in General Surgery is divided into two parts – the Core Program and the Senior Residency. Residents in their first two years of training will participate in the Core Program along with junior residents in Plastic Surgery, Orthopaedic Surgery, Neurosurgery, Thoracic Surgery and Cardiac Surgery programs.

This will be in preparation for the Principles of Surgery exam, which will occur in the late spring of the second year of training.

The General Surgery trainees will then proceed on to their senior residency which will include one to two years of further training in General Surgery and subspecialties with the final 12 months in the role of Chief Resident on a General Surgery Service.

The following schematic outline delineates a typical program for a trainee entering in the PGY I through PGY 5 year:

**CORE – PGY I** is composed of six months of general surgery exposure as well as three rotations of two months duration including rotations in clinical specialties such as emergency medicine, internal medicine, trauma, urology, plastics, obstetrics and gynecology, and anaesthesia.
**PGY 2** includes six months of general surgery and three periods of two months or two periods of three months in subspecialty surgery – orthopaedics, plastics, urology, pathology, gastroenterology and neurosurgery.

**PGY 3** This is a subspecialty year with four rotations of three months of subspecialties. Rotations experienced in this year include Paediatric General Surgery, Thoracic Surgery, Head & Neck Surgery, Vascular Surgery, Intensive Care Unit and Community Surgery.

**PGY 4** Consists of six months of general surgery exposure usually divided into two three month blocks at two separate institutions and a three block which can be spent in a subspecialty that the trainee has not been exposed to.

**PGY 5** Chief Resident year begins in April of the 4th year of training until March of the 5th year and is spent as three four month blocks at three of the teaching institutions in Hamilton or two six month blocks depending on the number of trainees. The last three months of the surgery residency is spent as a junior consultant in the ambulatory care clinics. This time is also spent in preparation for the exams.

**Mandatory Rotations**

- 30 months of General Surgery exposure
- General Internal Medicine
- Paediatric Surgery
- Gastroenterology/Endoscopy
- Intensive Care Unit

**Recommended Rotations**

- Emergency (PGY I)
- Urology
- Vascular Surgery
- Thoracic Surgery
- Head & Neck
- Pathology
- Plastic Surgery
- Community Surgery

** Elective Rotations**

- Neurosurgery
- Gynecology
- Radiology
- Oncology

Research (More than 6 months of research within the 5 year program should probably be extended to a full year outside the 5 years of the general surgery training program)
Guiding Principles

The training of a physician in the specialty of General Surgery requires intensive cooperation between the trainee and the staff physicians involved in education of the residents. It also involves cooperation between the university, the surgical staff, the residents and the involved teaching institutions. Goals and Objectives are designed to meet the learning requirements of the residents and there will also be service expectations of the residents. Likewise expectations and guidelines will be provided for the teaching faculty on which they can and will be evaluated in the same way that the residents are evaluated by the teaching faculty.

It is not the inherent right of the resident to perform all operative procedures on a service, as those rights need to be earned through demonstration of an appropriate knowledge base and the principles of management. It is felt that the residents must be aware of the pre-operative preparation of a patient for a surgical procedure as well as the post-operative care in order to facilitate complete recovery of the patient. With the ongoing drive to provide the majority of surgical care on an out-patient basis, it is important that the residents obtain exposure in the ambulatory setting to understand both the preparation for surgical procedures as well as the approach and management of patients who are seen in a surgical practice but do not require surgical intervention. This exposure is best provided through consistent presence in the ambulatory care clinics.

Physicians must provide this opportunity and free the resident up from other responsibilities to attend clinic on a regular basis on all rotations. It is also understood that the attending staff will allow the residents to participate in the care of their patients and cannot compel the resident to participate in a long-term non-progressive observer role.

The residents must learn to balance their dual roles of education and providers of medical service. The General Surgery Residency Program recognizes the primary role and importance of the education of the resident and will strive to protect educational time and activities from encroachment by service commitments. It should be expected that the provision of service is part of the surgical resident’s education but both formal and informal teaching opportunities should be made available including tutorials, seminars and frequent bedside teaching moments. These will also include teaching within the milieu of the operating room.

The specifics of service commitments are contained within the agreement between PAIRO and OCOTH (http://www.pairo.org/Content/Default.aspx?pg=1001) It is felt that the five year training program in General Surgery emphasizes a focus on the patient’s welfare and the importance of ongoing continuing care by a physician or a group of physicians. In order to fulfill the PAIRO/OCOTH agreement it is important the surgical resident provides adequate handover of his/her patients to another resident as well as to the staff person. This responsibility of ongoing patient management is critical.
2.4 Administration

The Residency Program is managed by the Program Director. The Program Director is assisted by the Residency Education Committee, which consists of the four Clinical Teaching Unit Directors from the four acute care sites in Hamilton, a resident representative from each of the five years in the general surgery training program. This Residency Education Committee in General Surgery reports to the Residency Education Committee for all surgical specialties. Issues that are discussed by this committee include issues specific to various sites within the training program, various rotations as well as issues that relate to the various years of training. The focus of this committee is ongoing quality assessment of the program and instituting changes to maintain the general surgery program at the highest standard possible.

The program Residency Education Coordinator manages the coordination of all the surgical residency programs.

2.5 Research

The Department of Surgery has a Research Coordinator position (Dr. James Bain). Dr. Bain is available to advise and coordinate research activities between the General Surgery residents and the surgical staff. Dr. Bain chairs the research committee, which discusses research issues within the department and administrates funds (up to $5000) for the support of resident research projects.

It is expected that two quality research projects that are publishable will be done within the five years of residency training. There is an allocation of $1000 available to allow the resident to attend national and international meetings to present the resident’s research.

Research opportunities are available through both basic and clinical research with surgical and non-surgical staff. When the PGY 1 first enters the General Surgery training program a research/clinical mentor will be assigned to allow the development of research interest on the part of the resident as well as to provide advice for ongoing career decisions. This will be a role in addition to the Program Director’s role in career advice.

2.6 Academic Aspects of the Program

**Academic Half Day**

This occurs on Wednesday mornings from 0730H until 1200H and attendance is mandatory. Grand Rounds occurs from 0730-0830H MUMC and is followed by Junior-Core program (PGY-1-2) and Senior Sessions (PGY 3-5).

Dr Dath is the Core Program Director and is responsible for the curriculum in preparation for Principles of Surgery Exam. Curriculum for the Senior Sessions is established as a three year rotation and modified by the residents under the guidance of Dr Reid.

**Journal Club**

This occurs once a month on varied topics and encourages critical appraisal as well as Evidence Based Surgery.
Professionalism

In view of the recent unmasking of sexual abuse of patients by physicians and the expectation of zero-tolerance for sexual abuse, it is mandatory that all Residents read “The Final Report: Task Force on Sexual Abuse of Patients”, C.P.S.O., November 25, 1991, and understand clearly the classifications of sexual abuse and ramifications.

Evaluation and Assessment

Evaluation is a continuous process. Ongoing dialogue between the Resident and the supervising staff is a critical component of this evaluation. At the completion of each rotation, the resident must complete the evaluation of Faculty Performance Clinical Teaching - Clinical Service assessment (see Appendix F) and the Evaluation of Faculty Performance - Clinical Teaching individual assessment (see Appendix G). In other words, we expect the residents to evaluate each Faculty member on their performance. As well, there are several more formal components.

A three-month evaluation based on the ITER grid offered by the Royal College of Surgeons (see Appendix E). The term average in this context indicates that the Resident is performing at a clearly satisfactory level for his stage of training. Given the very highly capable group of which a candidate is a member, the term average implies a very high level of performance.

Although this evaluation bears a substantial subjective component on the part of the Attending Staff, experience has shown that a cumulative record of average performance or better, on sequential evaluations, tends to be an accurate assessment of an individual’s present and future performance. (A poor evaluation has similar implications.)

Attention is given during this process to completion of the objectives for the individual rotation, as well as the overall objectives for progress in the program.

All Residents are required to participate in the annual In-training Examination called the CAGS (Canadian Association of General Surgery) exam. Usually this is written in Feb or March. Individual components of the exam serve as a reminder of areas of strength and weakness. Persistent failure in any given area should be taken under advisement and attention given to correct it.

A biannual oral examination is conducted for all residents for the PGY 1-4 residents. This examination is intended to:
assess current clinical ability and awareness
assess general knowledge relevant to the subject
assess specific knowledge provide experience for the Resident to gain confidence in the examination as required by the R.C.P.S.C.

Attention will be given to:

1. The organization of the answer within the allotted time limit
2. **Content** - the ability to load the sentences with important points and avoid lengthy diatribes

3. **Examineship** - the skills required which show that you have an organized approach to various problems that you will have seen or read about in surgical training.

A monthly or more frequent oral examination will be given to the Chief Surgery residents. The chief residents should organize this during their rotations. Nearing the end of their chief year these should increase in frequency so that they occur weekly or daily. This is intended to prepare the resident for the oral component of the Royal College of Surgery Exam in General Surgery.

The cumulative impression gathered by such examinations has a successful track record of identifying candidates who will or will not succeed, both in final examination terms and career performance. Therefore, persistent failure in such examinations will be given considerable weight when a candidate’s future is being assessed, both in terms of grounds for termination of training or to adjudicate a plea for favorable consideration in the face of other negative data.

Semi-annual review with the Program Director takes place to discuss the quarterly evaluation and to discuss any conflicts faced by the Resident and possible remedies. At all levels of training, progress implies (and depends on) demonstration of progressive maturity in the exercise of clinical judgment and an advancing expression of technical skill. Personal confidence in the performance of surgical procedures should grow with time. Knowledge and personal attitudes should likewise reflect continuous evolution to the levels demanded of a consultant surgeon.

Feedback from the resident of each rotation will be welcomed and used to improve the program.

The Program Director and the Clinical Teaching Unit Directors will prepare Surgery the Final In Training Evaluation Report at the time of a candidate’s application for the Certifying Examination in General. The final ITER is expected to attest to satisfactory achievement of the aforementioned goals; *under no circumstances will a candidate be advanced to the final examination if the Program Director is not confident of a satisfactory level of achievement in each and every category.*

**Consequences of Evaluation Process**

If a Resident receives an unsatisfactory evaluation in any rotation of the core program (PGY1-PGY2), he is automatically on probation.

A second unsatisfactory evaluation during this period, PGY1-PGY2, will lead to dismissal from the program.

Repeated failure to pass the Principles of Surgery Exam will also lead to dismissal from the program.
Any 2 quarterly unsatisfactory evaluations from PGY3-PGY5 will lead to termination.

On the assumption that the Resident completes his first year in a probationary fashion, it is accepted that he is capable of performing at the level necessary to complete his training. Therefore, any further unsatisfactory result must be viewed a disinterest in General Surgery or a wish to leave the program. While full consideration will be given where there are extenuating circumstances, absence of it will result in dismissal from the program, the only possible alternative.

While the above statements are necessary to avoid misunderstanding, past experience has shown that candidates who apply are accepted to this program are usually capable and committed to successful completion of the program, or have independently reached similar conclusions and voluntarily choose another area of endeavor in medicine. However, the program preserves its integrity by not sending unfit candidates to the exam or sending them out to practice on an unsuspecting public. In a similar vein, it is felt to be in a candidate’s best interests to prevent such a happening.

If a Resident is unhappy with an unsatisfactory evaluation and wishes to appeal it, he may discuss this with the CTU Director initially and then the Program Director. Remediation will be arranged as required. If the impasse cannot be resolved or rectified the University’s Appeal Mechanism can be activated (Appendix H).

2.7 Notification of Most Responsible Physician

[PDF]Click here to download the Notification of Most Responsible Physician policy

3. CTU Director Job Description

3.1 Job Description of CTU Director

(These functions are done in conjunction with the chief resident at that site)

Insure that the residents are oriented to the Goals and Objectives of the clinical rotation and are oriented to the CTU (Clinical Teaching Unit) and the Hospital in which they are working.

Organize and supervise the academic program of the CTU.

Organize the clinical rotation for general surgery as well have some input into the subspecialty rotations that the residents are on.

Monitor (in conjunction with the chief residents) the call schedule issues for the site required from the program director.
Deal with resident/resident or staff/resident conflicts in addition to any assistance required from the program director.

Make sure that resident evaluations (final and mid evaluation) are up to date and done in a timely manner.

### 4. Core Curriculum

[Click here to find out more about the Core Curriculum.](#)

### 5. Journal Club Guidelines

1. At the beginning of each general surgery residency, the residents will receive a copy of the Users Guides to the Medical Literature.
2. There will be 6 general surgery and six trauma Journal clubs. One each month. Participation at both is encouraged.
3. The Chief Surgical Residents and the trauma fellows are responsible for identifying two articles (hopefully about the same topic), the Staff Expert and the senior residents responsible for each topic. This information is forwarded to Dr. Kahnamou's office at least 6 weeks before the proposed date.
4. The Staff Expert will discuss the 2 journal club articles with the 2 senior residents who will be presenting the articles.
5. The corresponding Users Guides for the 2 journal club articles will be identified by the two senior residents to guide and structure their presentations.
6. Before each journal club, the presenters and commenter will be sent this memo.
7. Before each journal club, the 2 articles will be sent to all journal club attendees (PDF).

#### 5.1 Five General Objectives of Journal Club Presentations

1. To succinctly summarize the question, design, results and meaning of a study
2. To teach one methodological point (e.g. the difference between concealment of randomization and blinding) or statistical point.
3. To give 2-3 clear, clinical bottom lines as how this article is relevant to our practice.
4. To practice oral presentation skills.
5. To achieve objectives 1-4 within 20-25 minutes by carefully selecting what to say. (PowerPoint presentation is encouraged, but not required).

#### 5.2 Five Steps for Presenting an Article at Journal Club

1. State the clinical question (include population, intervention [or exposure], and outcome of the study).
2. Briefly summarize the article (to quickly orient attendees, since not everyone reads the article, and everyone may appreciate being re-oriented to it).
3. Critically appraise the validity of the article as per Users' Guides (this keeps the presentation semi-structured and on track).
4. Describe the results (in relative and absolute terms, using confidence intervals when possible to indicate the precision of the results).
5. Discuss the application of the study results to practice, ending with 2-3 clinical bottom lines.

5.3 Five Requests of the Journal Club Commentator

1. Please give us some context for this topic.
2. Please highlight 2-3 key features of the study from your point of view.
3. Please share any pearls or caveats.
4. Please catalyze additional group discussion about the implications of the study for education, research and quality improvement initiatives.
5. Please enjoy the fellowship of the Hamilton general surgery consortium at our journal club!

We sincerely thank the presenters and commentators for their time and efforts to make our journal club a valuable educational event.

6. Recommended Reading

**Principles of Surgery, Single Volume**
By Seymour I., Md. Schwartz (Editor), G. Tom Shires (Editor), Frank C. Spencer, Aubrey C. Galloway

**Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice**
By Courtney M. Townsend (Editor), Daniel R., M.D. Beauchamp (Editor)

**Surgery: Scientific Principles and Practice**

**The ICU Book**
by Paul L. Marino

**Advanced Surgical Recall**
by Lorne H. Blackbourne (Editor), Kirk Fleischer (Editor), Oliver A.R. Binns 1997

**Current Surgical Therapy**
by John L. Cameron

**Atlas of Surgical Operations**
MD Anderson oncology handbook

Mount Reid Surgical Handbook

Clinically Oriented Anatomy
by Keith L. Moore, Arthur F. Dalley

Atlas of Human Anatomy

Nyhus Mastery of Surgery

Rush University Review of Surgery
by Daniel J. Deziel (Editor), Rush University, Steven D. Bines, Steven G. Economou

HHS Web library available on all PC’s at the three sites of Hamilton Health Sciences subscription to MD Consult on the net where they can have access to numerous recent texts, and many journals. You can get a free subscription through the OMA, or through Mac’s Library as a Proxy account.

7. Job Description of Chief Resident

7.1 Clinical Responsibilities
Organize the day-to-day coverage of the OR, ward, Emergency room.

Ward
The Chief resident will assist and supervise the junior residents in daily ward care of patients. The Chief resident will round with the junior residents and provide them with direction in carrying our managements plan for all patients. The Chief resident is expected to be directly familiar with those patients he/she has operated on and also provide supervision of the care of the remaining patients. The Chief resident will ensure that adequate chart documentation occurs on all patients, and that residents complete dictations.

The Chief resident will ensure that a member of the team is present for discharge rounds each week. Active management of beds on the wards and step-down units as per site.

Clinic
Attendance at least one clinic per week is required. The Chief resident is expected to evaluate both new consultations and follow-up patients in the clinic.

Operating Room
Attendance at the majority of the team’s cases is expected. The Chief resident’s role will vary according to the case and the learning requirements of the junior members. There may be opportunity for the chief resident to act as the teaching assistant to the junior resident on the smaller cases. All chief residents are expected to attend the OR in a timely fashion to help with patient positioning and to become familiar with the chart if the case is being done on an outpatient basis.

Remember doing the operation is a privilege, that you need to earn, by working up the patient beforehand and providing excellent post operative care. At HGH site available for all trauma laparotomies.

*Emergency Room*

Available to assist Junior resident with management of ER patients especially sick or complex patients.

7.2 Teaching Responsibilities

Resident Round Ward teaching Teaching of other health care professionals Teaching of medical students Presenting of two grand rounds (with staff person) per year and one hospital teaching round per month Attendance at all academic ½ days-Mandatory attendance at Grand Rds as well as your senior sessions.

7.3 Administrative Responsibilities

Call Schedule (to be done by the 15th of the month period) 

[Copy to be sent to (resorient@hhsc.ca) each month]

Academic Rounds Schedule Vacation Planning Resolution of disputes amongst residents

7.4 Do’s of Chief Residency

- Take care of your staff’s patients well
- Know your patient’s test results, check X-rays in person don’t rely on a report
- Pay attention to the details
- Read around your cases
- Prepare for rounds even if you’re not presenting
- Help your junior residents—you are their role model
- Listen to the nurses even if you think they don’t know what they are talking about
- Try and get some exercise
- Teach as much as possible
- Ask questions of your staff, discuss issues etc (pick their brains)
- Go to clinics—this is where you’ll feel the weakest when you get out in practice
- Get in as many oral exams as possible
- Behave in a manner that your mother would be proud
7.5 Don’ts of Chief Residency

Show up late for the OR
Do rounds after your staff person – it always looks bad if the staff is telling you patient information that you should be telling them
Not check your patients
Publicly criticize your junior residents or medical students
Piss off the nurses
Not read
Assume anything

8. Guidelines for Establishing On-Call Schedules

At a recent General Surgery Residency Education Committee meeting it was decided that the following guidelines for making on-call schedules should be established.

1. Residents that are on the General Surgery Service should expect to do 1 in 4 to 1 in 5 call on General Surgery.
2. "Off-service" General Surgery residents that are at the same institution can be used to fill in gaps in this call schedule because of holidays, professional leave days or conferences.
3. "Off-service" General Surgery residents should however try to do from home call on the surgical sub-specialities that they are on to gain more educational experience in that area of subspecialty.
4. For junior surgical residents that are doing general surgery rotations may well need to be buddied up initially with general surgery residents but should be considered to be able to provide in-house call coverage independently, especially in the second half of the academic year. This will be decided on an individual basis at each of the four teaching sites in Hamilton.
5. Non-surgical residents that are doing general surgery will have to be judged and evaluated individually as to whether they can do call on their own based on their abilities and also the various issues at the four sites within the city of Hamilton. This will be up to the Chief Residents and the CTU Directors.

Dr. J. Mark Walton
Previous Program Director, General Surgery

9. Expectations of Staff Surgeons

9.1 Supervision

It is expected that staff surgeons will provide an environment in which General Surgery residency trainees can gain exposure to general surgery and surgical subspecialties with the intent of graduated level of responsibility in keeping with their abilities. In addition,
they must take appropriate initiative to ensure that trainees are not operating outside of the realm of competence, thus jeopardizing patient care. This exposure should foster the trainee’s development as both a surgeon as well as a physician.
It is expected that the staff surgeons will provide timely backup for consults that the resident has been asked to see.

9.2 Teaching
The surgeon will:

- teach the knowledge, skills, attitudes, and provide the experience that the trainee requires to grow toward becoming a skilled and compassionate surgeon.
- demonstrate to the residents the rational basis for clinical decision making from investigation to diagnosis and to treatment, based on the best evidence available.
- support and encourage residents in their endeavors to learn, and to develop a sense of inquiry.
- foster the residents’ ability to form effective therapeutic relationships with patients and families.

9.3 Evaluation
The surgeon will:

- at the beginning of a rotation, outline the duties, responsibilities, and expectations of the residents.
- assess carefully and accurately (with a minimum of personal bias) the residents’ abilities and provide timely verbal and written feedback to the trainee and to the program director.
- in addition to a formal evaluation at the end of a rotation, provide a midpoint evaluation, and make the trainee aware of any concerns about the trainee's performance in order to provide opportunity for correction.

9.4 Professional Behaviour
A surgeon will:

- provide a model of compassionate care and skilled communication for residents
- maintain a professional supervisor/trainee relationship at all times and avoid the development of sexual and/or financial relationships with trainees.
- refrain from the intimidation and harassment of trainees in any fashion; emotional, physical or sexual
- recognize that there is a power differential between the staff surgeon and resident, and therefore treat all trainees with respect regardless of race, sex, gender, sexual orientation, colour or field of study

9.5 Specific Expectations
1. The supervisor will assist the resident in the initial assessment of the patient using history and physical
2. The supervisor will provide guidance to direct further investigations including laboratory and radiologic investigations
3. Will discuss management options and allow the resident the ability to make surgical decisions
4. It is expected that the staff surgeon will provide excellent opportunities in the operating room to develop operative skills and intraoperative decision making
5. It is expected that the staff surgeon will provide an evidence based approach to the surgical and operative decision making process
6. The resident will be provided opportunities to participate in elective out-patient surgical care.
7. It is expected that the staff surgeon will consider the other activities of the surgical resident such that unrealistic expectations of a resident being in more than one place at a time does not occur.
8. It is expected that the Academic Half Day (Wednesday am – 0700-1200) will be protected and that no service allocations will be demanded. This also applies to Multidisciplinary Academic Days (MADD), which occur four to five times a year.

10. Goals and Objectives

10.1 Introduction
Welcome to the goals and objectives section of this manual. These are all formatted in CanMED 2000 and cover all mandatory and elective rotations.
In this section of the manual I have divided this up into core curriculum requirements for general surgery which cover goals and objectives for:

General Surgery
Breast Surgery
Colorectal Surgery
Hepatobiliary Surgery
Abdominal and Intestinal Surgery

These areas of general surgery will be highlighted during the various rotation through your five years. Please refer to these when you do your individual general surgery rotations so that you may understand what is expected of you. For instance, at the Henderson Hospital, you may not see much tertiary level hepatobiliary surgery but you surely should refer to breast and colorectal sections when at the Henderson Hospital.

These Core curriculum topics or Goals and Objectives cover many of the knowledge topics that you need to acquire in the five years in the general surgery program. I would suggest that you use these as a guideline to facilitate your acquisition of this knowledge.

Also included in this Goals and Objectives section are site-specific documents with their Goals and Objectives included for St. Joseph’s Hospital, Hamilton General Hospital site
and the Henderson Hospital site. Other goals and objectives cover laparoscopic surgery as well as a separate section for specialty specific rotational goals and objectives. Dr. Susan Reid has created an orientation book for the McMaster University Medical Center site, which she will distribute separately during her orientation for you.

11. General Surgery Rotation Goals and Objectives

Medical Expert / Clinical Decision Maker

Knowledge: Basic Science and Anatomy
The resident is expected to apply basic science and anatomy knowledge to clinical problems.

Knowledge: General clinical
The resident is expected to use medical history, physical examination, diagnostic lab and imaging and apply this to the clinical decision making process. Treatment plans are to incorporate treatment in the form of clinical pharmacology as well as surgical treatment. The resident is expected to actively participate in pre, intra and post-operative decision-making.

It is expected that a resident will be able to assess and document fully using history and physical examination.

Pre-operative assessment should include risk factors for general anaesthetic as well as preparation for specific operative interventions. It is expected that the resident will use lab and diagnostic imaging modalities to complete the pre-operative assessment.

Intra-operative decision making should develop over the five years so that advanced problem solving can occur as a chief resident in situations that have not been seen before. Post operative care should include fluid/electrolytes, prevention and treatment of infections specific to general surgery cases. Also peri-operative assessment and management should be comprehensive including all medical conditions including congestive heart failure, myocardial infarction, thrombotic complications/pulmonary embolism and respiratory complications.

Knowledge: Specific Clinical Problems

1. Acute abdomen-all aspects of diagnosis and treatment
   - Differentiation of surgical from non-surgical abdominal pain
2. Esophagogastrointestinal tract
   - True and False Diverticulum of the GI tract
   - Gastroesophageal Reflux
   - Motility disorders of the GI tract
- Neoplasia (benign and malignant) of stomach, small bowel, colon, and rectum
- Vascular disease of the GI tract
- Obstruction of GI tract from GI and non-GI causes

3. Liver, biliary tract, pancreas, and spleen
   - Cholelithiasis/choledocholithiasis
   - Cholecystitis/cholangitis
   - Pancreatitis
   - Neoplasia (benign and malignant) of liver, biliary tract, pancreas
   - Splenic manifestations of Hematologic problems

4. Breast
   - Neoplasia (benign and malignant)
   - Mastalgia

5. Lymphatic System
   - Infection
   - Neoplasia

6. Endocrine system
   - Adrenal gland
   - Endocrine pancreas

7. Skin and soft tissue
   - Neoplasia
     - Benign tumors: Wart, Keratosis, Keloid, Vascular tumors, Fat tumors, Neural tumors, pigmented lesions
     - Malignant tumors: Malignant melanoma, Basal cell carcinoma, Squamous cell carcinoma
     - Kaposi's sarcoma
   - Infection: recognition and treatment of necrotizing fasciitis

8. Hernias of the abdominal wall and diaphragm
   - Inguinal
   - Ventral

9. Trauma of the torso
   - Initial stabilization and management
   - Definitive management

**Knowledge: Technical**
The Resident should be able to do by the end of PGY-2 the following procedures as well as operations of equivalent difficulty:

**Procedures**
Comfortable with doing without supervision:

1. Inserting central lines
2. Inserting chest tubes
3. Incision and drainage of uncomplicated subcutaneous abscesses
Biliary Tree

Perform all parts of a simple elective cholecystectomy.

Abdominal Wall

Perform all parts of an elective inguinal, umbilical, and incisional hernia repair
Should be able to open and close the abdomen

Breast

Perform all parts of a lumpectomy and mastectomy (not axillary dissection)

Bowel

Perform all parts of an open or laparoscopic appendectomy
Perform some/all parts of small and large bowel anastomosis using suturing or stapling

Anal Canal

Perform all parts of a hemorrhoidectomy

PGY3-PGY5

The Resident (in addition to the PGY-2 skills) should develop from PGY-3 to 5 the abilities to perform the following procedures as well as operations of equivalent difficulty:

Biliary Tree

Laparoscopic and Open Cholecystectomy for acute inflammation/perforation
Common Bile Duct exploration

Intra-operative Cholangiogram

Pancreas

Distal Pancreatectomy
Pancreaticoduodenectomy

Splenectomy

Duodenal Management Maneuvers
Gastric Surgery
Trauma Laparotomy
Breast

- Sentinel Lymph Node Dissection
- Axillary Lymph Node Dissection
- Inguinal Lymph Node Dissection

Advanced Laparoscopy

- Inguinal hernia
- Colon
- Spleen
- Fundoplication

Liver

- Wedge resection
- Exposure of the portal triad

Distal Colon and Rectum Surgery

- Trans anal excisions
- Altmeier Procedure
- Total Mesenteric Excision

Communicator

Resident is expected to demonstrate communication skills in both verbal and written manner with

1. Patient’s and Their Families
   - Explain general surgical disease processes
   - Obtain informed consent related to surgical procedures
2. Health Care Professionals including Physicians
   - Family physician
   - Emergency physicians
   - Internists
   - Radiologists
     - Other Surgical Specialities
     - Medical Students
3. Nurses
4. Occupational therapists/Physiotherapists
5. Other Health Care Professionals

Collaborator

Be willing to participate in interdisciplinary teams, considering and respecting the opinions of other team members and contributing expertise as a general surgeon.
Identify and understand the roles, expertise and limitations of all members of an interdisciplinary team working to achieve a goal related to patient care, an educational program, a research project or an administrative activity.

Work with the other members of the interdisciplinary team to develop a plan for a general surgery patient; this may include preoperative and postoperative investigations, treatments and continuing care both in hospital and in ambulatory settings.

**Manager**

To achieve these competencies, upon of a general surgery rotation the resident will:

1. Understand how the General Surgeon functions within the confines of the structure, financing and operation of the Canadian health system
2. Understand how the General Surgeon functions effectively in health care organizations, ranging from an individual clinical practice to organizations at the local, regional, and national levels
3. Understand how the General Surgeon makes sound clinical decisions based on evidence for the benefit to the individual patient and larger populations
4. Understand how the General Surgeon works effectively as part of a team whether she/he is a leader or member, being respectful of the other members and striving to accomplish the collective goals of the team

**Health Advocate**

Be able to identify operative risk factors in individual patients
Identify risk factors for Gastrointestinal tract disease, Breast disease, and factors that deleteriously affect operative risk factors and counsel patients on these risk factors

**Scholar**

While on the general surgery service the resident should be starting to assess clinical problems by (under the following headings):

1. **Clinical**
   - generate a clinical question
   - identify her/his own knowledge and recognize deficits in knowledge about the question
   - develop a plan to remedy the deficit by
     - conducting an appropriate literature search
     - assimilating and critically evaluating the literature
     - consulting other physicians and health care professionals
   - propose a solution to the clinical question
   - implement this solution in her/his practice
   - evaluate the outcome of this solution
   - generate new clinical questions...

2. **Research**
o start the process of generating a research question (basic science, clinical, population health or some combination)
o develop a proposal to answer the research question by
  - conducting an appropriate literature search
  - assimilating and critically evaluating the literature
  - identifying, consulting and collaborating with appropriate experts to undertake the research proposal
o propose appropriate methods for conducting the research
o undertake the proposed research
o propose a solution to the clinical question
o disseminate and defend the results of the research
o identify future research opportunities and questions that arise from the results

3. Education
o demonstrate an understanding of the concepts of adult learning (in addition to the application) with respect to herself/himself and others
o demonstrate an understanding of preferred learning methods in working with colleagues, residents, medical and nursing students and other health professionals

Review texts, recommended reading and review articles in preparation for OR cases.

Be able to critically review and appraise information as it relates to abdominal surgery including GI pathology, Breast pathology.

Read around consults seen in the ER, clinics, and on the ward.

**Professional**

Interact with patients, families, nurses and other health care personnel in a professional manner with appropriate attitudes.

Work to maintain and advance professional competence.

Respect all opinions of health care workers as well as the patient and their family.

Provide care in an ethical manner.

Examine and resolve interpersonal difficulties in professional relationships.

Strive to balance personal and professional roles and responsibilities, and to demonstrate ways to resolve conflicts in these areas.

Constantly evaluate her/his knowledge, skills and abilities, and recognize the limits of her/his professional competence.
12. Goals and Objectives for General Surgery Residents on a "Breast Surgery Service"

Understand knowledge of the anatomy, physiology and pathophysiology of the breast. Demonstrate the ability to surgically manage diseases of the breast.

12.1 Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy

Junior and Senior Level

1. Describe the anatomy of the breast.
2. Explain the hormonal regulation of the breast.
3. Summarize the physiologic changes associated with pregnancy, including breast problems peculiar to pregnancy.

Knowledge: General Clinical

Junior Level

1. Take an appropriate history to evaluate breast patients to include:
   - Pertinent risk factors
   - Previous history of breast problems
   - Current breast symptoms
2. Demonstrate an increasing level of skill in the physical examination of the breast, including recognition of the range of variation in the normal breast.
3. Explain the steps in the clinical decision tree that are involved in the work up of a breast mass.
4. Discuss the role of mammography (the general indications, uses and limitations), needle aspiration, fine-needle biopsy, open biopsy and mammographic needle localization and biopsy.

Senior Level

1. Independently evaluate a new breast patient through history and physical examination, ordering appropriate and cost-effective tests such as mammogram, ultrasound or fine-needle aspiration (FNA).
2. Formulate a diagnostic work up and treatment plan for most common breast problems, including the common types of breast carcinomas.
3. Evaluate the physical status of patients and assess the general surgical issues in patients who report for evaluation of augmentation and reduction mammoplasties.

Knowledge: Specific Clinical Problems
1. Summarize the incidence, epidemiology and risk factors associated with breast cancer.

2. Distinguish between these common entities in the differential diagnosis of breast masses:
   1. Fibroadenomas
   2. Fibrocystic disease
   3. Cysts
   4. Fat necrosis
   5. Abscesses
   6. Cancer

3. Discuss the principles for the treatment of breast cancer such as:
   1. Radical mastectomy
   2. Modified mastectomy
   3. Lumpectomy and axillary dissection

4. Outline the genetic and environmental factors associated with carcinoma of the breast.

5. Describe the following pathological types of breast cancer, including the biology, natural history and prognosis of each:
   1. Infiltrating ductal carcinoma
   2. Ductal carcinoma in situ
   3. Infiltrating lobular carcinoma
   4. Lobular carcinoma in situ
   5. Nonepithelial breast tumours

6. Describe the presentation, natural history, pathology and treatment of the following benign breast diseases:
   1. Lactational breast abscess
   2. Chronic recurring subareolar abscess
   3. Intraductal papilloma
   4. Atypical epithelial hyperplasia
   5. Fibroadenoma

Interpret signs suspicious for malignancy on mammogram such as stellate masses or suspicious microcalcifications.

Outline the diagnostic work up and the differential diagnosis of various forms of nipple discharge.

Demonstrate the ability to satisfactorily orient the surgical specimen for pathologic examination.

Determine the indications and special requirements for tissue processing for estrogen and progesterone receptors.
Explain the use of tumor, nodes and metastases (TNM) staging in the treatment of breast cancer.

**Senior Level**

Describe the characteristics, diagnosis and therapy of less common lesions of the breast such as:

- Inflammatory carcinoma
- Paget’s Disease
- Lactiferous duct fistula
- Mondor’s Disease
- Cystosarcoma phyloides
- Bilateral breast carcinoma
- Male breast carcinoma

Summarize the role of adjuvant chemotherapy and radiation therapy for the treatment of primary breast carcinoma.

Outline the importance of estrogen and progesterone receptors in the prognosis and treatment of breast cancer.

Understand the evolving role of bone marrow transplantation in the management of selected breast cancer patients.

Describe the basic issues in the staging and treatment of metastatic breast cancer, including the role of:

- Chemotherapy
- Radiation therapy
- Hormonal therapy
- Biologic response modifiers

Theorize appropriate management of breast cancer diagnosed in pregnant and non-pregnant patients.

1. Formulate plans for basic patient care, including pre-, intra-, and post-operative care.
2. Summarize the major considerations for post-mastectomy breast reconstruction.
3. Identify and analyze the data addressing controversial areas of breast disease such as:
   - Current concepts in the management of cancer
   - Role of various adjuvant therapy programs
   - Biological behavior of lesions such as lobular carcinoma in situ
   - Relationship of mammographic parenchymal patterns to the risk of subsequent malignancy.
Review and evaluate the following areas of research in breast disease:

- The role of breast cancer susceptibility genes
- Monoclonal antibodies
- Other breast markers, including Her-2/neu, cathespin D and flow cytometry with chromosomal analysis.

**Knowledge: Technical**

**Junior Level**

Perform simple procedures such as:

- Diagnostic fine-needle aspiration of cysts
- Drainage of simple breast abscesses
- Cutting-needle biopsy of breast masses
- Open biopsy of superficial masses

Perform open breast biopsies and other operative procedures such as simple mastectomy and excision of intraductal papillomas, under direct supervision.

**Senior Level**

Perform, under direct supervision, more advanced procedures on the breast such as:

- Radical mastectomy
- Modified mastectomy
- Lumpectomy and axillary dissection
- Excision of lactiferous duct fistula
- Needle-localized breast biopsy

Acquire basic experience with breast reconstruction and cosmetic surgical techniques.

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<th>PGY1</th>
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<td>Modified radical mastectomy</td>
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<td>Sentinel node biopsy</td>
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<td>Nipple duct &amp; biopsy</td>
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Communicator
Develop therapeutic relationship with patients with breast problems and their families by listening

Discuss and explain options to the newly-diagnosed breast cancer patient and their families

Be able to obtain informed consent for surgical interventions related to

Collaborator
Junior Level
Understand the rationale for using a team approach to facilitate the complex discussions and explanation of options for the newly-diagnosed breast cancer patient prior to definitive treatment (e.g., team of oncologist, surgeon, plastic surgeon and therapist).

Senior Level
Consult and interact with other members of the professional cancer team in explaining options to the newly-diagnosed breast cancer patient.

Manager
Be able to manage diagnosis and treatment of breast disease in a sound manner consider the multifaceted decision making process in complex situations.

Health Advocate
Educate patients to perform breast self-examination.
Understand the benefit of screening mammograms and know an appropriate frequency
Cancer prevention techniques.

Scholar
Participate in academic rounds and read around cases.

Professional
Behave honestly and in a professional manner.

Selected Bibliography

13. Colorectal Surgery Goals and Objectives

13.1 Medical Expert/Clinical Decision Maker

**Knowledge: Basic Science and Anatomy**

To know the anatomy and physiology of the small bowel, colon, rectum and anus.

**Knowledge: General Clinical**

To understand the process of diagnosis using History/physical examination. To understand the preoperative decision making as it relates to workup including laboratory and diagnostic imaging.

To be able to describe and manage the standard post operative course following bowel surgery as well as recognize when complications are developing.

Proper intra-operative cancer evaluation of colorectal cancer.

**Knowledge: Specific Clinical Problems**

1. Colorectal Cancer

   To understand the patient and tumor characteristics that guide tumor therapy.
   To understand intra-operative decision making.
   be able to describe and apply staging systems including TNM, Modified Astler-Coller and Dukes original 1932 version.

2. Polyps

   To understand the clinic factors that influence treatment of colon and rectal polyps. ie. when is colonoscopy/polypectomy not adequate?
   What polyps are amenable to transanal excision?

3. Inflammatory Bowel Disease

   Medical management of IBD
   Crohn's enteritis
   Ulcerative colitis
   Crohn's disease of colon and anus
The differences between Crohn's disease and Ulcerative colitis- Microscopic and macroscopic
The indications for operation in Crohn's disease/ Ulcerative colitis?
The possible operations for ulcerative colitis and the relative pros and cons of each procedure.
Fulminant colitis and its management

Other areas that the resident should have knowledge of-

**Small Intestine**

- Tuberculous enteritis
- Infectious enteritis
- Neoplasms-Benign, Malignant, Carcinoma, Sarcoma, Lymphoma, Carcinoid
- Small bowel fistula
- Meckel's and other small bowel diverticular
- Blind loop syndrome
- Pneumatosis cystoides intestinalis
- Short bowel syndrome
- Small bowel obstruction

**Colon, Rectum and Anus**

- Ischemic colitis
- Infectious colitis
- Radiation enterocolitis
- Pseudomembranous enterocolitis
- Solitary rectal ulcer
- Diverticular disease
- Megacolon
- Colonic volvulus
- Angiodysplasia
- Colonic endometriosis
- Carcinoid tumours of the colon and rectum
- Rectal prolapse
- Anal neoplasms-Benign, Malignant
- Hemorrhoids, Fissure in ano, Proctitis
- Anal infections
- Condyloma, Venereal disease
- Anorectal abscess
- Pruritis ani
- Anal incontinence
- Levator ani syndrome

**Appendix**

- Appendicitis
Appendiceal tumours-Carcinoid, Mucocele, Adenocarcinoma

Peritoneum

Subphrenic, intra-abdominal, pelvic abscess

Abdominal Wall, Omentum, Mesentary, Retroperitoneum

Rectus sheath hematoma
Desmoid tumours
Torsion of the omentum
Omental cysts
Omental tumours
Mesenteric artery and vein-Acute arterial occlusion, Chronic visceral ischemia, Acute venous occlusion, Nonocclusive mesenteric ischemia
Retroperitoneal fibrosis and tumours

Office Work

Constipation-Work-up, Diagnostic tests, Medical and Surgical Management
Incontinence-Work-up, Diagnostic tests, Medical and surgical management
Manometry and special investigations
  o Understand the principles of manometry and normal values anorectal applications
  o Define EMG and the role in investigation of incontinence.
  o Understand the application of defecography
  o Understand the role and application of endoanal ultrasound in colorectal surgery.

Knowledge: Technical

describe and perform all aspects of bowel anastomosis including use of the stapler and suturing of the bowel
describe the most common pitfalls of stapling and how each potential complication is managed. Understand the technical approach to stapling for low anterior resection
be able to do a Pelvic dissection and be aware of the following possible complications (ie. what structures can be injured what maneuvers can you use to prevent, detect and manage such injuries).
being aware of positioning that is used to facilitate exposure in the deep pelvis
being aware of instruments that are used to facilitate exposure in the deep pelvis
ability to define the full extent of rectal resection for cancer including the level for ligation of the vascular pedicle for rectal cancer
ability to define the full extent of resection for a right colon lesion, left colon and a sigmoid colon cancer.
understand when an abdominoperineal resection vs coloanal anastomosis vs low anterior resection are performed for rectal cancer
  o understand when and how a mucosectomy is performed

**Perineal excision of the anus**

To understand how to make the incision and what landmarks to use to define the extent of proctectomy
To understand order of the dissection
To understand the management of the perineal wound
To understand the management of the pelvis after proctectomy

**Creation of a stoma**

Siting of the stoma
Size of the fascial opening
Which part of the bowel to use and how to mature the bowel
Stomal complications: How do you avoid retraction, deformity, ischemia, parastomal hernia development

**13.2 Communicator**

Share information effectively with other Health Care Professionals by timely documentation in clinical and operative encounters. The ability to keep concise, pertinent, and up-to-date medical records.

The ability to communicate with patients and family members, explaining the colorectal disease process including the benefits and risks of operative as well as non-operative options. The resident needs to be able to explain the complications and alternatives of operative management recommendations, in terms each individual can understand.

**13.3 Collaborator**

Be able to cooperatively manage colorectal disease with Gastroenterology, oncologists and other health care professionals including stomal therapists.

The ability to supervise and teach undergraduate and postgraduate students in general surgery and the skills to educate patients, families and other health care professionals.

**13.4 Manager**

Effectively manage patients with colorectal disorders utilizing health care resources wisely
13.5 Health Advocate
Role of screening in colorectal cancer and inflammatory bowel disease
Understand the relative cost:benefit ratio and limitations of each of the screening techniques

13.6 Scholar
The discipline of continued self-education and application of this knowledge to the clinical setting.

The ability to supervise and teach undergraduate and postgraduate students in general surgery; the skills to educate patients, families and other health care professionals
The ability to participate in research studies.

13.7 Professional
The ability and willingness to work in a cooperative manner with other health care personnel and to be able to give and receive advice in a pleasant, professional manner.

Respect for the patient's right to privacy.

A sensitivity towards the ethnic and religious background of each patient and an understanding of the psychological needs of the patient.

The capacity for supportive and compassionate care in the course of terminal disease. Honesty, reliability, a well developed sense of responsibility, sound moral and ethical standards.

14. General Surgery - Liver, Biliary Tract and Pancreas Goals and Objectives

14.1 Medical Expert/Clinical decision Maker

Knowledge:Basic Science and Anatomy
Demonstrate knowledge of the anatomy, physiology and pathophysiology of the liver, biliary tract and pancreas.

Junior Level
Liver and Biliary Tract
Describe the anatomy of the liver, biliary system, and pancreas including commonly-found variations.
Describe the physiology and function of liver, biliary system, and pancreas to include:

- Glucose metabolism
- Protein synthesis
- Coagulation
- Drug metabolism
- Reticuloendothelial system
- Function of bile in fat metabolism

Explain the formation of bile, its composition, its function in digestion and its metabolism. Describe the pathophysiology of gallstone formation.

**Pancreas**

Describe the anatomy of the pancreas, including regional vascular anatomy.
Discuss the physiology of the pancreas, including endocrine and exocrine function and hormonal regulation.

- Endocrine-islet cells
- Alpha (Glucagon)
- Beta (Insulin)
- Delta (Somatostatin)
- Non-Beta (pancreatic polypeptide)
- Exocrine-acinar cells
- Lipase
- Amylase
- Hormonal regulation
- Secretin-bicarbonate secretion
- Cholecystokinin-enzyme secretion

**Knowledge: General Clinical**

Demonstrate the ability to manage disease and injury of the liver, biliary tract and pancreas amenable including the role for surgical and nonsurgical interventions.

**Junior Level**

**Liver and Biliary Tract**

Perform history and physical examination specifically focused on liver and biliary system.

Select and interpret appropriate laboratory and radiologic evaluations in the work up of the jaundiced patient

**Pancreas**
Perform history and physical examination focused on the pancreas. Select and interpret appropriate laboratory and radiologic examinations in evaluation of pancreatic disease, including:

**Senior Level**

**Liver and Biliary Tract**
Perform detailed evaluation of patients with liver and biliary disease and plan appropriate management and operative approach.

**Pancreas**
Perform detailed evaluation of patients with pancreatic disease and plan appropriate medical or surgical management.

**Chief Level**

**Liver and Biliary Tract**
Coordinate overall care of patients with hepatobiliary disease including:

- Initial evaluation
- Appropriate diagnostic studies
- Indicated consultations

**Pancreas**
coordinate overall care of patients with complex pancreatic disease, including initial evaluation, appropriate diagnostic studies, operative intervention and postop care

**Knowledge: Specific Clinical Problems**

**Junior Level**

**Liver and Biliary Tract**
Outline the work-up and differential diagnosis of the jaundiced patient.

Discuss various types of liver cysts (echinococcal or hydatid, nonparasitic) and the appropriate management of each.

Discuss the pathophysiology and treatment of the following:
Mass lesions of the liver (Benign and Malignant tumors of the liver, Metastatic lesions to the liver)
Congenital Anomalies of the Liver, Bile Ducts, and Pancreas ie Congenital biliary atresia, Choledochal cysts, Caroli's disease
Biliary Lithiasis and Its Complications (Gallstone ileus, Gallstone pancreatitis) Infections (pyogenic and amebic hepatic abscesses) and Inflammations (hepatitis A, B, C) of the Liver Acalculous Cholecystitis Biliary Motility Problems Acute and Chronic pancreatitis and their complications Pancreatic Neoplasms Other - Sclerosing cholangitis, Primary biliary cirrhosis, Secondary biliary cirrhosis Benign biliary strictures

**Pancreas**
Explain the pathophysiology of pancreatitis to include: Common etiologies such as:

- Gallstones
- Alcohol related
- Trauma
- Steroid-induced
- Postoperative
- Post endoscopic retrograde cholangiopancreatography (ERCP)

* Idiopathic

Diagnosis, evaluation and medical management
Role of peritoneal lavage

Complications of pancreatitis, such as:

- Adult respiratory distress syndrome (ARDS; Acute lung injury - ALI also used)
- Hypovolemia
- Pseudocyst
- Abscess
- Infected pancreatic necrosis
- Indications for operative management of pancreatitis
- Management of gallstone pancreatitis with timing of surgery
- Ranson's criteria for assessing pancreatitis and its correlation with prognosis

Explain the pathophysiology of carcinoma of the pancreas to include:

- Typical history and presentation
- Diagnostic evaluation using:
  - Computed axial tomography
  - Ultrasound
  - ERCP
  - Percutaneous transhepatic cholangiography (PTC)
  - Arteriography
  - Laparoscopy/laparotomy

Indications for:

- Operative versus nonoperative biliary drainage
- Percutaneous versus endoscopic stenting
- Resection
- Concomitant gastrojejunostomy with operative biliary bypass
- Discuss presentation, evaluation and management of pancreatic pseudocysts with attention to:
  - Complications of pseudocysts (hemorrhage, infection, rupture)
  - Timing of drainage
  - Percutaneous versus surgical drainage
Indications for external versus internal drainage
Choice of internal drainage procedure
Explain the diagnosis and management of pancreatic ascites.

Senior Level

Liver and Biliary Tract
In addition to Junior Level Objectives
Pathophysiology and Management of:

Cirrhosis and Portal Hypertension including Management alternatives for complications

Various etiologies of cirrhosis (alcohol and hepatitis)
Differential diagnosis of portal hypertension (prehepatic, hepatic, posthepatic)
Medical management of ascites, encephalopathy and other complications of cirrhosis
Child's classification of cirrhosis and its relationship to prognosis and surgical mortality.
Perioperative management of the cirrhotic patient
Medical management of bleeding esophageal varices using Vasopressin, Sengstaken-Blakemore tube, sclerotherapy and transjugular intrahepatic portosystemic shunts (TIPS)
Surgical management of bleeding esophageal varices to include:
Selection of operative candidates
Appropriate selection of procedures such as:
  o Selective and nonselective shunts
  o Devascularization procedures
  o Esophageal transection
Surgical management of ascites with peritoneovenous shunts to include patient selection and complications
Discuss Budd-Chiari Syndrome (pathophysiology and management)

Detailed Management of choledocholithiasis

Alternatives to surgery in the management of gallstones, such as:
Oral dissolution with ursodeoxycolic acid
Extracorporeal shock wave lithotripsy
Endoscopic sphincterotomy
Assess management alternatives for common bile duct stones:
Open versus laparoscopic common bile duct exploration
ERCP

Indications and Outcomes for liver Transplantation
Management Strategies for Chronic Pancreatitis
Pancreas
Describe the etiology, pathophysiology and management of chronic pancreatitis to include:

Indications for operative management
Selection of appropriate operative procedure such as:
  o Longitudinal pancreaticojejunostomy (Puestow-Gillesby Procedure)
  o Caudal pancreaticojejunostomy (Duval Procedure)
  o Subtotal pancreatectomy
  o Pancreatoduodenectomy
Role of celiac ganglion ablation (chemical splanchnicectomy) in pain control
Summarize the common sequela of chronic pancreatitis to include pain, fat malabsorption and diabetes
Discuss diagnosis, evaluation and surgical management of cystic neoplasms of the pancreas (mucinous and serous cystadenomas; cystadenocarcinoma).
Describe the diagnosis, evaluation and surgical management of the following islet cell tumors of the pancreas:
  o Gastrinoma (Zollinger-Ellison Syndrome)
  o Blucaagonoma
  o Somatostatinoma
  o Insulinoma
  o VIPoma (Verner-Morrison Syndrome, WDHA Syndrome)
Describe the diagnosis and management of pancreas divisum.

Chief Level
Liver and Biliary Tract

Detail the appropriate surgical management of any selected disorder of the liver or biliary tract.
Analyze the technical details of each surgical procedure and options that may be available with pros and cons of each.
Summarize the common complications associated with surgical management of liver and biliary tract disease.
Summarize the principles of perioperative management of liver and biliary tract disease.

Pancreas

Outline the appropriate surgical management of disorders of the pancreas to include:
Pancreatoduodenectomy (Whipple Procedure)
Distal pancreatectomy
Total pancreatectomy
Subtotal (distal 95%) pancreatectomy
Longitudinal pancreaticojejunostomy (Puestow Procedure)
Internal drainage of pseudocysts (cystogastrostomy, cystoduodenostomy, Roux-en-Y cystojejunostomy)
Explain the technical details of the above procedures, including the options available and the pros and cons of each. Describe the common complications associated with surgical management of diseases of the pancreas. Summarize the principles of perioperative management of diseases of the pancreas.

Knowledge: Technical

Junior

Assist in the perioperative management of patients undergoing hepatobiliary surgery. Assist in perioperative management of patients undergoing pancreatic surgery. Perform uncomplicated hepatobiliary surgery under supervision, such as cholecystectomy, both laparoscopic and open, with operative cholangiography. Assist in more advanced hepatobiliary operations. Perform minor pancreatic procedures under supervision such as external drainage of pseudocyst or internal drainage via cystgastrostomy.

Senior Level

Perform, under supervision, increasingly complex hepatobiliary surgery:

- Laparoscopic cholecystectomy with cholangiography
- Common bile duct exploration with choledochoscopy
- Biliary drainage procedures, such as:
  - Choledochoduodenostomy
  - Roux-en-Y and loop choledochojejunostomy
  - Cholecystojejunostomy
  - Sphincteroplasty
  - Drainage of liver abscess
  - Peritoneovenous shunts
  - Complicated cholecystectomy-acute, gangrenous
  - Simple liver resection
  - Perform increasingly complex pancreatic surgery such as:
    - Internal drainage of pseudocysts with Roux-en-Y cystjejunostomy
    - Longitudinal pancreaticojejunostomy (Puestow Procedure)
    - Distal pancreatectomy
    - Biliary bypass for carcinoma

Chief Resident

As above plus…

- Participate in complex hepatic and biliary surgery including the performance of procedures appropriate for the individual skills and ability
- Anatomic liver resection
- Portovenous decompression procedures
- Complicated procedures on extrahepatic bile ducts for: Cholangiocarcinoma
Choledochal cyst
Benign biliary stricture
Kasai procedure (hepatoportoenterostomy)
Supervise and instruct junior house staff in minor hepato-biliary procedures
Perform complex pancreatic procedures such as:
  Pancreatic resection (ie Whipple resection, Total or subtotal pancreatectomy)
  Operative debridement and drainage of pancreatic abscess or infected necrosis
  Local resection for ampullary tumors
Supervise and instruct junior house staff in minor pancreatic procedures.

14.2 Communicator
Dictate consult notes on the day that the consultation is completed
Dictate operative notes on the day of the surgery
Communicate with referring doctors, nurses and allied health care professionals to better patient care

14.3 Collaborator
Effectively work with other health care professionals in the management of patients with Hepatobiliary/Pancreatic disorders

14.4 Manager
Effectively manage health care resources in the work up of hepatobiliary/pancreatic patients

14.5 Health Advocate
Promote lifestyle that avoids liver/pancreas/biliary tract diseases

14.6 Scholar
Participate in Hepatobiliary rounds

14.7 Professional
Interact with hepatobiliary/pancreatic patients, families, nurses and other health care personnel in a professional manner with appropriate attitudes and provide care in an ethical manner Strive to balance personal and professional roles and responsibilities, and to demonstrate ways to resolve conflicts in these areas
Constantly evaluate her/his knowledge, skills and abilities, and recognize the limits of her/his professional competence
14.8 Selected Bibliography

Surgery of the Liver and Biliary Tract (2 Volume) by LH Blumgart, 2nd edition

15. General Surgery - Abdominal and Intestinal Goals and Objectives

15.1 Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy
Junior and Senior Level
Understand:

the embryological development of the peritoneal cavity and the positioning of the abdominal viscera, development of primitive gut and its appendages, including normal rotation and fixation
the anatomy, physiology, pathophysiology and presentation of diseases of the abdominal cavity and pelvis, as well as alimentary tract and digestive system.
the anatomy of the abdomen including its viscera and anatomic spaces:
  o abdominal wall, lesser sac, Subphrenic spaces, Morrison's pouch, Foramen of Winslow, Pouch of Douglas, True pelvis, Lateral gutters, contents of the retroperitoneum, major lymph node groups and their drainage
the absorption and secretory functions of the peritoneal surfaces and the diaphragm.
the anatomy of the omentum and its role in responding to inflammatory processes.
the histology of alimentary tract, including differentiation of cell types
GI physiology
  o Physiology of deglutition and phases of digestion
  o Neuroendocrine control of GI secretion and motility
  o Enterohepatic circulation
  o Neuromuscular control of defecation
  o Digestion of sugars, fats, proteins, vitamins and cofactors
  o Rates of mucosal turnover
Normal bacterial flora and their concentrations in the upper and lower GI tract
Knowledge: General Clinical

Junior Level

Evaluate emergency department or clinic patients who present with problems referable to the GI tract or intraabdominal contents using History, Physical examination

Understand referred pain in:
- Ruptured spleen, renal colic, biliary colic, pancreatitis, basilar pneumonia, inguinal hernia

Understand the use of the following diagnostic studies:
- Plain x-rays, contrast gastrointestinal (GI) studies, ultrasound, Computed axial tomography (CAT), biliary studies, renal studies, Magnetic Resonance Imaging

Understand the use of Fiberoptic endoscopy, Rigid anoscopy and sigmoidoscopy

Know how to interpret tests of GI function including: manometry, 24 hr pH measurement, Gastric analysis (basal and stimulated), hormonal determinations

Demonstrate the ability to manage problems of the alimentary tract and digestive system that are amenable to surgical intervention

Accept responsibility for (under the guidance of the chief resident and attending surgeon) the postoperative management of: Nasogastric tubes, intestinal tubes, intra-abdominal drains, intestinal fistulas, abdominal incisions (simple and complicated)

Nutritional needs of surgical patients

Provide follow-up care to the surgical patient in the outpatient clinic or surgical office.

Understand the immunologic properties of the GI tract and how this barrier is affected by: trauma, sepsis, burns, malnutrition and chronic disease

Principles of intestinal healing

Normal GI tissue integrity and strength

Effects of suturing and stapling techniques of the gut

Senior Level

Perform initial consultation for inpatients with problems of the GI tract; develop differential diagnosis and initiate treatment plan.

Know the operative approaches (incisions) for all intraabdominal contents and their pathologies

Outline the techniques for wound closure (including type of suture material)

Describe the use and method of placement of retention sutures.

Knowledge: Specific Clinical Problems

Demonstrate the ability to formulate and implement a diagnostic and treatment plan for diseases of the abdomen and pelvis that are amenable to surgical intervention.

Junior Level

Hernias
Understand all aspects of ventral abdominal hernias: inguinal (direct, indirect) and femoral, umbilical, spigelian, Obturator, Lumbar (Petit)
Parastomal
Diaphragmatic: Posterolateral (Bochdalek), anteromedial (Morgagni), Traumatic, sliding hiatal, paraesophageal
Internal, Parauododenal
Less common forms: Richter's hernia, sliding hernia, Littre
Incarceration vs. strangulation

Coordinate pre- and post- operative care for the patient with the acute abdomen.
Understand the following causes of paralytic ileus:

Postoperative electrolyte imbalance, retroperitoneal pathology, trauma, extraperitoneal disease (central nervous system, lung)
Understand the work-up and management of abdominal wall fistula in addition to the factors that prevent or promote healing of a fistula
Be able to anticipate and initially manage wound complications such as infection, fasciitis, dehiscence and evisceration
Know the etiology and management of intra and retroperitoneal abdominal abscesses of all locations
Neoplasia of the GI tract
Causes and Management of GI obstruction, hemorrhage and perforation, inflammatory bowel diseases, acute abdomen
Management of intestinal ostomies
Traumatic injury to abdominal viscera

**Senior Level**
Know comprehensively the surgical procedures available for repair of the hernias
Assess the treatment of secondary peritoneal infections due to peritoneal dialysis catheters.
Describe the pathophysiology and treatment of ascites in: Malignancy, hepatic disease: cirrhosis, Bud Chiari Syndrome, chylous leak, pancreatic leak, cardiac disease, renal disease, bile leak
Explain the indications for use and complications of peritoneovenous shunts.
Understand the etiology, manifestations and treatment of: Desmoid tumors, rectus sheath hematoma, retroperitoneal fibrosis, retroperitoneal tumors.
Causes, medical and surgical management of upper and lower GI bleeding, motility disorders of the GI tract, Inflammatory bowel disease, Diverticulitis, short gut syndrome, achalasia, Barrett's esophagus, intestinal polyposis, of short gut and malabsorptive conditions, acute and chronic mesenteric ischemia, portal hypertension and venous thrombosis
Explain the physiologic rationale and the intraoperative techniques for the following gastrointestinal operations:

  Vagotomy
  Pyloroplasty
Gastric resection for ulcer disease
Small bowel resection with anastomosis
Ostomy formation
Resection of GI tract segments with nodes for tumors
Bypass of GI tract segments for resectable tumors
Drainage of pancreatic cysts (internal vs. external)
Drainage of abdominal and retroperitoneal abscesses (percutaneous vs. operative)

Comprehend the preoperative, intraoperative and postoperative management of complex diseases of the alimentary tract and digestive system, including:

Re-operative abdomen
Failed peptic ulcer and reflux operation
High output GI fistulas
Inflammatory bowel disease with strictures, pouches, ostomies and perineal fistulas
Recurrent colon malignancy
Carcinomatosis

Knowledge: Technical

Junior Level
Assist and perform hernia repairs in the groin or umbilical regions, demonstrating a basic understanding of the anatomy and surgical repair.
Assist and perform closure of abdominal incisions and exhibit competency in suture technique.
Serve as assistant to the primary surgeon during operations of the esophagus, stomach, small intestine, colon and anorectum.
Perform less complicated surgical procedures such as:

Gastrostomy
Meckel's diverticulectomy
Appendectomy
Hemorrhoidectomy
Anal fissurectomy and fistulectomy
Incision and drainage of perirectal abscesses
Uncomplicated bowel resections

Senior Level
Open and close abdominal incisions of all varieties Treat wound complications such as infections and evisceration Assist and perform thoracoabdominal and retroperitoneal exposures for access to kidneys, aorta, iliac arteries. Perform laparotomy for acute abdomen, demonstrating a systematic approach for determination of the etiology of the process and appropriate measures for its management Perform more complex laparotomies involving diffuse peritonitis in the septic patient Coach a junior resident through the repair of simple hernia (indirect inguinal or umbilical). Provide appropriate surgical drainage for any intra-abdominal abscess.
Know the indications and contraindications for diagnostic and therapeutic endoscopy of the alimentary tract.

Perform, under appropriate supervision, GI operations, including:

- Gastric surgery
- Small and large bowel resection with anastomosis
- Drainage of pancreatic cysts
- Drainage of abdominal and retroperitoneal abscesses
- Lysis of adhesions
- Repair of enterotomies
- Creation of ostomies

Develop diagnostic and therapeutic endoscopy skills such as:

- Diagnostic esophagastroduodenoscopy
- Endoscopic control of GI bleeding
- Percutaneous endoscopic gastroscopy
- Dilation of intestinal strictures
- Assist with endoscopic retrograde cholangiopancreatography (ERCP)
- Diagnostic and therapeutic colonoscopy
- Polypectomy

Perform appropriate reoperative laparotomy for a variety of gastrointestinal problems.

15.2 Communicator

Record and report complete patient evaluation and assessment in a timely manner. Communicate with referral physicians as well as nurses and health care personnel.

15.3 Collaborator

Serve as an effective surgical team leader. Coordinate intervention of multiple specialties that may be involved in management of complex GI problems such as:

- Varicele hemorrhage
- Biliary obstruction
- Chronic varices
- Inflammatory bowel disease
- Chronic abdominal pain
- Chronic constipation
- Localized and advanced malignancies

15.4 Manager

Effectively manage health care resources in the care of patients with abdominal and alimentary tract problems.
15.5 Health Advocate  
Advise patients and their families regarding prevention of disease and health maintenance

15.6 Scholar  
Demonstrate and develop skills for evidence based surgical practise as it relates to abdominal and alimentary tract pathologies

15.7 Professional  
Interact with patients, families, nurses and other health care personnel in a professional manner with appropriate attitudes in dealing with patients with abdominal or alimentary tract problems.
Respect all opinions of health care workers as well as the patient and their family
Constantly evaluate her/his knowledge, skills and abilities, and recognize the limits of her/his professional competence

15.8 Selected Bibliography
Sabiston DC, ed. Textbook of Surgery.
Skandalakis JE, Gray SW, eds. Hernia: Surgical Anatomy and Technique.
Schwartz SI, Ellis H. Maingot's Abdominal Operations.
Sleisenger MH, Fordtran JS. Gastrointestinal Disease: Pathophysiology, Diagnosis, Management.

16. St. Joseph’s Healthcare

16.1 Introduction
This document summarizes the General Surgery rotations at SJH. Included are outlines of the academic rounds, schedules, expectations (general & specific) and support information.

General hospital orientation sessions and packages are available through Mike Hennan (ext. 2218), Academic Services Coordinator (ext 3634), at the beginning of each month.
SJH provides a wide range of clinical, educational and research opportunities in General Surgery. Areas of major clinical interest include: Hepatobiliary surgery, Minimal
Access/Advanced Laparoscopic surgery, Oncology (Colorectal, breast, melanoma & sarcoma), IBD and "community" general surgery. The General Surgery service provides coverage to two high-volume emergency rooms, and works in conjunction with GI, Thoracic, Head & Neck, Vascular & Urology subspecialty services. SJH is also the Regional Nephrology and Respirology centre, providing a source of complex patients that frequently require surgical consultation and intervention.

16.2 Organization
Residents are members of the General Surgery service. A resident may be assigned to work under the supervision of one or two surgeons, or on a team of three surgeons with another resident(s). There will be a Chief resident working with you and clinical clerks. Resident assignments are made based on a combination of requests/needs of all the residents and surgeons. It must be stressed that the General Surgery service functions as a team, and a resident may be expected to participate in the care of patients (O.R., E.R., or ward) of other surgeons during emergency situations, holidays, or particularly busy days.

16.3 Academic Rounds
General surgery Resident Rounds occur Tuesdays at 0715 to 0800 hours in the Conference Room #6. Residents, Clerks and Surgeons attend. The Chief Resident is responsible for assigning dates for resident presentations. Advanced scheduling should guarantee that residents are prepared to present without exception. Staff surgeons and the Chief Resident are available to aid in topic selection and accessing the surgical literature. Overheads and Power Point/Computer links are available.

Multidisciplinary rounds occur on Wednesdays at 1630-1730 hours in the Radiology Conference Room. These rounds rotate between combined GI-Radiology, Morbidity & Mortality, Chief Resident presentations, Research & quarterly Breast/mammography rounds. The schedule is available from Dr. Anvari's office. Dinner is provided.

Attendance at these rounds is mandatory. The only exceptions are life threatening or unstable clinical situations. If you are scheduled to present rounds, and are in the O.R. or with an unstable patient, notify the Chief Resident and a replacement will be sent to the situation.

Academic half-day occurs on Wednesdays, with Grand Rounds at 0730-0830 hours, at MUMC. Attendance is mandatory. Junior and senior rounds occur after Grand Rounds. Residents are expected to continue with clinical responsibilities by 1200 hours, or earlier if there are no academic rounds. Residents are protected from calls from the wards/E.R. etc, but may be called in critical situations by the staff surgeon only.

Opportunities exist to attend other educational/clinical rounds at other sites (Hepatobiliary at MUMC, Breast Disease Site group at the Regional Cancer Centre, etc) after discussion with the appropriate staff surgeon.
Teaching at an informal level occurs during the provision of clinical care in the operating rooms, E.R., wards and in clinics/surgeons offices. It is important that residents attend all of the above to take advantage of the educational opportunities. In particular, efforts should be made to attend 1-2 clinics per week.

16.4 Research

There are numerous opportunities to participate in research projects at SJH, including basic science/lab based, clinical or evaluative/outcomes studies. Resident should speak with individual surgeons regarding research projects, and can speak to Dr. James Bain (MUMC site) regarding direction to particular staff and opportunities at other sites. If time is required during rotations to work on research projects, staff surgeons will accommodate requests. This requires advanced discussion and coordination with the appropriate staff and Chief Resident.

16.5 Clinical Duties

Residents are involved in clinical care under the supervision of the surgeon(s) in the General Surgery Service. Interaction with patients occurs in the operating room, E.R., wards and clinics/offices. The call schedule is prepared by the Chief Resident, and should be completed 2 weeks prior to the beginning of the month and submitted to Dr Lovrics's office. If an unexpected change occurs in the call schedule, the attending, on-call surgeon should be notified. Vacation requests should be completed as early as possible. There is no guarantee that a request can be met, especially at short notice. If time away from clinical duties/call is required on an urgent basis, the Chief Resident and appropriate surgeons should be approached ASAP. If a more prolonged absence is anticipated, the resident should speak with the Program Director (Dr. M Walton) and CTU Director (Dr P Lovrics).

16.6 Inpatient Units

Surgery Ward/Gastrointestinal Disease Unit, 6th floor, Surgical Step Down Unit, 5th floor Intensive Care Unit, 1st floor Endoscopy Unit: 3rd floor Operating Rooms: 1st floor

16.7 Patient Rounds

Residents are responsible for the care on the patients on their team, in conjunction with the Chief Resident(s) and staff surgeon. It is expected that residents round on the patients (i.e. review chart, results & assess the patient) on a daily basis. Chronic patients can be assessed less frequently, based on their clinical situation. Patients should be assessed PRIOR to going to the O.R. (0800 hours) or clinics. Priority should be given to assess the most acutely ill patients, patients that may require surgery, and new admissions/consultations. Rounds should also occur in the afternoon, to allow follow-up of laboratory tests, imaging and clinical response to interventions. If there are on going concerns, or additional issues that need to be reassessed during the evening, the on-call
resident and/or chief resident should be notified. Rounds should occur as a team, with coordination between the senior/chief resident, junior(s) and clerk(s). Management decisions made on rounds and after assessment of patients should be reviewed with a senior or Chief resident or attending staff, depending on the level of training of the resident and clinical situation. Residents function in a setting of graded responsibility.

16.8 Documentation/Charting

Legible, complete and timely documentation is essential. Notes should be made on a daily basis on each patient seen on rounds. The length and detail of the note should parallel the clinical assessment and situation. Relevant history, findings and results of investigations should be noted, as well as the overall assessment and plan. All surgical/technical procedures (in the O.R., central line insertion, paracentesis…) must be documented in the chart. All significant changes in clinical course and discussions with family should be documented. Ward notes made by clinical clerks should be reviewed. If an admission or consultation note is written by a clinical clerk, it must be reviewed by a resident. A summary or supporting note must be made in the chart by the resident that examines and reviews the patient with the clerk at the time of assessment. Issues and concerns identified in the nursing notes "clipboards" on the wards should be addressed daily.

Face sheets must be completed on all patients that stay overnight. A dictated discharge summary is required for all patients that die in hospital and if they are in hospital more than 1 week or if an admission was complicated and there are complex follow-up issues. When patients are assessed as formal consultations (E.R. or wards), a consultation note must be dictated at the time of consultation. Copies should be directed to the physician requesting consultation, the family physician, the general surgeon for whom the consultation is seen, and any other relevant physicians involved in the care of the patient. When residents perform procedures in the O.R., they should specifically discuss with the attending surgeon regarding dictation. If it is agreed that the resident will dictate, then the operative note MUST BE DICTATED IMMEDIATELY AFTER THE SURGICAL PROCEDURE. There should be no exception to this. The operative note should contain a clinical note (essential if emergency surgery), pre & post operative diagnoses, procedure(s) performed, and a description of the findings and of the procedure. If a resident fails to dictate reports recurrently, they will not be permitted to operate.

16.9 Suggested Daily Resident Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0630-0730H</td>
<td>Independent patient review</td>
</tr>
<tr>
<td>0730H</td>
<td>Sign in with chief resident</td>
</tr>
<tr>
<td>0800H</td>
<td>Attend to activities assigned at Sign in ie. OR/ER/Clinic</td>
</tr>
<tr>
<td>1700H</td>
<td>Team sign out with chief resident and residents on call</td>
</tr>
</tbody>
</table>

 opportunities for bedside teaching, review X-rays etc.
16.10 Emergency Department Coverage & Consultations

The General Surgery call schedule is available throughout the hospital and switchboard. When your staff surgeon is on call, you will be on call for general surgery consultations during the day, from 0800-1700 hours. Referrals may come from the emergency physician or other services/wards in the hospital. Residents may be called directly or via the surgeon's office. If there is conflict between coverage of the E.R. and attendance in the O.R., it should be discussed with the Chief Resident and alternatives arranged. Consultations in the E.R. should be seen within 30 minutes of referral; sooner if the patient is unstable. If the patient is stable and attendance is expected to be delayed, the appropriate individuals should be notified (i.e. another resident, chief or on-call surgeon). If an in-hospital general surgical consultation is requested and seen by a resident, that case is the responsibility of the surgeon on call when the assessment is made. The preferred mode of contact and timing should be discussed with the surgeon on call (i.e. phone, pager...)

No patient seen in consultation in the E.R. should be discharged home or admitted to the general surgery service without the knowledge of the staff surgeon. No patient should be accepted in transfer from another service without approval of the staff surgeon. Patients admitted on call and in-house consultations should be "signed-over" to the residents of the attending surgeon's team prior to 0800 hours. Similarly, sign-over should also include any relevant changes in the status of in-patients.

16.11 Operating Room

It is the responsibility of the Chief resident to coordinate attendance in the various operating rooms each day. Residents are expected to arrive in sufficient time to assist with patient transfer, positioning and review of the chart. Residents participating in a surgical procedure are expected to be familiar with the patient's history, physical findings, the rational for the planned operation, and the planned surgical procedure. Off-service residents should be encouraged to attend the operating room to provide exposure to "live" anatomy, common pathology and surgical techniques.

16.12 Surgical Clinics

Attendance at outpatient clinics is an essential portion of surgical training. Residents should attend at least 1 clinic per week. Clinic opportunities exist with all general surgeons at St Joseph's. Availability and attendance at clinics should be discussed with your staff surgeon and the chief resident.

16.13 Clinic Location

Dr Cadeddu: 8th floor examination rooms
Dr Anvari: Outpatient clinic, 1st floor
Dr. Heller: Monday: Outpatient dept. Tues: HRCC, Thurs: pm HRCC, Friday: am office
Dr Lovrics: 8th floor examination rooms
Dr Tandan: 8th floor examination rooms, cancer clinic
Dr Dath: 8th floor examination rooms

16.14 Clinical Schedule

<table>
<thead>
<tr>
<th>Mondays</th>
<th>1300-1700H Dr Tandan Cancer Center (Henderson Site)</th>
<th>0830-1200H Dr Heller Outpatient Department</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0830-1200H Dr Heller Outpatient Department</td>
<td></td>
</tr>
<tr>
<td>Tuesdays</td>
<td>0900-1600H Dr Misra SJH 8th Floor</td>
<td>0900-1600H Dr Lovrics SJH 8th Floor</td>
</tr>
<tr>
<td></td>
<td>0900-1600H Dr Lovrics SJH 8th Floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1230-1600H Dr Anvari SJH 1st Floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000-1700H Dr. Heller HRCC (Melanoma)</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>1300-1600H Dr Anvari SJH 1st Floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1300-1600H Dr Lovrics SJH 8th Floor</td>
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<tr>
<td></td>
<td>1000-1700H Dr. Heller HRCC (Melanoma)</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>1300-1700H Dr Tandan Cancer Center (Henderson Site)</td>
<td></td>
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<tr>
<td></td>
<td>1300-1700H Dr Heller Cancer Center (HRCC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0900-1600H Dr Misra SJH 8th floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0800-1200H Dr Heller Office</td>
<td></td>
</tr>
</tbody>
</table>

16.15 Call Duties and Most responsible Physician

All residents are expected to participate in the on-call schedule. Junior/off-service residents may be paired with a senior resident for a portion or all of the rotation, depending on their clinical capabilities. The schedule is prepared by the Chief resident. On-call coverage includes General Surgery and those subspecialty services that have residents in the call pool. A list of covered services is provided to the wards/units with each month's call schedule. When a referral is made from the E.R., the call should be answered immediately. If the patient cannot be seen within 30 minutes (or sooner if clinically unstable) due to other demands (i.e. resident is in the O.R.), then another resident, Chief resident, or attending staff should be notified.

Patients assessed on call should be reviewed with the senior/chief resident (if available) and then the attending staff on call when the patient is assessed. (please see guidelines attached).

If there is a significant change in patient status, the most responsible physician (MRP) should be notified. These changes include: unexpected death or transfer to a higher level of care (i.e. ICU) of a patient, significant change in clinical condition or management plan, or prior to undertaking of a procedure or therapy which has the potential for immediate or future serious morbidity. During the week, between 0800-1700 hours, the MRP should be notified. If the MRP is on holiday or "signed out", the covering surgeon should be notified. During weekends, or between 1700 and 0800 hours, the MRP can be paged. If their pager is "signed out", or they do not answer, the on-call surgeon should be
notified. If there is confusion regarding MRP status, this should be identified to the on-call surgeon, who will then address the issue.

16.16 Goals and Objectives for St Joseph's Healthcare include those listed hepatobiliary, abdominal, colorectal and breast curriculum

**Surgeons**

**Dr. Monali Misra**  
Specialty - Bariatric Surgery  
Office: 8th Floor, Room 819  
Telephone: 905-522-1155 ext 5854 (Secretary Maryanne)  
Fax: 905-521-6123. Email: monalimisra@hotmail.com

**Dr Margherita Cadeddu**  
Specialty - Minimal Access Surgery  
Office: 8th floor, Rm 810  
Telephone: 905-522-1155 (Secretary, Maryanne)  
Fax: 905-522-0864, Email: cadeddu@mcmaster.ca

**Dr Mehran Anvari**  
Director CMAS, Surgical Research  
Specialty - Minimal Access Surgery  
Office: 8th floor, Rm 805  
Telephone: 522-2951 (Secretary, Lisa)  
Fax: 521-6113, Email: anvari@mcmaster.ca

**Dr Peter Lovrics**  
Director ICU  
Specialty - Intensive Care, Breast Diseases  
Office: 8th floor, Rm 802  
Telephone: 521-6060 (Secretary, Debbie)  
Fax: 521-6042, Email: lovricsp@mcmaster.ca

**Dr Ved Tandan**  
Director of SOURCE  
Specialty - Hepatobiliary Surgery  
Office: 8th floor, Rm 815  
Telephone: 521-6148 (Secretary, Elena)  
Fax: 521-6154, Email: tandanv@mcmaster.ca
**Dr Deepak Dath**
CTU Director - Residency Director of Core Surgery Programme Surgical Education, Hepatobiliary Surgery Office: 8th floor, Rm 814 Telephone: 521-6003 (Secretary, Sharon) Fax: 521-6048 Email: dathd@mcmaster.ca

**Dr. Barbara Heller**
Surgical Oncology Office: 205-200 James St. South Telephone: 905 526-6829 Fax 905 526-6230 Email: hellersurgonc@aol.com

**Important Telephone Numbers**

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**16.17 Surgical Service Overview, St Joseph's Hospital, McMaster University**
Peter Lovrics, MD FRCSC
905-521-6060

**Overview**
Residents on my service will be exposed to a high-volume general surgical practice. Surgical cases include mixed general surgical cases, with emphasis on breast disease and colorectal cancer. Outpatient clinics occur three 1/2 days per week, and provide exposure to the investigation, diagnosis and management of common general surgical disorders. There is also opportunity for endoscopy (gastroscopy, colonoscopy & rigid sigmoidoscopy) and minor procedures. My clinical practice also includes Critical Care.

During these weeks, I do not have surgical call, clinics or operative time.

The educational opportunities are suited to residents at all levels, from PGY-1 to Chief residency. Responsibility and independence, as well as operative procedures are delegated appropriate to level of training and expertise. There is also ample exposure to one-on-one teaching in all clinical areas.

There are ongoing research projects in breast cancer, and an opportunity to participate in these, or in the development of new projects. A research infrastructure is in place.
17. Dr. Heller Surgical Oncologist Goals and Objectives

B. Heller, B.Sc. (Hon), MD, FRCSC
Assistant clinical professor
General Surgeon, Surgical Oncologist
Suite 205 - 200 James Street South
Hamilton, Ontario, L8P 3A9
Tel: (905)526-6829
Fax: (905)526-6230

17.1 General Surgery and Surgical Oncology Service
While this service encompasses all aspects of a surgical rotation, there are two prime focuses:

1. the principals and practice of surgical oncology
2. ambulatory surgical care

17.2 Objectives of the Surgical Oncology learning experience

Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy

To know the basic physiology and anatomy as it relates to skin/soft tissue, breast, lymphatics as well as colon and rectum

Knowledge: General Clinical

to gain an understanding of the natural disease process of malignancies encountered in general surgery

Knowledge: Specific Clinical Problems

to stage tumors clinically and with appropriate investigations and diagnostic procedures
to understand, implement and act on the prognostic information of TMN staging of tumors
to identify patients with potential genetic dispositions to disease, and to understand how treatment and follow up differs in these patients
to understand the role for chemotherapy, immunotherapy, hormonal therapy, and radiation in the care of the surgical patient
to understand the benefits and morbidity/side effects of cancer therapy
to understand the principles of cancer pain management
to understand the role of palliative surgical procedures in patients with advanced stage cancers
to have a working knowledge of controversies in the field of surgical oncology
to advise patients and families with high risk of genetic mutations predisposing to cancer of appropriate surveillance and of prophylactic interventions available

Emphasis is placed on breast, colorectal, melanoma and soft tissue sarcomas.

**Knowledge: Technical**

to understand and practice operative skills and principles used in the surgical treatment of tumors
to develop skills in new surgical techniques (i.e. sentinel lymph node biopsy) and in techniques that expand the general surgeons ability to deal with wounds (i.e. wound closure with split thickness skin grafts, local advancement flaps and sartorius muscle rotational flap)

**Communicator**

to discuss surgical interventions along with the risks and complications such that the patient understands the therapeutic intervention
to be able to discuss and explain the post operative course to family, patients and health care workers

**Collaborator**

to participate in care of the oncology patient and understand the roles, expertise and limitations of all members of an interdisciplinary team

**Manager**

to manage health care resources in managing patients with oncological problems

**Health Advocate**

to encourage appropriate cancer screening and to modify lifestyle choices that may predispose to oncological problems

**Scholar**

to have knowledge of landmark studies which have lead to major advancements or changes in the treatment of solid tumors treated by general surgeons
to use evidence based medicine in treatment decision making

**Professional**
to gain an appreciation for the psycho-social impact of cancer on the patient and their family and to deal with this in a compassionate manner

17.3 The Ambulatory Surgical Care experience

The last decade has seen significant changes in the practice of general surgery. With the increase in same day admit and short stay admissions there has been a maximization of bed utilization and the through put of surgical care of patients. The ever-increasing demands of a surgical residency can leave a resident adept at the treatment of emergency patients, however there has been a decrease in the assessment and treatment planning of elective surgical patients. This results in a loss of the out patient experience, of patients with potential surgical problems, needed to decide on appropriate out patient investigations, and when to offer surgical intervention. There is a need to appreciate the myriad of presentations of specific conditions. Still most diagnostic and management decisions are being made in outpatient settings. The teaching process is patient based with immediate clinical relevance, cementing together facts into a useable database. Pertinent articles and text are provided to maximize the independent assessment and treatment plan. Interaction is encouraged between colleagues at the various stages of training.

Objectives of the Ambulatory Surgical Clinic

Medical Expert/Clinical decision Maker

Knowledge: General Clinical

to build a working knowledge base of conditions/disease where surgical management may play a pivotal role
to carry out effective preoperative evaluations and preparations, that include the appropriate identification and management of high risk patients
to gather clinical information effectively

Knowledge: Specific Clinical Problems

to gain experience of the natural post operative course of the surgical patient and to be able to identify when variants require investigation or treatment

Knowledge: Technical

to focus on diagnostic clinical skills (ex. punch biopsy, FNAB, core biopsy, aspiration of breast cysts, wound debridement

Communicator

to discuss surgical interventions along with the risks and complications such that the patient understands the therapeutic intervention

Collaborator
to work with the other members of the interdisciplinary team to develop a plan for a general surgery patient; this may include preoperative and postoperative investigations, treatments and continuing care in the ambulatory settings

Manager

to triage the urgency of clinical work up and management to work effectively in a finite resource based system (cost effective practice)

Health Advocate

to encourage appropriate cancer screening

Scholar

to continue an ongoing process of improving knowledge through clinical research

Professional

to establish a patient rapport that encourages confidence, satisfaction and compliance to treatment regimes

18. Dr. Mehran Anvari Surgical Service

18.1 Overview

This service includes a high volume of advanced laparoscopic G.I. procedures on elective patients and a high volume of mixed general surgical emergency cases, which are admitted through Emergency Room.

The service provides a mix of experience in the operating room with laparoscopic procedures, endoscopy room (gastroscopy and colonoscopy), outpatient clinic, as well as the opportunity in getting involved in research projects and use of CMAS surgical skill centre.

This service usually has one clinical fellow associated with it and the operative experiences for advanced laparoscopic procedures are equally shared between chief residents and the fellow. There is an opportunity for learning basic laparoscopic skills for junior residents. In view of the mix of cases and educational opportunities this service is best geared for a chief residents and a very junior surgical resident or a off service junior residents from another specialty who would like to experience a surgical service with high volume of minimal access surgical procedures.

This service is not suited to R2 or R3 surgical resident who will then have to compete with a chief resident and a fellow for more advanced procedures.
18.2 Clinical and Educational Opportunities

Operative Experience
This service offers a very large volume of laparoscopic fundoplication, laparoscopic bowel resection, as well as laparoscopic hernia repair, cholecystectomy and other advanced laparoscopic procedures, including gastrectomies, esophagectomies, Heller's Myotomy, Total Proctocolectomy and Ileoanal Pouch. The chief resident is expected to be able to perform a laparoscopic hernia repair, laparoscopic appendectomy, laparoscopic bowel resection, and depending on the skill of the chief resident, they may be able to perform all or part of laparoscopic fundoplication, by the end of their four month rotation. Clearly if this can be extended to six or eight months it will allow the chief resident to gain a greater degree of expertise. The chief resident completing this rotation will still probably benefit from a year of fellowship to be regarded as an advanced laparoscopic surgeon. They would however gain all the necessary two handed laparoscopic skills, as well as technical expertise and knowledge base to provide a variety of advanced procedures. The progress of the resident will to some extent be dictated by the extent of two handed laparoscopic skills that they have gained prior to starting this service.

Endoscopy
This service includes two half days of endoscopy with a total of approximately 15 gastroscopies and 4 colonoscopies per week. This will provide an opportunity for both a chief resident as well as a more junior resident to acquire endoscopic skills. This service does not offer any experience with ERCP.

Clinics
This service includes two extremely busy half-day clinics, which are conducted in an outpatient department. There have been provisions made for five available examining rooms to allow the residents and clerks to see new patients as well as repeat patients on their own prior to the staff joining them. This will allow the residents and clerks to be able to assess the patients and formulate the plan of action independently and to discuss the case with the staff person. The patients referred to this clinic suffer from a variety of G.I. disorders particularly gastroesophageal reflux, achalasia, colonic malignancies, inflammatory bowel disease and G.I. dismotility disorders. There are no breast, perianal disease, or lumps and bumps seen at this clinic. There are also a variety of hernias and patients with gallstones or biliary dyskinesia, which are also referred to this clinic. One of the clinics is conducted jointly with a gastroentereologist, Dr. R. Goodacre, and a respirologist, Dr. C. Allen, and will provide the residents experience with a multidisciplinary approach to a number of conditions, including inflammatory bowel disease, gastroesophageal reflux, etc.

Motility Lab
Dr. Anvari is the Director of the Motility Lab and during this service, depending on the wish of the resident there is an opportunity to gain experience with analysis and reporting of upper G.I. and anorectal motility tracings, as well as 24 hour pH recording.

18.3 Other Educational Opportunities

**Minimal Access Surgical Skills Lab**
The resident on this service would have an opportunity to access the CMAS skills lab to practice on the artificial cadavers as well as the computer simulated model to improve their two-handed skills as well as review the CD library of a variety of laparoscopic procedures.

**Advanced Minimal Access Courses**
Residents on this service will be invited to take part in a variety of two day advanced courses, which are offered through CMAS and are supported by this service. The residents will be free to take part in the lectures and live surgery. They will not be involved in the animal lab on Saturday afternoon. However, separate courses will be available for junior and senior residents which will include live animal surgery.

18.4 Research

This service provides a rich research milieu for residents interested in getting involved in a variety of prospective or retrospective studies on G.I. disorders. The service is complemented with 3 research nurses with considerable experience who can provide support for the resident's research. There are also regular research rounds that the residents can get involved with if they so wish.

1. Residents are expected to attend at least one outpatient clinic per week and to be able to assess the patients and discuss a plan of action for investigation and surgical treatment.
2. As much as possible it is expected that the resident and Dr. Anvari will go around together to see and review the patients at least once daily.
3. The resident and chief resident are not expected to come in over the weekend to see the patients on the service unless they are on call or they elect to do so.

18.5 Primary Objectives (Non-Optional)

**Medical Expert/Clinical Decision Maker**

*Knowledge: Basic Science and Anatomy*
Residents are to know the physiology and anatomy of the GI tract

*Knowledge: General Clinical*
Gain experience in evaluation and patient preparation for a variety of upper G.I. and lower G.I. surgical disorders, particularly gastroesophageal reflux disease, achalasia, inflammatory bowel disease, colonic malignancy, hernias, gallstones, and biliary dyskinesia.

Knowledge: Specific Clinical Problems
Know the pathological conditions and their treatments seen in upper G.I. and lower G.I. surgical disorders, particularly gastroesophageal reflux disease, achalasia, inflammatory bowel disease, colonic malignancy, hernias, gallstones, and biliary dyskinesia.

Knowledge: Technical
Junior Residents
Gain two-handed laparoscopic skills and basic knowledge of use of electrocautery pliers, dissecting instruments, ultrasonic scissors. The resident are expected to attend at least one endoscopy session per two weeks for acquiring and maintaining endoscopic skills.

Chief Residents (In Addition to Above)
Gain appropriate two-handed laparoscopic skills for performing a variety of advanced laparoscopic procedures. The chief residents are expected to be able to perform difficult laparoscopic cholecystectomies, laparoscopic appendectomy, laparoscopic hernia repair, laparoscopic right hemicolecotomies and sigmoid hemicolecotomies. They are also expected to be able to perform part or all of laparoscopic fundoplication, and laparoscopic abdominal perineal resection.

Communicator
The residents and chief resident are expected to see the patients on the service at least once a day and to discuss the patients with Dr. Anvari either at the bedside or at another venue in the hospital. The residents should learn to communicate effectively with family and patients explaining pathologies in lay terms.

Collaborator
The resident should be able to collaborate with colleagues in mutual medical specialities such as Gastroenterology and Emergency Medicine.

Manager
The resident is to manage inpatient/outpatient as well as emergency patients wisely keeping in mind the cost of investigations.

Health Advocate
The residents are expected to assist patients and families in making lifestyle changes to avoid GI tract pathologies

**Scholar**
Getting involved in a variety of research projects currently underway within the service.

**Professional**
The residents are to handle themselves in a professional manner when dealing with families, patients, and health care workers.

### 18.6 Secondary Objections (Optional)

1. Use of minimal access surgical skills centre to improve laparoscopic skills
2. Attending the Motility Lab and arranging sessions with Dr. Anvari to discuss analysis and reporting of motility tracings.

The above objectives are in addition to the general objectives which are part of any rotation at St. Joseph's Hospital which includes attendance at Wednesday afternoon educational rounds, which include radiology rounds, mortality and morbidity rounds, chief residents rounds, as well as research rounds. In addition there is residents education rounds on Monday morning, which is primarily for junior residents which will be attended by the chief residents and some of the staff surgeons.

### 19. Dr. Ved Tandan Surgical Service

#### 19.1 Overview
This service provides a high volume of major surgical oncology procedures, primarily hepatobiliary and pancreatic and sarcoma. In addition there is a moderate volume of mixed general surgical elective cases and a high volume of mixed general surgical emergency cases seen through the emergency room.

The service provides a mix of experience in the operating room with major surgical oncology procedures as well as with laparoscopic procedures such as cholecystectomy, laparoscopic hernia repair, laparoscopic bile duct exploration, adrenalectomy and splenectomy and colon resection. Experience can be also obtained in the endoscopy room (gastroscopy, colonoscopy and ERCP) or the outpatient clinic and the Hamilton Regional Cancer Centre GI and sarcoma clinics as well as being involved in research projects.

There may occasionally be a clinical fellow associated with the service but the roles of the chief and the clinical fellow will be clearly defined and non conflicting.

There is an excellent opportunity in this service to gain detailed understanding of the anatomy of the upper abdomen with complex hepatic resections, resections of the porta
hepatis and with Whipple type procedures. This is an excellent experience for residents at all levels whether they are performing the bulk of the procedure or assisting it still provides an extremely valuable learning experience. There is also the opportunity to learn basic laparoscopic skills for junior residents and more advanced laparoscopic skills for senior residents.

This service is suited for residents at all levels. Given the complexity of a large number of the cases, a portion of the procedures are suitable for junior residents and other portions are more suitable to senior residents or fellows depending on the experience of the individual.

19.2 Clinical and Educational Opportunities

Operative Experience

This service offers a large volume of hepatic resection, pancreatic resection and biliary reconstructive procedures. In addition there is a high volume of laparoscopic cholecystectomy, hernia repair and a moderate volume of other advanced laparoscopic procedures including adrenalectomy, splenectomy, bile duct exploration and bowel resection. The Chief Resident is expected to be able to perform laparoscopic hernia repair, appendectomy, cholecystectomy, hepatic mobilization, dissection of the porta hepatis, biliary anastomosis, enteric anastomosis and significant portions of major pancreatic resections. Junior residents can be expected to perform hernia repair, cholecystectomy, portions or all of bowel resections, and some enteric anastomosis, assist with and therefore learn the techniques involved and the anatomy involved in the other more major procedures performed on the service.

Endoscopy

This service includes Vi day of endoscopy with colonoscopies and gastroscopies as well as Vi day of ERCP time. The residents will have the opportunity to perform gastroscopies and colonoscopies and assist with or observe ERCP. The residents will not likely have sufficient time to gain experience to perform ERCP on this rotation.

Clinics

This service includes 3 busy Vi day clinics. One is at St. Joseph's hospital and sees a variety of general surgical elective problems. This clinic is Thursday mornings. The other 2 clinics are at the Hamilton Regional Cancer Centre Monday and Thursday afternoons. Both of these clinics have associated with them a tumour board round for half an hour prior to the clinic where interesting cases are discussed in a multidisciplinary forum with surgical oncologists, medical oncologists, radiation oncologists and nurses. In all clinics there are 4 examining rooms available allowing residents and clerks to see new patients as well as repeat patients on their own prior to being seen with the attending staff. This allows the residents and clerks to be able to assess the patients and form a plan of action independently and discuss the case with the staff person. It should be noted that these clinics do not see patients with breast disease or "lumps and bumps".
Surgical Outcomes Research Centre
Dr. Tandan is the director of the Surgical Outcomes Research Centre and an opportunity exists for residents to participate in research projects on going within the Surgical Outcomes Research Centre and gain a better understanding of evidence based surgical practice which is one of the focuses of the Surgical Outcomes Research Centre.

Hepatobiliary and Pancreatic Disease Rounds
Once a week there are multidisciplinary hepatobiliary and pancreatic disease rounds which are currently held at McMaster University Medical Centre. These rounds are currently 8:30 to 10:00 a.m. on Wednesday mornings. Residents are welcome to attend these as long as they do not conflict with other teaching activities which currently occur on Wednesday mornings.

19.3 Primary Objectives (Non-Optional)

Medical Expert/Clinical decision Maker

Knowledge: Basic Science and Anatomy
Know the physiology and anatomy associated with retroperitoneum, abdominal wall, liver, biliary tree, and pancreas as well as the rest of the GI tract

Knowledge: General clinical
Gain experience in evaluation and patient preparation for a variety of general surgical problems such as hernias, biliary tract disease, colonic malignancies, rectal bleeding, hemorrhoids as well as major hepatobiliary and pancreatic diseases.

Knowledge: Specific Clinical Problems
Know the pathologies that are associated with and caused by hernias, biliary tract disease, colonic malignancies, rectal bleeding, hemorrhoids as well as major hepatobiliary and pancreatic diseases.

Knowledge: Technical
Chief residents are expected to be in the operating room for most surgical cases (including "minor cases") where they may serve as a teaching first assistant with the surgeon not being scrubbed in with the chief resident and junior resident. There are of course exceptions to this when there is conflict with other operative procedures or when the residents are unavailable for other reasons (ie. ER coverage, clinics, rounds, post-call) Residents are expected to attend at least 1 endoscopy session every 2 weeks for acquiring and maintaining endoscopy skills.

Junior residents are expected to attend the operating room on a regular basis although it is not expected that they be there for all surgical cases and other demands on their time including outpatient clinics, coverage of the emergency department and wards will have to be considered. Communicator-Residents arc expected to discuss patients with Dr. Tandan on a daily basis.
**Collaborator**
The residents are expected to function as a team with the chief resident being the team leader and the clinical clerks working under the chief resident and functioning as a team. The chief resident is expected to see all patients in the Intensive Care Unit, Stepdown Unit and to discuss all other patients with the junior residents and those patients who have active concerns. It is expected that the residents and Dr. Tandan will make rounds to see patients at least once daily. Attempts will be made to do this as a team however if some members of the team are otherwise occupied then exceptions will have to be made.

**Manager**
At least 1 member of the team is expected to see all patients on the service once a day in the morning prior to going to the operating room.

**Health Advocate**
When considering the etiology of some of the disease treated on this service the resident should be able to advocate for the health of the patient by modification of lifestyle issues

**Scholar**
Getting involved in research projects either in Surgical Outcomes Research Centre or directly with Dr. Tandan.
Arranging sessions with Dr. Tandan to discuss management of complex hepatobiliary and pancreatic surgical issues.

**Professional**
Interact with patients, families, nurses and other health care personnel in a professional manner with appropriate attitudes.
Work to maintain and advance professional competence.
Respect all opinions of health care workers as well as the patient and their family
Provide care in an ethical manner
Residents are expected to attend at least 1 outpatient clinic per week and be able to assess patients and discuss a plan for action for investigation and management.

The resident and chief resident are ‘not’ expected to come in on the weekend to see patients on the service unless they are on call.

**19.4 Secondary Objectives (Optional)**
Attending ERCP procedures.

**19.5 Conclusion**
The above objectives are in addition to the general objectives which are part of any rotation at St. Joseph's Hospital which includes attendance at Wednesday afternoon education rounds, including radiology rounds, mortality & morbidity rounds, chief residents rounds and research rounds. In addition there are resident education rounds on Monday morning which is primarily for junior residents which are attended by the chief residents and some of the surgical staff.

20. Curriculum Guidelines in Laparoscopic Surgery

20.1 Basic Laparoscopy-PGY 1 and 2

Physiology Of Laparoscopy
  o Mechanical Effects of Abdominal Distention
    1. Decreased lung volume
    2. Higher airway pressure
    3. Abdominal compartment distention
  o Pharmacologic Effects of CO2
    1. Local effects
      ▪ Decreased visceral blood flow
      ▪ Decreased portal venous flow
      ▪ Decreased venous return to heart
    2. Systemic effects
      ▪ Decreased cardiac index
      ▪ Respiratory and metabolic acidosis
      ▪ Increased SVR, decreased PVR
      ▪ Exacerbation of cardiac arrhythmias
    3. Both effects are rapidly reversible and clinical significance unclear
  o Immunologic Response to Laparoscopy
    1. May be different than open procedure
    2. Evaluation continues
  o Preoperative Patient Evaluation
    1. Overall physiologic performance
    2. Cardio-respiratory parameters
    3. Coagulation parameters
    4. Abdominal factors (i.e. prior surgery)
    5. Gasless laparoscopy an alternative

Equipment Requirements
  o Insufflation
    1. CO2 preferred
    2. High flow (10-15 liters/min), pressure valves, visible flow rates, patient pressure monitors
  o Camera
    1. Single/triple chip
    2. 3 dimensional
3. Printers and video recorders
   o Video monitors
   o Light sources
     1. Safety precautions to prevent thermal injury
   o Laparoscopes
     1. Size 10 mm to 1.4 mm (needlescopes)
        ▪ smaller size = less light
     2. Angles (0, 24, 30, 45 degree)

Instrumentation
   o Disposable vs. Reusable
     1. Cost, sterility, reliability, availability
   o Trocars
     1. Hasson, shielded, versatility
   o Graspers/Dissectors/Scissors
     1. Traumatic, atraumatic, specialty designed
     2. Electrocautery capable
   o Retractors
     1. Size, application
   o Tissue Approximation Devices
     1. Clip appliers
     2. Linear staplers
        ▪ staple size, applications
     3. Specialty devices
   o Hemostatic Devices
     1. Monopolar cautery
     2. Bipolar cautery
     3. Harmonic scalpel
     4. Lasers
   o Suturing
     1. Devices
     2. Pre-tied sutures
     3. Needle types
     4. Needle holders
   o Trocar Closure Devices
   o Others
     1. Dissecting balloons
     2. Gasless abdominal wall retractors
     3. Specimen containment devices

Diagnostic Laparoscopy
   o The surgical resident should be knowledgeable regarding the following:
     1. indications and contraindications
     2. role in diagnosing liver disease, fever of unknown etiology, abdominal or pelvic pain of unknown etiology
     3. staging and assessing intraabdominal tumors
     4. evaluating ascites
     5. selective role in penetrating and blunt trauma
6. evaluating intestinal viability or ischemia
7. complications specific to laparoscopy including subcutaneous emphysema, air embolism, pneumothorax, cardiac arrhythmias, injury from Verses needle or trocar to abdominal viscera, trocar site bleeding or hematoma, trocal site incisional hernia
8. methods of safe creation of a pneumoperitoneum using the Veress needle technique
9. creating a pneumoperitoneum using an open technique with a Hasson trocar
10. appropriate port placement principles with respect to telescope and working port relationships, including alignment of axis of telescope with monitor
11. principles of safe organ handling using laparoscopic instruments
12. safe techniques of enterolysis when previous surgical adhesions preclude visual assessment or access
13. techniques of liver biopsy and other organ biopsy

Laparoscopic Cholecystectomy
   o The resident must gain a firm understanding of the following:
      1. indications for procedure
      2. contraindications to approach
      3. trocar placement
      4. appropriate exposure of infundibulum and triangle of Calot
      5. indications for intraoperative cholangiography and its safe conduct and appropriate interpretation
      6. indications for intraoperative ultrasound
      7. understanding potential anatomic anomalies and their potential contribution to procedural complications
      8. recognition of the cystic duct/gallbladder junction
      9. technique of division of cystic artery and duct
     10. technique of removal of gallbladder off liver bed
     11. removal of gallbladder from abdominal cavity
     12. role of first assistant in proper exposure
     13. special considerations in patients with pregnancy, severe obesity, previous upper abdominal surgery, and potential choledocholithiasis
     14. complications peculiar to laparoscopic cholecystectomy and their treatment
     15. indications for conversion to open procedure

Laparoscopic Appendectomy
   o The resident must master a firm understanding of the following:
      1. indications for appendectomy and laparoscopic versus open approaches
      2. contraindications to appendectomy or laparoscopic approach
      3. trocar placement
      4. exposure of appendix for dissection
5. evaluation of other potential sources of right lower quadrant abdominal pain technique of laparoscopic appendectomy using endo-loops
6. technique of lap. appendectomy using stapler
7. removal of appendix from abdomen
8. treatment of appendiceal abscess
9. indications for conversion to open procedure
10. complications of the procedure and the approach and their treatment

20.2 Advanced Laparoscopic Procedures-PGY 3-5

**Principles/Skills**
These skills include but are not limited to the following:

- two-handed surgical manipulations
- two-handed dissection
- intracorporeal suturing
- intra- and extracorporeal knot tying
- intracorporeal tissue approximation with sutures and staples
- achieving hemostasis from unexpected hemorrhage
- exposure of all intra abdominal and retroperitoneal organs

**Laparoscopic Inguinal Herniorrhaphy**
The resident should become familiar with the following concepts and aspects of this procedure:

- indications for performing a laparoscopic versus an open inguinal herniorrhaphy
- relative advantages and disadvantages of each approach
- situations where these advantages are more likely (i.e. recurrent and bilateral hernias for the laparoscopic approach)
- methods currently used: transabdominal preperitoneal and total extraperitoneal
- relative advantages and disadvantages of each approach
- trocar placement
- knowledge of inguinal anatomy from the laparoscopic view
- proper dissection techniques
- placement of prosthetic mesh and securing it appropriately in place
- coverage of mesh
- complications specific to laparoscopic herniorrhaphy and their prevention and treatment
- expected long-term results

**Laparoscopic Antireflux Procedures**
The resident should be knowledgeable about the following aspects of these procedures:

- indications for performing antireflux surgery
interpretation of preoperative tests for GERD
understanding modifications of operations based on preoperative testing
expected benefits and efficacy of antireflux surgery
knowledge of anatomy of proximal gastric/distal esophageal area including
ability to locate and easily identify major structures including both vagal trunks
technical performance of the procedure, including:
  o trocar placement
  o division of short gastric vessels
  o crural and esophageal dissection
  o suturing diaphragmatic crura
  o positioning of wrap
  o suturing of wrap
potential intraoperative and postoperative complications, their recognition and
treatment

**Laparoscopic Gastric Surgery**
The resident should be familiar with the following aspects of laparoscopic gastric surgery, with the recognition that the experience in such procedures will likely, based on current practice patterns, be limited:

- situations and diagnoses where a laparoscopic approach to gastric resection or vagotomy is appropriate
- relative benefits of a laparoscopic approach in performing vagotomy or resection
- knowledge of the anatomy of the vagus nerves and stomach recognition of these structures under laparoscopic conditions
- trocar placement and exposure
- mobilization and division of gastric blood supply
- division of branches of vagus
- division of stomach
- anastomotic techniques: stapled, stapled and sewn, sewn
- potential complications, operative and postoperative, especially those peculiar to a laparoscopic approach, and their diagnosis and treatment
- indications, preoperative selection, appropriateness for a laparoscopic approach for selected patients undergoing bariatric surgical procedures, along with the expected operative results and potential complications
- techniques currently used to perform such procedures and differences from celiotomy approach

**Laparoscopic Colon/Intestinal Resection**
The resident should be familiar with the following and have a working knowledge and, if possible, a practical experience with the following:

- indications for performing a laparoscopic resection or procedure for pathologic conditions of the colon and small intestine
- appropriate indications for surgery based on individual disease or condition
- role of resection, bypass, diversion as treatment options
appropriate trocar placement based on condition
techniques of intestinal mobilization and exposure
knowledge of relevant anatomy, including blood supply, retroperitoneal structures, etc.
relevance to performing appropriate surgical intestinal resection
dissection techniques for bowel
mesenteric vascular division techniques
intestinal division techniques
anastomotic techniques: intracorporeal vs. extracorporeal
anastomotic techniques: stapled vs. sewn
relevant concerns using laparoscopy for treatment of malignant conditions
technique of laparoscopic creation of colostomy/ileostomy
technique of laparoscopic enteroenterostomy/enterocolostomy using above anastomotic techniques
indications for surgical treatment of rectal prolapse and specific instances where laparoscopic rectopexy is preferred
appropriate treatment technique of laparoscopic rectopexy for rectal prolapse
potential intraoperative and postoperative complications of laparoscopic intestinal surgery, their recognition and treatment

**Laparoscopic Hepatobiliary Surgery (Other Than Cholecystectomy)**

The resident should be exposed to laparoscopic exploration of the common bile duct, should have a working knowledge of the following, and in most cases have some hands-on experience with laparoscopic common duct exploration:

- Interpretation of cholangiography and ultrasonographic findings during laparoscopic cholecystectomy that indicate likely presence of choledocholithiasis or bile duct pathology
- Thorough knowledge of portal hilar anatomy and its variations
- Technique of dilating cystic duct for transcystic exploration of common bile duct
- Technique of choledochoscopy and use of choledochoscopic instruments for stone clearance
- Use of transcystic baskets and balloons for stone clearance
- Technique of laparoscopic dissection of portal area, including exposure of common duct and choledochotomy
- Laparoscopic placement of T-tube and closure of cholecchotomy
- Laparoscopic biliary-enteric anastomosis, including cholecystojejunostomy via stapled or sewn technique
- Laparoscopic treatment of hepatic cysts, including localization using intraoperative laparoscopic ultrasound, drainage, resection, and destruction of cyst wall or placement of omental pedicle in cyst
- Technique of laparoscopic use of special hepatic dissecting instruments including: ultrasonic surgical aspirator and argon beam coagulator technique of hepatic wedge resection

**Laparoscopic Splenectomy And Adrenalectomy**
The resident should become familiar with the following aspects of these solid organ removal procedures:

- indications for performing adrenalectomy
- indications for using laparoscopic approach for adrenalectomy
- indications for performing splenectomy
- indications for using laparoscopic approach for splenectomy
- relevant anatomy of spleen, especially as viewed laparoscopically from anterior and lateral positions
- anatomy and surrounding structures of left adrenal and right adrenal glands, including blood supply
- techniques for exposing left and right adrenal glands
- techniques for removing left and right adrenal glands, including vein ligation and division
- techniques for performing laparoscopic splenectomy, including division of short gastric vessels and splenic hilar vessels
- techniques of removal of adrenal from abdominal cavity
- techniques of removal of spleen from abdominal cavity
- potential intraoperative and postoperative complications peculiar to this operation and operative approach and their recognition and treatment

**Laparoscopic Gastrostomy And Jejunostomy**

The resident should be expected to have an experience with these procedures to some extent, and be fully knowledgeable regarding the following:

- indications for performing gastrostomy or jejunostomy, and the relevant differences and preferences for each type of access
- contraindications to placing feeding access tubes
- indications for preference of using a laparoscopic approach to placing enteral access tubes
- trocar placement for laparoscopic gastrostomy
- technique of laparoscopic gastrostomy
- trocar placement for laparoscopic jejunostomy
- technique of laparoscopic jejunostomy
- potential intraoperative and postoperative complications arising from these procedures and their management
- postoperative management of enteral access tubes including techniques for assessing and replacing these tubes when they fall out

**21. Hamilton General Hospital Site**

The Hamilton General Hospital is the site of the regional trauma program as well as a busy general surgery service. The goals and objectives for General Surgery, Breast Surgery, Colorectal Surgery, Abdominal and Intestinal Surgery should all be reviewed and are applicable for general surgery rotations at this site.
In this section you will find specifics regarding staff surgeons that you will work with and their schedules. Please be familiar with them before you start.

Subspeciality experience that can be gained at the Hamilton General Hospital include Gastrointestinal Medicine, Vascular Surgery, Critical Care Rotation and Urology. When doing these rotations please refer to the subspecialty specific rotation section.

22. General Surgery Rotation – Hamilton General Hospital

22.1 Service

There are five staff general surgeons at the Hamilton General Hospital, Dr Bowser, Dr Sne, Dr Gregor Dr Baillie and Dr Kahnamoui. The majority of patients on the service are located on 6 south or 6 west. There is a surgical step down unit on 6 south.

This tends to be a surgeon-based service, with each resident paired with one to two staff. Each team is composed of a resident and a medical student. There is a chief resident who supervises all the teams.

There are a variety of educational activities for residents to participate in. Residents should attend the OR, clinic, endoscopy, rounds and short stay unit of their staff. The surgeon-based format allows residents to see patients in the office and work them up for the OR, and then follow them up afterwards allowing for comprehensive management.

22.2 Coverage

During the day, the resident of the staff surgeon on call is responsible for covering the emergency department and consults. Cases are to be discussed with the staff surgeon and the chief resident.

Every patient should have an initial assessment the day a consultation was requested, even for non-urgent consults. All staff needs to be notified in a timely fashion of all consultations.

For all admissions, a history and physical exam is to be present in the chart. Notes must be dictated for all consultations, and the number must be transcribed in the chart. A copy of all dictations needs to be sent to the family MD, the referring physician and the on-call physician. The face sheet needs to be accurately filled out for all inpatients and post op patients.

Discharge summaries need to be dictated for all patients admitted for more than 1 week as well as any patient with a complication.
If you are post call it is your responsibility to notify paging that you are signing out as well as informing them of which one of the residents will be covering for you. When you are in the OR, please notify paging before you start, check your pager between cases, and notify paging when you have finished. When you are scrubbed in the OR, your pager should be left at the OR front desk. If your staff is on call while you are in the OR, arrange for another resident to cover ER for you. It is unfair to have one resident covering the ER the majority of the time. Each resident should have time in the OR, at rounds, etc.

22.3 Rounds

Rounds should be completed prior to starting in the OR. Notes need to be written on active patients daily. Notes should be written on ALC patients once a week. You are expected to round on your patients when you are on call on the weekend.

22.4 Call and Handover

Prior to leaving the hospital in the evening all sick patients should be signed over to the resident on call. All patients in the step down unit are sick, and should be handed over. After a night on call, all new patients and all sick patients need to be handed over to the oncoming resident before 0800h on weekdays, and at 0900h on the weekends. On weekends, the resident who saw the patient should arrange any diagnostic tests that need to be done. For emergency cases, the resident who did the admission may come for the case if they want, even if they are not on call.

Residents are expected to cover general surgery and trauma when on call. Residents may send medical students to do consults after ensuring that the patient is stable. All consults done by medical students need to be reviewed by the resident on call, and the patient examined by the resident on call. Residents cover vascular and urology only if there is a resident on those services during the day who is on the call schedule.

There is always back up available for residents on call. Should you feel uncomfortable or overwhelmed, call the chief surgical resident, the ICU resident or the surgeon on call. The surgeon on call must be notified prior to discharging patients, as well if there are sick patients admitted to hospital. Should the status of a patient change overnight, the treating surgeon should be contacted, if they do not answer, leave a message with their office and notify the staff on call. With respect to Vascular, there is a vascular fellow on call every night.

Call rooms are located in the McMaster wing, there are three sets of call rooms for the surgery team, a surgical clerk room, junior resident room and senior resident room.

22.5 Teaching

1. There are chief resident rounds every Monday morning at 0715h in the 6 north conference room.
2. Tuesday mornings are medical students rounds. Medical students each present a case and review a topic.
3. Trauma rounds are at 1600h in the Auditorium conference room in the McMaster wing.
4. Wednesday morning is the academic half-day at McMaster. Residents are expected back to work by 1200h.
5. Resident rounds are at 0715h Thursday mornings in the 6 North conference room. A schedule will be arranged for who will be presenting.
6. Friday mornings at 0715h are medical student rounds.
7. Trauma rounds are in at 0900h on Friday mornings in the 6 North conference room.
8. Morbidity and mortality rounds are Monday mornings, once a month, and will replace chief resident rounds that week. At the nursing station there is a book where all patients to be presented for M&M rounds should be entered. The resident taking care of the patient needs to enter the relevant information into the book.

It is the resident's responsibility to teach medical students. Resident's are required to give formal teaching rounds; dates should be set for all the topics on the list provided during the first week of the medical student's rotation. During day-to-day interactions, residents should teach medical students the basics of how to examine an abdomen, take a surgical history, work up and manage common surgical problems, basic anatomy, postoperative and preoperative orders and pre and postoperative care.

22.6 OR Etiquette

Please check the OR schedule the day before you operate to familiarize yourself with what cases will be done. The schedule can be found at the OR desk the afternoon before, there is also a schedule in OR booking which has the entire weeks' schedule. Read around cases the day before so you can better follow the operation. Arrive early enough to review the chart and introduce yourself to the patient, and help position and prep the patient. At the end of a case, please stay and help transfer the patient to the PACU or ICU.

22.7 Goals and Objectives

Residents should develop a list of their own goals and objectives at the start of the rotation. They should meet with their respective staff persons to go over these. Mid way through the rotation, you should meet with your staff to evaluate your progress; areas of strengths and weaknesses so as to better achieve your goals by the end of your rotation. It is your responsibility to set up these meetings.

22.8 Important Phone Numbers

Admitting: 46233
Ambulatory care clinics: 46266
Conference room: 46604  
Endoscopy suite: 46206  
Endoscopy booking: 48006  
Operating room: 46277  
Paging: 46311  
Surgeon's lounge: 46341  

**Diagnostic Imaging**  
Booking: 46256  
U/S and CT booking: 46900  
Ultrasound: 46939  
ER X-Ray: 46244  
Verbal report: 46906

**Labs**  
Stat chemistry: 46132  
Stat hematology: 46189  
Pathology: 46164  
Microbiology: 46175

**Surgeon's Information**  

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23. **Trauma Program - Hamilton General Hospital, Hamilton Health Sciences, McMaster University**

23.1 **Introduction**

Welcome to the Regional Trauma Program of the Hamilton Health Sciences, Hamilton General Hospital. The Hamilton Health Sciences is responsible for the region of Central South and Old Central West of the Province of Ontario. The Hamilton General Hospital has the third largest population of adult trauma patients in Canada; second in Ontario and
successfully received full accreditation as a tertiary care trauma centre from the Trauma Association of Canada (TAC).

It is our intention to provide you with a meaningful trauma rotation that will provide you with the skills to be a well-rounded physician capable of dealing safely and effectively with a broad range of patient problems. We will strive to provide you with research opportunities and a balance of secondary topics such as partnerships in trauma prevention and education.

We look forward to an exciting and mutually beneficial experience. Again, welcome and good luck!

The Trauma Program is a component of the Burns/Musculoskeletal/Trauma (BMT) Program. Within the program is a Trauma Executive Committee that has representation from multiple disciplines and medical subspecialties. The committee functions as the advisory group for the Trauma Program regarding issues of service, research and education throughout the continuum at the Hamilton Health Sciences.

The Trauma Program infrastructure consists of:

- Medical Director, Dr. Frank Baillie
- Trauma Coordinator, Joanne Kolonics, RN
- Administrative Assistant, Deb Dawes
- Data Analyst, Stephanie Stazyk
- Data Analyst, Virginia Guthrie
- Clinical Nurse Specialist Intern, Blake Zywine, RN

All of these staff can be reached on 6 North through Deb and/or paging. If you require assistance or have questions, please do not hesitate to ask.

### 23.2 Trauma Team Leader Mobilization Criteria

All trauma patients 16 years of age and older are referred to the Trauma Team Leader (TTL), either directly from the Emergency Department or from outlying facilities. The Trauma Team Leader will mobilize the Trauma Team based on the following criteria.

**Systems Criteria**

Patients with obvious major injuries in two or more system, each requiring a specialist and in-patient care (i.e., both injuries require admission under two different specialties). Example: Head injury (GCS < 10) and fractured pelvis.

**Anatomical Criteria**

- Spinal cord injury with paraplegia or quadriplegia
- Severe penetrating injury to the head, neck, trunk, groin or perineum
Amputation above the wrist or ankle
Burns, second or third degree, involving 20% or more of the body surface or involving the face or genitalia

**Physiological Criteria**

Glasgow Coma Scale equal to or less than 10

Or any two of:

- Significant decrease in level of consciousness
- Pulse < 50 or > 120
- BP < 80 or absent radial pulse
- RR < 10 or > 24

All pregnant trauma patients, regardless of the gestational age are referred to the Hamilton General Hospital.

### 23.3 Medical Expert/Clinical Decision Maker

**Knowledge: Basic Science and Anatomy**

You would be expected to know pathophysiological and anatomical issues as they relate to trauma care. This includes good working knowledge as regards the anatomy of trauma, issues such as relationship of the meninges to the brain, the mediastinal structures, pleural space, landmarks for diaphragm, landmarks for central venous line insertion, the anatomy of the urethra as it relates to urethral trauma, landmarks of the compartments as it relates to compartment syndrome. This information should be reviewed prior to starting the rotation and should be demonstrated at opportune moments when dealing with specific problems.

**Knowledge: General Clinical**

Your specific responsibilities within the trauma suite will depend upon your level of comfort, competency and experience you have had with the individual TTL. Certainly, your goals should be that towards the end of your rotation you should feel comfortable assessing and managing all aspects of trauma care that falls into the realm of advanced trauma life support, including identifying the need for early subspecialty consultations.

Monday through Friday between 0800 and 1700 hours, you are to be present with the **Trauma Team Leader** in the trauma suite for all traumas.

In addition to the responsibilities of the acute trauma patient, your responsibilities continue to the ongoing care of the trauma patient admitted to the hospital. In conjunction with the Trauma Attending physician and the Attending Fellow, it is your responsibility to help in the organization of the multidisciplinary care of the trauma patient.
**Follow-Up & Trauma Clinic**

The Trauma Clinic is held every Tuesday at 1300 hours in the Outpatient Department. All patients who need further follow-up post discharge are given an appointment to be seen in the Trauma Clinic. The clinic is to be attended by the Trauma Fellows, residents and Clinical Nurse Specialist.

**Knowledge: Specific Clinical Problems**

You will be expected to be aware of and understand the issues as they relate to trauma resuscitation, particularly as regards the hypovolemic, hypotensive, hypoxic patient as well as burns. In addition, specific areas to be seen and reviewed include head injury, chest injury including rupture of the aorta, abdominal injury including solid and hollow viscous injuries, urogenital injuries including renal disruptions, bladder perforations, and injuries. General issues with regards to the management of fractures including the monitoring for compartment syndrome, fat embolism and neurovascular compromise.

**Knowledge: Technical**

At the end of the rotation, one is expected to have demonstrated a thorough technical knowledge and capability as regards central line insertion, chest tube insertion, airway management, principles of diagnostic peritoneal lavage and abdominal examination for trauma. Also, the ability to suture wounds and control blood loss as well as the basic principles of spine and limb immobilization.

**23.4 Communicator**

You will be expected to demonstrate ability to document both initial and the ongoing management of a trauma patient both in the handwritten and in the dictated fashion, as well as completing a trauma team form. Your documentation should initially be reviewed by the trauma fellow and/or attending and/or trauma team leader to ensure completeness of all documentation and clarity as regards the important need for documentation in view of the medicolegal and criminal issues associated in the management of patients who have been traumatized. Some of whom may be victims of personal violence. Verbal communications will also be observed and expected to be satisfactory particularly as it relates to team work both between residents and fellows and staff, but also particularly with the nursing staff in the ER, the wards, and also technical support staff such as the CT and Radiology Departments, etc.

**Emergency Trauma Documentation**

Early resuscitation documentation is done by the Trauma Team Leaders using the Trauma Team Leader Assessment Record and the Trauma Flowsheet. All verbal orders are documented by the RN in the trauma suite and recorded on the Trauma Flowsheet. It is your responsibility to check and sign for your verbal orders. The Trauma Team Leader Assessment Record and Trauma Flowsheet, along with a dictated note should be part of each trauma’s documentation. The Trauma Fellow and/or Resident is expected to write
the admission note and orders for each trauma patient. All dictated notes must have copies forwarded to the primary physicians and family physician with a copy to the patient’s chart. The presence of an Assessment Record and the written or dictated notes does not diminish the rule for direct physician to physician contact when transferring care to another physician or service, example, intensive care or operating room.

Inpatient Documentation
Documentation on all trauma patients should include daily notes on the progress sheets. Formal discharge summaries including a dictated note should be completed on all patients who are discharged from hospital or expire while under the care of the Trauma Program.

23.5 Collaborator
The Trauma Team consists of the Trauma Team Leader, Trauma Fellow, Resident or both, General Surgery Resident, Orthopedic Resident, Anesthesia Resident and Respiratory Technologist. All are to respond immediately to the Emergency Department when the Trauma Team is activated. In addition, the Plastics, Radiology, Neurosurgery and Chief Surgical Residents are called at the discretion of the Trauma Team Leader.

Management of an acute trauma in the Emergency Department Trauma Suite will be conducted and coordinated by the Trauma Team Leader. The trauma team usually is notified prior to the arrival of a trauma patient so that they are organized and prepared for the incoming patient. In the event where the trauma patient arrives prior to the trauma team and TTL, then the ER physician is in charge of the patient until the TTL arrives.

Finally, trauma patients who have recovered from their major injuries and are still hospitalized due to one injury are then transferred to that particular service. As a courtesy and out of respect to our colleagues, the transfer should be a physician-to-physician agreement and hand-over.

23.6 Manager
Trauma patients are usually admitted to the ICU, Stepdown Unit or the regular surgical floors. The ICU team looks after patients in the ICU; however, the trauma team is expected to be aware of the daily progress and management of their patients in the ICU.

All major patient management decisions are made in cooperation with the Trauma Attending and Fellow. The Trauma Attending physician is a consultant who covers the trauma inpatients for a full week starting each Monday at 0800 hours to the following Monday at 0800 hours. The Trauma Attending is your staff support for all elements of trauma patient care on the wards. The Trauma Attending physician will be available for formal ‘on unit’ daily rounds. Residents and Fellows having concerns or issues with
inpatients after hours are to consult with the Trauma Attending for the week, not the Trauma Team Leader.

In addition to the Trauma Attending physician, the Trauma Fellow is expected to cover as the Attending Fellow for the week, working directly with the residents and the Clinical Nurse Specialist for trauma in the direct management of the trauma patient.

The Clinical Nurse Specialist Interns (CNS) for Trauma is Blake Zywine. Blake plays a vital role in organizing the care of the trauma patients while in hospital and after discharge. He is available Monday through Friday from 0800 – 1600 hours. Blake rounds with the trauma team and is easily accessible to the Fellows, residents and multidisciplinary staff. Patients who live within the City of Hamilton are kept at the General Hospital until discharge or their rehabilitation phase starts. Patients from outside the City of Hamilton are transferred back to their local community hospital once their acute phase has resolved. Blake handles the repatriation of these patients in communication with the outlying hospitals, family physicians and other health care facilities.

23.7 Health Advocate

It is expected that the resident will interact and participate in Trauma Prevention and interact with the staff of the Trauma Prevention Council

23.8 Scholar

Academic Half-Day

You are encouraged to attend your academic half-day.

Regional Trauma Rounds

These rounds are held every Tuesday at 1600 hours in the Theatre Auditorium at the Hamilton General Hospital. All specialties that are included with the care of patients participate in these presentations.

Morbidity & Mortality rounds are held every 6 weeks. You may be asked to present at these rounds.

Friday Trauma Rounds

These are simple rounds that cover most aspects of trauma care. These rounds are presented by the Fellows, Resident or other members of the Trauma Team and are interactive. Residents will be expected to present once during their rotation. There is a bank of topics that need to be covered. As a resident you are encouraged to discuss your presentations with the Trauma Fellows, as it is part of their role to provide educational sessions for the Residents.

Daily Bedside Rounds/Education
The Fellows or the Trauma Attending provides these daily educational sessions at the bedside.

There is a space provided for Fellows, residents, interns or students to do research or educational sessions on 4 East.

23.9 Professional Evaluations
Midway through your rotation you should make arrangements to meet with the Medical Director or his designate for an interim evaluation. Ongoing feedback should be informative in nature and should be requested from individual Trauma Team Leaders. Two weeks prior to the end of your rotation please give a copy of your formal evaluation forms to the Program Secretary for completion by Trauma Team Leaders and the Medical Director.

24. Henderson Hospital

24.1 Introduction
The Henderson Hospital has a busy general surgery service with five general surgeons. The flavor of the surgical service here is one of ‘bread-and-butter’ surgery. The goals and objectives for general surgery, breast surgery, colorectal surgery, abdominal and intestinal surgery should all be reviewed.

In this section you will find specifics regarding staff surgeons that you will work with and their schedules. Please be familiar with them before you start.

Subspecialty experience that can be gained at the Henderson Hospital is limited but includes surgical oncology. Many junior residents find this experience an excellent start to their surgical training.

24.2 Pros & Cons

Lots of clinical exposure to a wide variety of general surgical cases
Emphasis on early and increasing operative experience for all levels of training
Opportunity for exposure to a busy urological cancer service
Excellent gastroenterology and radiology support services
Limited exposure to complex laparoscopic procedures. All surgeons do lap choles.
Dr. Gagic does lap hernias
Limited exposure to head and neck surgery other than lymph node biopsies, tracheostomy and occasional thyroidectomies
Staff are supportive of resident research projects
Busy ambulatory clinics including lumps and bumps, toenails, hemorrhoid injection and banding, varicose vein injection.
24.3 Rotation Specific Goals at the Henderson

These goals are suggested emphasis for all residents with some emphasis for various levels of residents based at the Henderson and are not meant to be inclusive nor exclusive. Please refer to the goals and objectives for Breast, Abdominal and Colorectal.

Medical Expert/Clinical Decision Maker

**Knowledge: Basic Science and Anatomy**

The resident should know physiology as well as anatomy to deal with general and specific clinical problems.

**Knowledge: General Clinical**

The junior resident should have sufficient assessment skills to deal with the specific problems mentioned below.

**Knowledge: Specific Clinical Problems**

The junior resident should be able to deal with problems that involve: Fluids & electrolytes, Wound care, General medical care, Sepsis, Bleeding, Coagulation and thrombosis as well as: Hernias, Biliary Tract, Pancreas, Breast & G.I. malignancies, Other G.I. disease entities and Lymphoma.

The resident should be able to deal with severely ill patients including patients with sepsis, cardiac & respiratory failure, hypotension.

The resident should be able to obtain central venous access as well as initial airway management skills.

All causes of abdominal pain but especially situations in which peritonitis, pancreatitis, appendicitis, biliary tract disease, G.I. obstruction and perforation, abdominal pain with comorbid illness especially malignant disease and orthopaedic patients.

**Seniors**

Should include the same Emergency Room and Ward management goals as the juniors but at a greater depth of knowledge and also needs to include a greater breadth of those problems seen infrequently or rarely.

Very detailed knowledge including recent literature in common problems such as breast and G.I. malignancy as well as biliary tract, pancreatic and splenic disease.

Knowledge of head and neck, endocrine, hepatic and trauma surgery should be at least at the “textbook” level. These areas will be emphasized at other sites.

**Knowledge: Technical**
Technical Expectations at the Henderson
Sample Cases and Cases of Equivalent Difficulty

*By the end of the PGY 2 year residents should be comfortable with doing the majority of the following cases with staff or chief assisting in the operating room:*

1. Non-acute lap cholecystectomies
2. Non adherent right colon or small bowel resections
3. Most appendectomies
4. Non-recurrent hernias
5. Lymph node biopsies
6. Breast surgery with some facility at axillary dissection

Out-Patients: lumps and bumps, sigmoidoscopy, fine needle aspiration, hemorrhoid banding, wedge resection of toenails.

Emergency Room: Central lines and chest tubes

*By the end of PGY 4:*

1. Most colorectal cases with the assistance of staff including perforated and obstructed cases and obese patients
2. Acute cholecystectomies with assistance
3. Supervise juniors with simple elective cases, i.e. cholecystectomy, appendectomies and hernias
4. With staff assistance should be able to complete biliary bypass, splenectomy, tracheostomy, gastric resection and recurrent and difficult ventral hernias

**Communicator**

Residents should be to document and present their clinical findings, investigations as well as their plan of management.

**Collaborator**

The resident at the Henderson hospital needs to demonstrate the ability to collaborate with their medical oncology colleagues in patient care.

**Manager**

The resident needs to learn the appropriate management of diagnostic tests in workup of patients.

**Health Advocate**

In dealing with general surgery problems at the Henderson the resident needs to advise patients on lifestyle choices for prevention of diseases as well as screening techniques to detect disease early.
Scholar
The resident should prepare for clinical cases as well as well have an educational environment for the clinical clerks on the service
The resident should start to pose research questions in preparation for answering clinical questions

Professional
The resident needs to demonstrate ethical and professional attitudes in dealing with patients, their families and other health care workers

24.4 Rounds at Henderson

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Morning</td>
<td>Clinical Clerk teaching rounds are often appropriate for junior residents</td>
</tr>
<tr>
<td>Weekly</td>
<td>Monday noon</td>
<td>Breast Cancer Radiology/Pathology Rounds (Pathology Library)</td>
</tr>
<tr>
<td></td>
<td>Tuesday 1630</td>
<td>G.I./Surgery Rounds (Board Room)</td>
</tr>
<tr>
<td>Biweekly</td>
<td>Wednesday 1630</td>
<td>Morbidity Rounds (Board Room)</td>
</tr>
<tr>
<td>Monthly</td>
<td>Wednesday 1630</td>
<td>Mortality Rounds (Board Room)</td>
</tr>
<tr>
<td></td>
<td>Friday 0830</td>
<td>Grand Medical Rounds (Auditorium)</td>
</tr>
</tbody>
</table>

Academic Half-Day which is Surgical Grand Rounds @ 0730 4 E 20 – McMaster Division followed by Core and Senior teaching sessions all of which are mandatory.

25. MUMC Orientation Manual - General Surgery
On page MUMC Orientation Manual - General Surgery... (hide)

1. **Objectives**
2. **What is the CTU?**
3. **How the CTU Works**
4. **Afternoon Teaching Rounds**
5. **Morbidity & Mortality Rounds**
6. **Breast Rounds**
7. **Hepatobiliary Rounds**
8. **Grand Surgical Rounds**
9. **Notification of Most Responsible Physician of Changes in In-patient Status**

   1. **Monday to Friday 0800HRS TO 1700 HRS**
   2. **Any Day 1700HRS. To 0800HRS. Or Weekends**

10. **Support Services for Ward 4Z**
1. **Unit Leader**  
2. **Registered Nurse (RN)**  
3. **Registered Practical Nurse (RPN)**  
4. **Education and Development Clinician**  
5. **Business Clerk (BC)**

### 11. Support Services

1. **Pharmacy**  
2. **Nutrition Services**  
3. **Social Work Services**  
4. **Speech and Language Pathology (SLP)**  
5. **Physiotherapy Services**  
6. **Occupational Therapy Services**  
7. **Skin, Wound and Stoma Clinician**  
8. **Home Care (CCAC)**  
9. **Palliative Care**  
10. **Geriatrics / Seniors Health**  
11. **Rehabilitation**  
12. **Ethics Consultation Service**  
13. **Pediatric Trauma and the Pediatric Trauma Team**  
14. **Indications to Call the Pediatric Trauma Team**

### 12. Resident Expectations & Duties

1. **Ward Work**  
2. **Charts**  
3. **Patient Rounds**  
4. **Multidisciplinary Rounds**  
5. **Operating Room**  
6. **Emergency Department Coverage**  
7. **Clinics**  
8. **On Call Duties**

### 13. Other Useful Information

1. **Photocopying**  
2. **Lockers**  
3. **Food**  
4. **Books**

### 14. Tips for Success on the Wards

1. **These Tips Come from a Variety of Sources, Your Staffpeople, Nurses and Previous Residents.**

### 15. Appendix A: Guidelines for Feeding Tube Changes or Replacements
26. Professional Responsibilities in Postgraduate Medical Education

Approved by Council: September 2003
Publication Date: November/December 2003
To be Reviewed By: September 2006
Key Words: Most responsible physician, medical students, supervision, training, professional behaviour, consent
Related Topics: Delegation of Controlled Acts, Consent to Medical Treatment, Mandatory Reporting
College Contact: Quality Management Division

26.1 Purpose
The purpose of this policy is to clarify the roles and responsibilities of most responsible physicians, supervisors, and trainees engaged in postgraduate medical education programs, thereby ensuring the safety and proper care of patients in situations where postgraduate clinical trainees are being educated.

26.2 Scope
This policy applies to all physicians who are involved in the guidance, observation, and assessment of postgraduate clinical trainees enrolled in postgraduate medical programs in Ontario and to the postgraduate clinical trainees, themselves.
26.3 Definitions

Postgraduate Clinical Trainees ("trainees")[1] are doctors who hold a degree in Medicine and are continuing in specialist education, including family medicine. They are members of the College of Physicians and Surgeons of Ontario and are bound by the legislation and policies governing this regulating body.

Most Responsible Physician is the physician who has final responsibility and is accountable for the medical care of a patient.

Supervisors are clinical teachers who are delegated by their respective training programs to guide, observe and assess the educational activities of the trainees. The supervisor of a trainee involved in the care of a patient may or may not be the most responsible physician for that patient[2].

26.4 Principles

The College policy is based on the following principles:

1. Appropriate care of the patient is central to the training endeavour.
2. Proper training, which respects the autonomy and personal dignity of both patient and trainee, optimizes patient care as well as the educational experience.
3. In order to obtain the best results from the educational experience, there should be joint decision-making and exchange of information between supervisor and trainee.
4. Trainees must actively participate in the provision of health care in order to receive the training they require for future independent practice; that is, they must have hands-on experience in a system of delegated and graded responsibility. By doing, as well as observing, trainees learn how to question, examine, diagnose, manage, and treat patients, and adopt the necessary attitudes towards patients and their relatives, colleagues and other members of the health care team.

26.5 College Policy

This policy focuses on professional responsibilities in the following aspects of medical education:

1. Supervision and Training
2. Professional Relationships
3. Reporting Responsibilities
4. Respecting Patient Rights and Consent to Treatment

Supervision and Training
One physician must always be designated the most responsible physician for the patient's care. In a teaching environment, the most responsible physician may or may not also be the supervisor of the trainee.

The supervisor and/or most responsible physician must provide appropriate supervision to the trainee. This includes:

- being willing and able to see patients under his or her care when action is required or when requested;
- ensuring that trainees to whom he or she is delegating have the appropriate knowledge, skill and judgment to perform the delegated act such that the patient is not put in jeopardy[3];
- allowing trainees the responsibility appropriate to their level of training, and commensurate with their ability;
- ensuring ongoing evaluation to determine the trainee's clinical competence and educational requirements;
- meeting regularly with the trainee to discuss the trainee's assessment, management, and documentation of patient care;
- ensuring that all relevant clinical information is made available for the best care of the patient.

The trainee should:

- be willing and able to see patients and to report information to the supervisor and/or most responsible physician according to any guidelines laid down by the postgraduate program and clinical placement setting;
- notify the patient or substitute decision-maker, and family if there is consent[4], of the name of the most responsible physician;
- communicate with the supervisor and/or most responsible physician:
  - when a patient is admitted, or seen in an ambulatory care setting in hospital or the community;
  - when there is a significant change in a patient's condition;
  - prior to the patient's discharge;
  - when the patient or substitute decision-maker and family has significant concerns; and
- in any emergency situation.
- ensure that the supervisor and/or most responsible physician is aware of the trainee's level of competence and educational requirements;
- document his/her findings and management plans and discuss these with the supervisor and/or most responsible physician.

**Professional Relationships**

The most responsible physician, supervisor, and trainee should:

- maintain an ethical approach to the care of patients;
maintain a professional supervisor-trainee relationship at all times, which includes:
  o not exploiting the power differential that is inherent in the supervisor-trainee relationship;
  o not becoming involved in situations involving conflicts of interest;
  o not intimidating or harassing one another emotionally, physically or sexually;

maintain an appropriate relationship with all other colleagues, which includes not intimidating or harassing them emotionally, physically or sexually.

In addition, the most responsible physician/supervisor is responsible for providing a model of appropriate and compassionate care.

**Reporting Responsibilities**

**Legal Reporting**

Under the Health Professions Procedural Code (Schedule 2 to the Regulated Health Professions Act), a physician must file a report if he/she has reasonable grounds, obtained in the course of practicing the profession, to believe that another member of the same or a different health profession has sexually abused a patient. See CPSO Policy #10-00 on Mandatory Reporting for more information.

**Ethical Reporting**

The CPSO Council affirms that the ethical physician will contact the CPSO if another physician exhibits behaviour that would suggest incompetence[5] or incapacity[6] that compromises his/her ability to care for patients. This applies to the most responsible physician, supervisor, or trainee.

**Respecting Patient Rights and Consent to Treatment**

Patients have the right to be fully informed about, and to refuse to participate in, medical education; however, alternative care arrangements may be required if a patient refuses treatment in a clinical teaching setting. The most responsible physician/supervisor and trainee are jointly responsible for trying to ensure that patients are aware of their rights in this context, and that such rights are respected.

**Consent:**

Patients must consent to treatment [7]. It is understood that patients entering teaching facilities will be notified of the educational nature of the patient care to be provided and will give informed consent.

**Special Situations**

**Incapable Patients:**
When the patient is incapable of consenting to treatment (e.g., due to age or other reason), consent should be obtained from the appropriate substitute decision-maker.

**Significant Component of Procedure Performed Independently by Trainee:**

When a significant component of a diagnostic or therapeutic procedure is to be performed independently by a trainee without direct supervision by the most responsible physician/supervisor, a patient must be specifically informed.

**Examination and Clinical Demonstration Solely for Educational Purposes:**

When patient participation is purely for educational reasons, the patient must be notified and must provide consent. The most responsible physician and/or supervisor should ensure that the proposed examination or clinical demonstration is not detrimental to the patient, either physically or psychologically. An explanation of the educational purpose behind the proposed examination or clinical demonstration must be provided to the patient when obtaining the patient's informed consent.

1. The majority of such doctors in Ontario hold a certificate of registration authorizing postgraduate education; however, some postgraduate clinical trainees may already hold certificates of registration authorizing independent practice. Regardless of the class of registration that is held, postgraduate trainees are not independent practitioners or specialists within the confines of the training program.

2. In the context of a training program, residents or fellows often serve in the role of clinical teachers, but do not act as most responsible physician for patient care.

3. For more information, please refer to CPSO Policy #1-99 on The Delegation of Controlled Acts.

4. For more information, please refer to CPSO Policy #1-01 on Consent to Medical Treatment.

5. For more information, please refer to Section 52.-(1) of the Health Professions Procedural Code (the "Code"), Schedule 2 to the Regulated Health Professions Act, 1991, S.O. 1991, c. 18, as amended.

6. For more information, please refer to Section 1.-(1) of the Code, Schedule 2 to the Regulated Health Professions Act, 1991, S.O. 1991, c. 18, as amended.

7. For more information, please refer to CPSO Policy #1-01 on Consent to Medical Treatment and also the Health Care Consent Act.

**27. Perioperative Services**

27.1 Service Director(s)

Kelly Campbell

27.2 What is Perioperative Services?
All hospital sites provide perioperative services for inpatients and same day surgical patients (outpatients).

The multidisciplinary surgical team functions within a complex, fast-paced environment. The nursing team is comprised of graduates of a perioperative course and demonstrate knowledge and skill in caring for the surgical patient during the immediate preoperative, intraoperative and immediate post-operative periods of the surgical experience. Post Anesthetic Care Unit (PACU) nurses demonstrate knowledge of post anesthesia assessment and management of both adult and pediatric patients including airway management, neuro assessment, pain management and invasive pressure line and cardiac monitoring.

27.3 Who does it serve?

The Henderson Operating Room provides care to a high volume of critical/acute adult surgical patients. The focus of their eight operating theatres is Oncology and Joint Reconstructive Surgery and adult Urology. The PACU is staffed 16 hours per day with RNs available on call for emergency surgeries.

The Henderson PACU provides care to a high volume of critical/acute adult surgical patients. Both inpatients and same day surgery patients are cared for in the PACU. The PACU is staffed 16 hours per day with RNs available on call for emergency surgeries.

Number of ORs - 8
Number of Cases (2002/03) 7755

The McMaster Operating Room provides care to a high volume of critical/acute adult, pediatric and neonatal surgical patients. The focus of the McMaster OR is neonatal, pediatric and women’s health surgical specialties. The multidisciplinary surgical team functions within a complex, fast-paced environment. Both inpatients and same day surgery patients are cared for in the OR. The Operating Room is staffed 24 hours per day. The McMaster PACU provides care to a high volume of critical/acute adult and pediatric surgical patients. Both inpatients and same day surgery patients are cared for in the PACU. The PACU is staffed 16 hours per day with RNs available on call for emergency surgeries.

Number of ORs - 8
Number of Cases (2002/03) 10,754

The Hamilton General Operating Room provides care to a high volume of critical/acute adult surgical patients. The focus of the General OR is cardiovascular, neurosurgery and adult trauma surgery. The multidisciplinary surgical team functions within a complex, fast-paced environment. Both inpatients and same day surgery patients are cared for in the OR. The Operating Room is staffed 24 hours per day.
The Hamilton General PACU provides care to a high volume of critical/acute adult surgical patients. Both inpatients and same day surgery patients are cared for in the PACU. The PACU is staffed 24 hours per day.

Number of ORs - 10
Number of Cases (2002/03) 7644

### 27.4 Perioperative Services at HHS

In addition to the operating rooms and PACUs at the three acute care sites, Perioperative Services also encompasses:

- **Endoscopy Units (3 sites)** – providing endoscopy, colonoscopy and bronchoscopy services to both inpatients and outpatients
- **Same Day Surgery units (3 sites)** – surgical preparation and recovery of outpatients
- **Pre-operative clinic (3 sites)** - pre-operative assessment of surgical patients by nursing, anesthesia and/or internist

**Pain Management Center** at the Hamilton General Hospital represents the largest University and Hospital affiliated pain clinic in Canada, with dedicated clinic and procedural facilities. The centre provides treatment to patients who suffer from chronic pain. These treatments include pain blocks, acupuncture and radiological procedures. It is anticipated that 2000-2500 new patients will be seen each year, and approximately 10,000 patient visits will occur.

Our focus is on the medical management of pain, including blocks (epidural cervical, thoracic, lumbar) lumbar sympathetic blocks, stellate ganglion blocks, facet joint injections) Radiofrequency lesioning rhyzotomy, trigger point injections, paravertebral injections, a variety of minor nerve blocks and acupuncture.

Some of the conditions we treat include:

- a variety of non-malignant pain including back and neck pain related to MVA, workplace injuries, repetitive strain injuries, abdominal pain, and headaches
- neuropathic pain including post herpatic neuralgia, complex regional pain syndrome 1 and 2,
- and some palliative interventional nerve blocks

### 27.5 The Perioperative Team

**Physicians - Surgeons and Anesthesiologists**

Specialties include cardiac, vascular, neurosurgery, general surgery, orthopedics, plastics, gynecology, urology, oral surgery, ophthalmology, pediatrics, otolaryngology, pain management and trauma.

**Registered Nurses**
demonstrated knowledge and skill in caring for the surgical patient during the immediate preoperative, intraoperative and immediate post operative periods of the surgical experience
ability to function as the circulating or scrub nurse

Registered Practical Nurses
demonstrated knowledge and skill in caring for the surgical patient during the intraoperative phase of care as the scrub nurse

Business Clerks
knowledge of ORSOS, Meditech

Health Care Aides
knowledge of handling of sterile supplies and complex technical equipment

Environmental Aides
knowledge of infection control practices
environmental cleaning of the surgical environment

Registered Respiratory Care Practitioners
knowledge and care of anesthetic machines, airway management

28. Specialty Specific Rotations

28.1 Introductions
This section covers the goals and objectives for all of the subspecialty rotations that you can potentially experience. It is not possible to cover all these rotations in your five years. Please review this section and decide what your priorities are.

The first rotations in this section will be PGY 1 to PGY 2 rotations while the rotations near the end of this section are more senior rotations. Once, again as with all these rotations, please review the goals and objectives before you start the rotation and arrange a meeting with your supervisor at the start of the rotation.

28.2 Internal Medicine
Medical Expert/Clinical Decision Maker
Knowledge: Basic Science and Anatomy
Know basic anatomy and physiology of the systems that are listed in the specific clinical problem list

**Knowledge: General Clinical**

Ability to take a thorough and relevant history efficiently  
Demonstration of appropriate physical examination skills  
Ability to synthesize information and formulate an adequate problem list  
Ability to design, execute and follow-up diagnostic and therapeutic plans with judicious consideration of costs and benefits  
Ability to assess and managing acute emergency presentations of the conditions listed

**Knowledge: Specific Clinical Problems**

Knowledge of the diagnostic approach, the physiology and management of key symptoms and signs such as:
- **Cardiorespiratory**: chest pain, dyspnea, cough, wheeze, hemoptysis, hypotension/shock, cardiac arrest, murmurs, palpations  
- **Gastroenterology**: ascites, abdominal pain, hematemesis, jaundice, weight loss, dysphagia, melena, nausea/vomiting, diarrhea  
- **Hematology**: fatigue, bleeding diathesis, lymphadenopathy, unilateral leg swelling, pallor  
- **Infectious diseases**: fevers/chills, fever in an immunocompromised host, night sweats, sepsis syndrome/septic shock, skin erythema, vaginal discharge  
- **Nephrology**: oliguria, dysuria, hematuria, common electrolyte abnormalities, proteinuria, polyuria  
- **Neurology**: decreased level of consciousness, confusion, ataxia, coma, headache, dizziness, weakness, tremor, syncope, seizure, sensory loss  
- **Psychiatry**: anxiety, depression, psychosis, somatization  
- **Rheumatology**: joint pain, back pain  
- **Miscellaneous**: edema, rash, pruritis, hirsuitism, breast mass, neck mass

**Knowledge: Technical**

Techniques of paracentesis and thoracentesis  
Acquisition of blood gas samples

**Communicator**

Maintenance of concise, organized and clear problem oriented records  
Sensitivity to the needs of patience and families and the ability to listen and communicate with them

**Collaborator**
Understand and use of a multidisciplinary approach to medical care with effective interaction with all health care personnel

Manager

Ability to plan efficiently for discharge using adequate communication with primary physicians and consultants about follow-up

Health Advocate

Awareness of the health and preventative issues related to various disease processes.

Scholar

Ability and willingness to supervise and educate clinical clerks in a manner which promotes a positive and supportive learning experience
Uses evidence based medicine

Professional

Sensitivity to the ethical issues in medicine, which includes placing limits on care where appropriate
Professional attitude with positive interaction with team members & colleagues

28.3 Emergency Medicine

Medical Expert/Clinical decision Maker

Knowledge: Basic Science and Anatomy

The resident is expected to have a good comprehension of basic and normal physiology as well as anatomy for the patients that are seen in the Emergency Department with medical and surgical problems.

Knowledge: General Clinical

The resident is expected learn how to perform a rapid assessment of the emergency department patient as well as rapid formulation of a management plan
The resident is expected to have an understanding of the pathophysiology of common medical and surgical diseases that are seen in the Emergency Department.

Knowledge: Specific Clinical Problems
These include myocardial infarction, pulmonary edema, otitis media, bronchitis, eye emergencies, pharyngitis, pneumonia, acute abdominal pathologies, orthopaedic emergencies, as well as major and minor soft tissue injuries.

**Knowledge: Technical**

The resident is expected to be able to take care of outpatient wounds, drainage of abscess, and procedures related to treatment of traumatic injuries including suturing

**Communicator**

The resident will communicate well via written and oral forms to present information to consultants, nurses as well as family physicians

**Collaborator**

The resident will communicate with and collaborate in a professional manner nurses, family doctors as well as consultants

**Manager**

The resident should demonstrate an ability to manage medical problems in the Emergency Department in an algorithmic fashion and provide timely management of decisions with a philosophy of cost containment and good standard of care.

**Health Advocate**

Residents should participate in the counseling of patients in modifying of lifestyle issues to avoid or modify diseases.

**Scholar**

The resident should actively read around patients seen in the Emergency department especially surgically oriented problems.

**Professional**

The resident should behave in an honest, ethical and professional manner in the Emergency department in dealing with patients as well as health care professionals.

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**28.4 Urology Service**

**Medical Expert/Clinical Decision Maker**

**Knowledge: Basic Science and Anatomy**
The resident on Urology will understand normal renal physiology and bladder physiology as well as the normal anatomy of the kidney, ureter, bladder, and urethra as well as the vascular supply to these organs. The relationship of the ureter and its normal course from kidney to bladder is very important. Knowledge of the normal anatomy of the genital tract

**Knowledge: General Clinical**

Perform adequate prostate and testicular examination.
The resident will become competent in evaluating and treating patients with common urologic problems.
The resident will become competent in diagnosis and treatment of complications seen postoperatively in both the urologic patient and non-urologic patient.
The resident will understand the pharmacological of urologic disease and the use of diagnostic equipment used for understanding urologic disease.
The residents should learn about transplantation principles especially at St Joseph’s Healthcare.
The essentials of pre and post-operative management for urologic patients.
The principles and follow-up as well as prognosis for urologic surgical patients.
The pathological basis of urologic disease.

**Knowledge: Specific Clinical Problems**

The resident will demonstrate knowledge in common abnormalities found in the urogenital tract which may be congenital or acquired, the acquisition and interpretation of data from radiologic studies.
Understand the issues for organ harvesting and participate in those cases especially at the Hamilton General Hospital.
Understand the situations in which operative and non-operative approach should occur for traumatic injuries to the urogenital system.
Benign and malignant tumours of the kidney, ureter, and bladder.
Should be able to assess, diagnose and provide initial management of a neurogenic bladder following rectal surgery.
Should understand the rationale, performance, and complication of lithotripsy.
Understand the indications, performance, and complications of renal transplant surgery as well as exposure to dialysis patients.

**Knowledge: Technical**

The principles of the endoscopic examination of the urogenital tract.
Performance of a vasectomy and circumcision.
Performance of surgery related diseases of the inguinal canal including hydroceles and varicoceles.
Perform/assist with intra-abdominal urologic procedures.
Perform of difficult urinary catheterization including the use of urethral instrumentation.
Communicator

The resident should learn the specific communication issues dealing with families and patients that have urological problems.

Collaborator

The resident should learn the unique collaboration that the urologist has with general surgeons and internal medicine colleagues such as nephrologists.

Manager

The resident should learn the basics of the health care system as it applies to patients with urological problems.

Health Advocate

The resident should be able to provide guidance to patients as well as families with regards to early detection of urological conditions.

Scholar

The resident should design with the assistance of the urologists a tutorial/study program for their 2-3 month rotation on urology.

Professional

The resident is expected to behave in an honest and ethical manner when dealing with patients, families, the urologists as well as other health care personnel.

28.5 Orthopedics

Medical Expert/Clinical decision Maker

Knowledge: Basic Science and Anatomy

The resident is to have and acquire the knowledge of anatomy and physiology as it relates to the musculoskeletal system.

Knowledge: General Clinical

To Develop an understanding of the principles of fracture healing and how orthopedic interventions can affect fracture healing.
To understand the principles of soft tissue management as it relates to musculoskeletal injury.
To Develop Skills in the assessment of the axial skeleton in trauma and nontrauma pain.
To develop an approach to the assessment of a musculoskeletal injury

**Knowledge: Specific Clinical Problems**

Learn the assessment and treatment of orthopedic emergencies such as
1. Compound wounds
2. Neurovascular injury with fractures/dislocations
3. Spinal Fractures
4. Compartment Syndrome
5. Pelvic Fractures and associated injuries
6. Long bone fractures-know the initial treatment as well as principles of definitive management

Learn the indications for closed reduction of fractures as well as open reduction and internal/external fixation

Learn the assessment and treatment of fracture complications
1. Infection
2. Delayed and Mal-Union
3. Non-union
4. Compartment Syndrome
5. Soft tissue defects

**Knowledge: Technical**

Closed Fracture treatment
External Skeletal fixation
Operative Treatment of common fractures-hip and ankle
Amputations
Surgical management of the multiply traumatized patient
Carpal Tunnel release

**Communicator**

The resident is to communicate with the orthopedic residents, staff and emergency physicians in a collegial manner
The resident is also to communicate with families, patients as well as nurses in a professional manner

**Collaborator**

Collaboration with other health care personnel will be demonstrated

**Manager**

Wise and efficient management of health care resources will be demonstrated

**Health Advocate**
The resident will provide guidance to families and patients alike regarding lifestyle choices with respect to the young trauma victim as well as the elderly fall victim

**Scholar**

The Resident is encouraged and expected to participate in weekly fracture/trauma rounds as well as the monthly orthopedic journal club

**Professional**

The resident will demonstrate honest and ethical behavior throughout the rotation

### 28.6 Plastic Surgery

**Medical Expert/Clinical Decision Maker**

**Knowledge: Basic Science and Anatomy**

The resident should know the processes of normal wound healing and the factors that inhibit normal healing process as it relates to skin, bone, muscles, nerves and tendons.

The resident should understand the normal anatomy of soft tissue and skin that requires surgical intervention. It is expected that the resident will know the physiology associated with skin and myocutaneous transfers. The resident should be able to classify the various flaps in terms of vascularity and composition of tissues. The resident will also know the normal anatomy and physiology of the breast.

It is expected that the resident will know the function and anatomy of the upper and lower extremity as well as the principles of the circulatory system.

**Knowledge: General Clinical**

The resident should have knowledge of the various sutures and the indications for their use.

The resident will be able to perform a comprehensive examination of the hand, assessing both motor and sensory components and will be able to assess the degree and extent of facial trauma.

The resident will learn the usage and interpretation of Xrays of upper and lower extremity as well as facial bones

The resident will understand the principles and use of local anaesthesia, hence appropriate use and limitations.

**Knowledge: Specific Clinical**

The resident should understand the indications for plastic surgical management of hand, facial, and soft tissue problems that require plastic surgical intervention.

- fingertip injuries
It is expected that the resident will understand the indications of treatments of lacerations including the principles of debridement and reimplantation where necessary. The resident should gain knowledge about the principles of flap coverage and usage. The resident will gain exposure to burn management (Hamilton General Site) including initial resuscitation, debridement, grafting and rehabilitation.

- understand the choice of topical antibiotics
- understand the critical care issues related to burns (airway, inhalational injuries, carbon monoxide)

The resident should know the indications for breast reconstruction, the various local flaps that can be used as well as distant flaps. He should have knowledge of the anatomy of the commonly used flaps ie latissimus dorsi, Transverse rectus abdominis myocutaneous flaps. He should also know about the technique of Tissue expansion.

**Knowledge: Technical**

The resident will learn the techniques of gentle handling of soft tissues and various closure techniques. Learn how to do carpal tunnel releases (which are commonly done by general surgeons in the community)

Learn how to skin graft

The resident will provide definitive care of lacerations and wounds including those in the face.

The resident will perform or assist in reconstructive procedures and will perform in selective cosmetic procedures. The resident will perform or assist in procedures involving the hand including repair of flexor and extensor tendons. The resident will perform or assist in facial reconstruction after trauma or wide extirpation of malignancies. Assist in repair of small structures including arteries, veins and nerves under the operative microscope.

Exposure to breast reconstruction techniques

**Communicator**

To document via history and physical exam and daily progress notes on all inpatients

Be able to present patients accurately via phone or in person to senior colleagues whether they be staff or residents

**Collaborator**
To effectively collaborate with the senior resident and the staff person in patient care especially in burn care where liaison between the plastic surgery team and infectious diseases, GI, respiratory and critical care is so important

**Manager**

To be aware of all admissions to the service whether elective or emergency and to do daily rounds on all the inpatients

**Health Advocate**

To advise families and patients about risk factors for diseases that can be avoided ie smoking and atherosclerosis

**Scholar**

To learn using adult learning principles in gaining knowledge as well as participate in the education of medical students and paramedical personnel

**Professional**

To deal with all patient, family, and health care interactions with honesty.

### 28.7 Gastroenterology

**Medical Expert/Clinical decision Maker**

**Knowledge: Basic Science and Anatomy**

**Junior and Senior Level**

Know the normal anatomy and physiology of the gastrointestinal tract including:

- Esophagus, Stomach, Duodenum, Small bowel, Colon

Identify the various anatomical landmarks during endoscopy:

- **Stomach:** Cardia, Incisura angularis, Fundus, Antrum, Body, Pylorus
- **Duodenum:** Duodenal bulb, Duodenal mucosa, Papilla of Vater
- **Colon:** Rectum, Sigmoid, Descending, Splenic flexure, Transverse, Hepatic flexure, Ascending, Ileoceleal valve, Cecum and appendiceal orifice

**Knowledge: General clinical**

**Junior and Senior Level**

Understand the methodological issues in endoscopy to include:

- Patient preparation, Intubation, Biopsy and cytology techniques, Specimen handling
o Observe, recognize and interpret normal and abnormal findings by the use of the endoscopic procedures
o Summarize the use of sedatives (conscious sedation) and analgesics during endoscopic procedures, including:
  ▪ Mode of onset, Principles of monitoring, Side effects, Reversing agents
  ▪ Monetary considerations
o Outline the indications for performing diagnostic and therapeutic:
  ▪ Esophagogastroduodenoscopy (EGD), Colonoscopy, Proctosigmoidoscopy

Knowledge: Specific Clinical Problems

Junior Level

Identify the common pathological conditions outlined below:
  o **Esophagus**: Classes of esophagitis, Esophageal varices, Barrett’s Esophagus Neoplasms, Strictures,
  o **Stomach**: Ulcers (benign and malignant), Gastric varices, Gastric polyps, Errosive gastritis Gastric outlet obstruction, Gastric Bezoar, Marginal ulcer, the ‘postoperative stomach’
  o **Duodenum**: Ulcers, Polyps (benign and malignant), Inflammatory conditions (Crohn’s), Tumors of the Papilla of Vater
  o **Small bowel**: Indications for enteroclysis, Crohns, Angiodysplasia, Leiomyoma,
  o **Large bowel**: Polyps/tumours (benign/malignant, sessile/polypoid), Diverticulosis
  o **Large bowel(cont’d)**: Inflammatory conditions (Ulcerative colitis, Crohns colitis, Pseudomembranous colitis), Intestinal ischemia, Melanosis Coli

Senior Level

Explain the pathophysiology of disease entities in which proctosigmoidoscopy, rigid or flexible, is indicated, including:
  o Ulcerative colitis, Crohns Disease, Rectal polyps and tumors, Pseudomembranous colitis, Ischemic colitis, Rectal ulcers, Anorectal tumors, Sigmoid volvulus

Knowledge: Technical

Junior Level

Understand the fundamental mechanics and physics of endoscopic equipment and accessories (e.g., rigid and flexible scopes, multichannel scopes, types of snares, and biopsy forceps) and be familiar with the routine operation of endoscopes and their support systems, including:
  o Ability to troubleshoot minor malfunctions
- Knowing established procedures for cleaning, sterilization, and routine handling

Under supervision, demonstrate proper cleansing and sterilization of endoscopic instruments.

Under supervision, manipulate the endoscope for routine diagnostic endoscopic procedures including Esophagoscopy (rigid and flexible), Esophagogastroduodenoscopy (EGD), Colonoscopy
  - as skill improves therapeutic endoscopy may be performed

Know the indications for use and the preparation methods of the following: Biopsy, Culture, cytology

**Senior Level**

Perform all portions of esophagoscopy, esophagogastroduodenoscopy and colonoscopy under supervision.

Assist/Perform therapeutic endoscopic procedures such as:
  - Sclerotherapy/Banding of esophageal varices
  - Electrocoagulation of bleeding lesions using bipolar, monopolar, heater probe
  - Removal of foreign bodies
  - Endoscopic polypectomy
  - Percutaneous gastrostomy
  - Palliative treatment of intestinal malignancies

**Communicator**

Timely completion of consults and procedure notes to facilitate communication to referring physicians

**Collaborator**

Initiate, coordinate and correlate the management of surgical and medical patients who require various endoscopic procedures as well as GI consults

**Manager**

Wisely manage health care resources with prudent bed management strategies to provide optimal care to the gastroenterology patient

**Health Advocate**

Counsel patients and families on healthy lifestyle choices to maintain health or avoid deterioration of health (ie abstinence of alcohol in patients with cirrhosis)

**Scholar**
Review surgical journals (e.g., SAGES publications) and other medical and surgical sources of information regarding diagnostic and therapeutic uses of various endoscopes. Analyze the purpose of established guidelines for the management of various gastrointestinal disease states as developed by:

- Society for Surgery of the Alimentary Tract (SSAT)
- Society of American Gastrointestinal Endoscopic Surgeons (SAGES)
- American Society for Gastrointestinal Endoscopy (ASGE)

Professional

Professional interaction with health care personnel in the Emergency department, endoscopy suite, in hospital wards should include good communication skills as well as treating all patients in an ethical manner.

28.8 Pathology

Medical Expert/Clinical decision Maker

Knowledge: Basic Science and Anatomy

Understand the gross and histological appearance of normal tissue
Review the normal physiology and anatomy of specific organ systems such as the GI tract, respiratory tract and soft tissue

Knowledge: General clinical

Correlation of clinical scenarios (History/Physical and Radiological investigations) with pathological findings

Knowledge: Specific Clinical Problems

Understand the gross pathology associated with various pathophysiology in order to make wise intra-operative decisions
Understand the basic application of histology to characterizing tissue type
Understand the appropriate application and limitation of Frozen Section requests for intra-operative decision-making
Learn the application of autopsy to specific scenarios
Understand some application of other laboratory diagnostics to clinical pathophysiological

Knowledge: Technical

Develop a basic understanding of frozen (quick) section technique
Learn basic autopsy techniques

Communicator
Learn how the pathologist communicates with surgeons as well as lab staff.

**Collaborator**

Understand the integral involvement of the pathologist to care of the surgical patient.

**Manager**

Exposure to the pathology lab milieu as it fits in the Hospital Health Care System.

**Health Advocate**

Understand the gross pathophysiology to assist patients and families in health care and lifestyle decisions.

**Scholar**

The resident should utilize this time to fill in knowledge gaps in pathology and surgery in a structured reading and tutorial program.

The resident should also consider starting to pose some research questions for future studies.

**Professional**

The resident should deal with specimens/tissue as well as pathology lab personnel with utmost regard for ethics and professionalism.

**28.9 ICU Rotation**

**Medical Expert/Clinical Decision-Maker**

**Knowledge: Basic Science and Anatomy**

The resident will have an advanced knowledge of cardiorespiratory physiology and anatomy pertinent to critical care.

The resident will understand renal physiology to assist in the management of fluid and electrolytes.

**Knowledge: General Clinical**

The resident will learn the differences in history and physical examination in critically ill patients.

The resident should understand the use and limitations of investigations commonly used in the ICU.

**Knowledge: Specific Clinical Problems**
1. The resident will learn the management of system failures:

_CNS_: non-operative support of the patient with cerebral edema or spinal cord injury trauma or operation, including the use of osmotic diuretics, intracranial pressure monitoring corticosteroids and determination of brain death.

_Pulmonary_: acute and chronic respiratory failure, need for evaluation of patients in regard to ventilatory support, management of all aspects of ventilatory support; application of monitoring parameters for patients on a ventilator (ABG’s arterial venous O2 consumption, oxygen content, compliance) management of blunt and penetrating trauma to the chest.

_Cardiac_: causes of cardiac failure, and pre and post operative evaluation of cardiac reserve by measurement of cardiac output (response to fluid challenge and inotropic agents); monitoring of right and left ventricular function, oxygen consumption, CVP, and PWP to evaluate cardiac failure and pulmonary edema in surgical patients.

_Renal_: causes of failure, acute, chronic, polyuric and anuric states; monitoring, preventing, recognizing and treating renal failure when it occurs.

_Resuscitation in shock_: knowledge of pathophysiology, types, institution and application of the various monitoring methods available and resuscitation options.

_Fluid and electrolyte abnormalities and acid base disorders_.

_Immune system_: infection, sepsis, and septic shock like states, management of the immunocompromised critically ill patient, interpretation of cultures and appropriate antibiotic use.

_GI diseases_: recognition, investigation, and management of stress bleeding, massive upper GI bleeding, ischemic bowel disease, toxic colitis, GI obstruction and ileus in the critically ill, management of acute and chronic liver failure.

_Endocrine_: knowledge of stress states, management of hyper and hypo endocrine states in the critically ill.

_Metabolic_: energy and protein requirements, nutritional support of the critically ill.

_Wound management_

2. _Multiple system failure_

The resident will develop knowledge surrounding the recognition, management and integration of therapy for the patient with multiple failing organs.

3. _Management of end of life issues_

The resident will develop an appreciation of the ethics of “do not resuscitate” orders; the ethics of managing both a patient and their family when death in the ICU is imminent; the issues surrounding organ donation.

_Knowledge: Technical_
The resident should become facile in the insertion of central venous catheters, pulmonary artery catheters, arterial lines, jugular venous monitoring, intubation, chest tube insertion, insertion of feeding tubes, as well as have exposure to bronchoscopy.

**Communicator**

The resident will serve as the major link between nurses, attending staff, and other surgical and medical specialties.

The resident will develop skills to communicate with a patient on a ventilator. The resident will be an important communicator to the families of these critically ill patients.

**Collaborator**

The resident, in a similar manner, will collaborate and coordinator care of the intensive care unit patient.

**Manager**

The resident will participate in bed management issues and enable efficient care of the critically ill patient by using investigations appropriately.

**Health Advocate**

The resident will educate the families of critically ill patients on the life-style and health issues that have led to the illnesses of their family members.

**Scholar**

The resident is expected to read around the cases that he or she sees in the ICU.

**Professional**

It is expected that the resident will perform in an ethical and professional manner when dealing with other health care professionals, patients, and their families.

28.10 Head and Neck Rotation (St. Joseph's Healthcare)

**Medical expert/clinical Decision Maker**

**Knowledge: Anatomy**

Know the anatomy and surgical approach to:
- The inferior parathyroid glands
- The superior parathyroid glands
Thyroid gland/A retrosternal goiter
Anterior and poseterior cervical triangles and their contents.

Knowledge: General and Specific Clinical Problems
Be able to demonstrate diagnostic and therapeutic skills in the following topics:

1. Thyroid
   o normal physiology, benign and malignant conditions (ESSENTIAL)
   o solitary thyroid nodule, multinodular thyroid gland, Thyrotoxicosis, Thyroid “storm”, Grave’s disease/Hashimoto’s disease

A decreased sensitive thyroid stimulating hormone (TSH) level

1. Parathyroid
   o normal physiology, benign and malignant conditions (ESSENTIAL)
   o Primary, secondary and tertiary hyperparathyroidism
   o be aware of the preoperative preparation/management of the following:
     • Hypercalcemic crisis

2. Benign and Malignant Conditions of the Lymphatic System of the Head and Neck Region (ESSENTIAL)
3. Benign and Malignant Conditions of the Nasal, Oral, and Hypopharynx (DESIRABLE)
4. Laryngeal Pathology (AWARENESS)
5. Salivary Gland
   o normal physiology, benign and malignant conditions (DESIRABLE)
     • Major-parotid, submandibular, sublingual
     • Minor gland

6. Understand the significant issues in the management of anesthesia in endocrine surgery, including airway management during neck surgery

Knowledge: Technical Skills
Preoperative/Postoperative

1. Know the indications for and how to perform a fine needle aspiration
2. Indications and timing of change of tracheostomy
3. Know and appreciate the appropriate care for Head and Neck Surgery including being aware of possible complications

Intraoperative

1. Be able to position a patient for a specific operative approach
2. Know the incisions necessary for various operative procedures
3. Procedures.
   o Tracheostomy-essential
   o Thyroidectomy-Essential
   o Parathyroid Exploration-Essential
Limited lymph node dissection—Essential
- Various modified and radical lymph node dissections—desirable
- Laryngectomy—awareness
- Radical and ablative surgery of Head and Neck—awareness
- Reconstruction of Ablative surgery of Head and Neck—awareness

**Communicator**

- Listen and be able to take a complete history from patients and their families
- Be able to discuss with patients and their families, in lay terms, the assessment, approach and management (both surgical and non-surgical) of disease processes as they relate to the Head and Neck region
- Be able to obtain informed consent on surgical procedures form patients and their families discussing the risks/benefits of operative and non-operative approaches
- Communicate in an effective manner with Health Care colleagues
- Communicate in a timely manner to Most Responsible Physicians changes in conditions of their patients

**Collaborator**

- Participate in interdisciplinary team meetings regarding patient care issues
- Cooperate with all members of the health care team to facilitate patient care

**Manager**

- Effectively manage most aspects of patient care within the Emergency department, ward and Operating Room at St Joseph’s Hospital to insure effective and streamlined care

**Health Advocate**

- Be able to identify operative risk factors in individual patients
- Identify risk factors for Head and Neck disease and counsel patients on these risk factors

**Scholar**

- Review texts, recommended reading and review articles in preparation for OR cases
- Be able to critically review and appraise information as it relates to Head and Neck Pathology
- Read around consults seen in the ER, clinics, and on the ward

**Professional**
Interact with patients, families, nurses and other health care personnel in a professional manner
Respect all opinions of health care workers as well as the patient and their family
Provide care in an ethical manner

Selected Bibliography

Clark OH. *Endocrine Surgery of the Thyroid and Parathyroid Glands*. St. Louis: CV Mosby Company
Miller TA, Rowlands BJ. *The Physiological Basis of Modern Surgical Care*. St. Louis: CV Mosby Company

28.11 Pediatric Surgery

Preamble
A rotation in Pediatric Surgery will give residents the opportunity to become familiar with the unique needs of infants and children as surgical patients. Some of the surgical diseases encountered in children are similar in their presentation, management and outcome with their adult counterparts; others are quite different. The fundamental principles of surgical care, however, are similar to those that govern surgical practice in other age groups.

Aims

1. Define the principles of investigation and management of infants and children requiring surgical treatment.
2. Gain practical experience in the assessment, management, and indications for surgical treatment of common pediatric conditions.
3. Learn to perform certain pediatric surgical procedures.
4. Learn the principles of decision making regarding the timing of surgery for infants and children with complex pediatric surgical problems, including the preparation and transport to a pediatric surgical centre for neonates requiring correction of congenital anomalies.

Medical Expert/Clinical decision Maker

*Knowledge: Basic Science and Anatomy*

Embryology is an important basic science of pediatric surgery and so it is expected that the resident review embryology (and anatomy) as it relates to clinical problems. Know the normal physiology of the premature and fullterm infant, as well as the infant and child.
**Knowledge: General clinical**

Know the principles of pre- and post-operative care, fluid therapy, nutrition and metabolism, wound care, investigation of surgical conditions in infants and children and the issues of heat regulation in babies.
Recognize the unique natural history of surgical diseases in children and use the information in reaching a diagnosis.
Recognize the limited host resistance and high risk of nosocomial infections in newborns, and the need for aseptic protocols to minimize environmental hazards.
Recognize the need to individualize drug dosage and fluid administration on the basis of weight, and be able to calculate expediently fluid and electrolyte requirements using standard formulas.
Recognize and accommodate for the altered physiological systems (such as immature hepatic and renal function) that affect drug and anaesthetic administration.
Recognize the differences between types of sutures and choose the appropriate type and size for various wounds.
Predict the risk of apnea post anesthesia and post narcotic administration in small infants.
Practice correct assessment and initial management of the traumatized child.
Apply pediatric trauma principles in the initial resuscitation and management of traumatized children.

**Knowledge: Specific Clinical Problems**

**Pediatric General Surgery**

1. Diagnose, evaluate and optionally treat the following conditions which can be managed by experienced general surgeons or referred to a pediatric general surgeon:
   - **Head and Neck**: acute & chronic lymphadenitis, thyroglossal duct cyst, dermoid cyst, congenital torticollis, branchial cleft cyst and sinus, lymphangioma/hemolymphangioma, tongue tie.
   - **Abdomen**: umbilical hernia, umbilical granuloma, inguinal hernia, pyloric stenosis, intussusception, Meckel's diverticulum, appendicitis.
   - **Scrotum**: communicating hydrocele, undescended testicle, torsion of testis & appendix testis, epididymitis.

2. **Formulate a clear plan for the evaluation and treatment** of a child presenting with: bilious vomiting, non-bilious vomiting, acute abdominal pain, chronic abdominal pain, constipation, rectal bleeding.


4. **Diagnose and provide the initial management** of several conditions which, while ideally managed in a special pediatric facility, may demand initial (and occasionally definitive) management locally because of urgency or distance: incarcerated inguinal hernia in the neonate, aspirated and ingested foreign bodies,
acute abdomen in the neonate or infant, acute gastrointestinal bleeding, blunt abdominal and thoracic trauma.

5. Diagnose and refer the following problems that may be seen initially by a general surgeon but will almost always be best managed in a specialized pediatric facility: congenital lesions of the lungs and mediastinum, gastroesophageal reflux (surgical management), chest wall deformities (pectus excavatum and carinatum), solid tumors of childhood (e.g. neuroblastoma, Wilms' tumor, hepatoblastoma)

6. Diagnose and apply principles of initial care and care during transport in the following neonatal conditions whose definitive management should only be undertaken in specialized pediatric facilities with qualified pediatric surgeons: congenital diaphragmatic hernia, esophageal atresia / tracheoesophageal fistula, gastroschisis / omphalocele, intestinal atresia, Hirschsprung's disease, imperforate anus, intestinal malrotation, major pulmonary parenchymal disease (congenital lobar emphysema, CCAM, etc.)

**Pediatric Neurosurgery**

1. Principles of assessment and management of head injuries, of increased intracranial pressure, congenital abnormalities affecting the nervous system, and neurological trauma.

**Pediatric Urology**

2. Skills in examination of the kidneys, bladder, genitalia, the use of urinary catheters, circumcision in infants and children.

**Knowledge: Technical**

Demonstrate aseptic technique in performing operative and bedside procedures. Recognize the appearance of normal & abnormal tissues in the operating room. Gain proficiency in a variety of psychomotor skills (e.g. reduction of incarcerated inguinal hernia, wound closure, knot-tying, etc.).

Procedures that the resident should be able to perform competently by the end of the rotation (depending on their exposure) include.

1. Elective
   - Hernia repair in infants over 6 months of age
   - Lymph node biopsy
   - Umbilical hernia repair
   - Dermoid cyst excision
   - Bowel resection
   - Insertion of venous access devices
Insertion of surgical feeding tubes
- Laparotomy for Urological cases (depending on exposure)

2. **Non Elective**
   - Incision and Drainage of Abscesses
   - Laparoscopic and Open Appendectomy
   - Scrotal exploration for acute testicular pain
   - Reduction of intussusception
   - Bowel resection
   - Pyloromyotomy
   - Laparotomy for trauma
   - Laparotomy for intestinal obstruction

Procedures that the resident can expect to assist on include:

1. Most neonatal cases
2. Minimal access cases depending on the complexity
3. Removal of Solid tumors
4. Neurosurgery

**Communicator**

Demonstrate the unique communication skills necessary to obtain thorough, focused pediatric histories from children, parents or other care-givers; elicit key physical signs in children despite potential poor compliance. Convey pertinent information from the history and physical examination in different circumstances (over the phone, during ward rounds and conferences).

**Collaborator**

Understand the importance of collaboration with family physicians, pediatricians, surgical colleagues, nurses and other hospital and community health care providers in achieving optimal comprehensive care for children with surgical problems.

It is expected that in the cases of Pediatric Trauma that the surgical resident will, with the assistance of the pediatric surgeon, coordinate all surgical aspects of the patients care ie directly talk to the orthopedic surgeons or plastic surgeons.

**Manager**

Recognize that many surgical problems, although conceptually and technically within the realm of expertise of general surgeons, are more appropriately managed where there are special pediatric facilities (special pediatric expertise in anesthesia, intensive care, diagnostic imaging, nursing, and laboratory facilities).

**Health Advocate**
Be aware of the life-long significance of surgical management decisions in children and their impact on quality of life.

Scholar

Prepare for teaching rounds, ward rounds and operating room cases with adult learning principles and evidence based medicine
Pose questions that will provide the basis for clinical research

Professional

Appreciate the unique emotional and ethical issues surrounding the care of a sick child and the need to involve parents, children's advocates and other health caregivers in many difficult situations
Appreciate the sometimes complicated issues surrounding informed consent and refusal of treatment in children, especially in situations where "quality of life" is a major issue.
Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgical management of sick children.
Appraise the ethics of research concerning children.

Educational Objectives

1. The resident will be responsible for presenting at Monday Pediatric Surgery Rounds at least once a month.
2. The resident will supervise the surgical management of the housestaff assigned to the service.
3. The resident should, if interested, identify a clinical problem and undertake a research project or care review, for presentation at a Grand Round or Resident's Day.
4. The resident will attend Thursday morning ‘Fellow’ rounds and be prepared to present the patients on the service to the group.
5. The resident will arrange to meet with the fellow on Monday 9 am to review NICU patients in a teaching round format

Service Obligations

1. Service obligations relate primarily to the achievement of these educational objectives, and the development and maintenance of a service in which future residents can optimally achieve them.
2. The resident will be responsible for early morning daily rounds on all patients on the pediatric general surgery, urology and neurosurgery services, as well as ongoing consults for these services. This includes patients on 3B, 3C South, 3C North, ICU, and Neonatal ICU. Rounds in ICU and NICU will be in conjunction with the pediatric surgery fellow.
3. A History & Physical and daily progress note must be documented on each patient.
4. The resident will attend all infants and children presenting with surgical emergencies in the E.R. and assist as required in their operative and post-operative care. The resident may delegate this responsibility to the pediatric resident, but will continue to act as a resource to the delegate.
5. The resident will supervise and act as a resource to the pediatric resident involved in the care of patients on 3B and 3C South. He/she should write a brief progress note related to any important surgical issue.
6. The resident will be responsible for attending and assessing patients in the pediatric outpatient surgery clinic (Kidcare- beside ER dept).
7. The resident will be responsible for scrubbing in the operating room.
8. The resident will be excused from clinical responsibilities to attend Wednesday morning teaching sessions. It is expected that rounds will be done on critical or sick patients prior to the teaching session, and that emergency situations will take precedence over the sessions.
9. The residents are encouraged to select a ½ day per week to perform research activities.

28.12 Thoracic Surgery

Introduction
Thoracic surgery is a regional program in Hamilton-Wentworth and is situated at St. Joseph’s Hospital (a university tertiary care facility), 50 Charlton Avenue East, Hamilton, Ontario. The clinical program services a catchment area of 1.8 million people. The program is supported by high quality chest radiography, chest pathology, clinical and research respirology, intensive care, trauma care, as well as strong university divisions of cardiac surgery, pediatrics, vascular surgery as well as a busy and energetic ethics program within the community.

There are four active thoracic surgeons who conduct more than 700 major thoracic cases and 800 endoscopies each year. St Joseph’s Hospital is one of the largest single institution practices in thoracic surgery in the country. Additionally, a fifth surgeon with a cross appointment to the Division of Thoracic Surgery has a large laparoscopic practice and is the Director of the Esophageal Motility Lab.

The division is productive academically and holds several million dollars in research funding and publishes 20 to 30 (48 in 1999) peer review articles annually. There is ample opportunity for residents to participate in research.

Specific Goals and Objectives:
Medical Expert/Clinical decision Maker
Knowledge: Basic Science and Anatomy
develop a strong knowledge base in thoracic surgery including physiology, pathology, operative anatomy, natural history,

Knowledge: General clinical

develop a strong knowledge base in thoracic surgery including epidemiology, diagnostic methods, prognosis, multimodality cancer care, intensive care medicine in both acute and chronic patients. This will include all aspects of thoracic trauma, thoracic neoplasia as well as diseases of the diaphragm and thoracic outlet. Experience and participate in preoperative assessment and postoperative care and intensive care unit medicine become familiar with controversies in the multimodality management of thoracic malignancies
Anesthetic management of thoracic surgical patients including ventilatory support and physiotherapy
Laboratory procedures in the diagnosis of thoracic disease
Sepsis as it applies to the operative care of thoracic and esophageal disease and sternal wound infections
The resident is expected to be aware of the range of outcomes from thoracic surgical interventions and to distinguish from unacceptable to unexpected clinical results.

Knowledge: Specific Clinical Problems

It is a goal to obtain an understanding of the following:

Pathology and treatment of neoplasia of the lung, trachea, esophagus and mediastinum and chest wall
Chest wall deformities and trauma
Diaphragmatic trauma, hernias and hiatal hernias
Pleural effusions, empyemas, pneumothoraces, hemothorax
Pericardial disease in thoracic surgery
Thoracic trauma
Tracheal diseases
Congenital, structural, and inflammatory diseases of the lung
Esophageal physiology and motility
Transplantaion and emphysema surgery
Thoracic outlet syndrome

Knowledge: Technical

To develop operative skills to properly perform bronchoscopy, esophagoscopy, videothoracoscopy, thoracotomy-opening and closing of the chest, wedge resections, fundoplication, uncomplicated pulmonary lobectomy
In particular the resident is expected to develop some skills in and be aware of:

1. Techniques of pulmonary and esophageal biopsy and resection
2. Mediastinal node biopsy.
3. Traumatic repair of chest wall lung, major airways, diaphragm and esophagus.
4. Pulmonary resections
5. Thoracoplasty.
6. Decortication of the lungs.
7. Tracheal resection and approaches.
8. Resection of the esophagus including replacement with stomach, colon and small bowel.
9. Correction of chest wall deformity.
10. Surgical procedures of the chest wall and pulmonary infections.
12. Surgical therapy of thoracic outlet syndrome.
13. Surgical therapy of pleural effusions and infections.
14. Primary and metastatic pleural tumors.
15. Surgical procedures of benign and malignant diseases of the trachea.
16. Correction of benign esophageal disorders including diverticulus cyst, duplications, motor disorders and hiatus hernia as well as gastroesophageal reflux.
17. Surgery for superior vena cava syndrome.
18. Primary tumors and cysts of the mediastinum and thymus gland.
19. Pulmonary transplantation.
20. Laser therapy.
22. Surgical management of complications of thoracic and esophageal procedures.

Communicator

Each resident is expected to communicate effectively with patients to be compassionate and show an overall understanding of the patient and his disease.

Residents responsible for discharge summary records that accurately reflect the hospital stay

Residents will have three opportunities to engage in discussions of treatment other than surgery for patient with thoracic malignancies:

1. Preoperatively in the clinic or in the surgeons’ office, at the time of the original consultation discussions surrounding the utility of neoadjuvant chemotherapy and radiotherapy.
2. Post operative consideration of adjuvant chemotherapy and radiotherapy will be reviewed following resection.
3. Finally on Wednesday afternoons at the Multi-discipline Cancer Clinic at the Hamilton Cancer Centre residents may engage in discussion with radiation oncology and medical oncology and thoracic surgery about the management of patients with lung cancer.

Collaborator
The resident is expected to function as a member of a multi-disciplinary health care team and contribute to the understanding and management of patients with their thoracic disease. All residents will collaborate in the operative cases and ultimate care of the patient in the ward as well as the active, vigorous open intensive care unit at St. Joseph’s Hospital.

**Manager**

The resident is to be actively involved in the appropriate management of the thoracic patient keeping in view of fiscal and expeditious bed management issues

**Health Advocate**

Residents will be aware of the lifestyle issues in managing and avoiding disease processes as they relate to thoracic pathologies

**Scholar**

The resident is expected to engage in the teaching of others and to develop an understanding and obligation of continuing self-education.
Research methodology and evidence-based medicine
The resident is expected to participate and be productive in both basic and clinical research and to understand the principles of critical analysis as they relate to thoracic surgery.

**Professional**

Exposure to ethics and professional behaviour may occur at many levels.

The resident is expected to recognize the psycho-social needs of the patient requiring or undergoing thoracic surgery.

The resident on the thoracic service is expected to participate at St Joseph’s hospital in rounds (3 times a year) facilitated by Dr. M. Coughlin (hospital ethics consultant) for issues specific to thoracic surgery. Dr Coughlin also offers a rounds on more general issues in bioethics titled: “ethics in practice: case discussion in bioethics” held the second Thursday of each month.

At the Thoracic Service outpatient clinic held every Friday morning, an ethics consultant is present as part of the multi disciplinary team reviewing patient and family issues. (Especially for patients with advanced emphysema considering surgery or considering entry into the Lung Reduction Surgery Trial.

Each resident can participate in the The Professionalization and Physician Self-Awareness (PPSA) program.

**Table 1**
(Statistics for last full year)

<table>
<thead>
<tr>
<th>No. of Admissions</th>
<th>Number of Operative Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Joseph's Hospital 831</td>
<td>Endoscopy</td>
</tr>
<tr>
<td></td>
<td>Bronch</td>
</tr>
<tr>
<td>Total 831</td>
<td>800</td>
</tr>
</tbody>
</table>

(1) Surgery for mediastinal tumors or cysts
(2) Surgery for pneumothoraces, empyemas or pleural tumors

**Oncologic Volume**

**Table 2**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Patients Assessed for Treatment of Neoplasms</th>
<th>Oncologies Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pulmonary</td>
<td>Esophageal</td>
</tr>
<tr>
<td>St. Joseph's Hospital Totals:</td>
<td>420</td>
<td>42</td>
</tr>
</tbody>
</table>

(*) Where indicated, please answer "Yes" or "No"

**Thoracic Surgery Clinical Program**

**Operative Experience**

- 4 days a week
- graded responsibility
- wide range of general thoracic surgery cases
- large volume

**Endoscopy (Bronchoscopy, Upper GI Endoscopy) Experience**

- 5 days a week
- large volume

**Ward Work: Patient Care**

- 12 bed unit
- co-ordinate multi-disciplinary care of patients with complex medical problems
- family meetings
- weekly multi-disciplinary patient care discharge planning rounds
Step Down Unit

bed management
patient care of acutely ill postoperative care of patients immediately following lung and esophageal resections

Out Patient Clinics

consultations
preoperative assessment
post operative followup

In Hospital Consultation Service

the first assessment of new consult patients with discussion of care plan with consultant thoracic surgeon

Rounds

Surgery Chair's Grand Rounds (4x a year)
Service Morbidity and Mortality Rounds (4x a year)
  o The resident will present the last quarters morbidity and mortality for review by the service.
Journal Club (4x a year):
  o The resident will present one or two recent and important journal articles and lead discussion on same
Radiology Conference (weekly): Collaborative rounds hosted by the respirology service, with pathologists and radiologist in advance. The resident is expected to review this chest X-Ray and chest CT scans and discuss findings and formulate differential diagnosis

Cancer Clinic

(once a week for a three month duration)
Join thoracic consultant when meeting with medical and radiation oncologists to assess new patients and patients returning for follow-up assessment at the Hamilton Regional Cancer Centre.

Thoracic Service Weekly Activities

Each morning begins at 700 am on the ward followed at 0730 am with an endoscopy clinic. The operating rooms begin at 0800 and there are six full days of operating contained within the first four days of the week. Monday and Wednesdays have single thoracic surgical operating room activities and on Tuesdays and Thursdays 2 operating rooms are operational.
Wednesday morning is the university academic half day, beginning with university surgical grand rounds and followed by Academic Half day. Monday afternoons and Wednesday morning there are clinics at the Hamilton Regional Cancer Centre providing multi-disciplinary exposure to patients in both pre-operative assessment and post-operative adjuvant therapy settings.

Every Thursday morning at 0700 “walk-around ward rounds” provide an opportunity for the resident to discuss each surgeon’s patient in front of the whole team and review management decisions. Once a month (the 1st Thursday), on Thursday mornings, rounds begin at 0630 and provide the resident with opportunity for academic enrichment. These rounds take the form of Morbidity and Mortality Rounds, Journal Club, and Topic Presentation. A yearly schedule is appended.

On Friday mornings, following the endoscopy clinic (800am - 900am), multi-disciplinary rounds are undertaken involving respirology, radiology, pathology and thoracic surgery. This one hour round is case and problem based and generally begins with a chest x-ray interpretation by the resident. Friday mornings the Thoracic Surgical Out-Patient Clinic begins at 900 and runs to 1200 noon. This is a clinic where resident participation is mandatory. This clinic provides an opportunity for pre-operative assessment for new consultations as well as an opportunity to see patients in review following their recent discharge from hospital. It also provides opportunity for long-term follow-up for patients treated on the Thoracic Service.

**Quality Assurance And Critical Appraisal**

- Monthly morbidity and mortality rounds organized and presented by residents
- Formal resident evaluation forms completed by all surgeons at end of each short rotation, and at the midpoint and end of longer rotations (> 3months).
- Resident completion of his/her own evaluation form at completion of each rotation
- Resident evaluation of attending staff at completion of each rotation (anonymous)

**Vascular Surgery Rotation Objectives for General Surgery Residents**

**Definition**

Vascular surgery is concerned with the diagnosis and management of congenital and acquired diseases of the arterial, venous, and lymphatic circulatory systems, exclusive of the vessels intrinsic to the heart, the intracranial vessels, and the thoracic aorta where surgery would require cardiopulmonary pump support.

**General Objectives**

In the course of the Vascular Surgery rotation, residents must learn the methodology for the safe management of the patient with vascular problems and the knowledge necessary to: assess the patient’s condition efficiently and accurately; prioritize the patient’s needs;
determine whether patient’s needs exceed their capacity and ensure that optimal care is provided at all times.

**Medical Expert/Clinical decision Maker**

**Knowledge: Basic Science and Anatomy**

The anatomy, physiology, and pathophysiology of the circulatory system in health and disease, including arterial wall and cell biology, hemodynamics, and ischemia-related organ dysfunction.

**Knowledge: General Clinical**

Elicit a history that is relevant, concise, accurate and appropriate to the patient's problem(s).
Perform physical examination that is relevant, sufficiently thorough, and appropriate and meets specialty specific standards and, if necessary, exceeds these standards.
Develop an understanding of the natural history of vascular disease and management of risk factors, and how non surgical treatment, percutaneous and/or surgical intervention can alter this.
To familiarize the vascular trainee with the diagnostic and therapeutic procedures available in imaging such as: Plain films, Angiography, Therapeutic angiographic procedures, Arteriothrombolysis, Doppler Ultrasound and Duplex Imaging, CT, MRI, Venography

The resident should become aware of knowledge and indications for arterial catheterization techniques, contrast, risks and complications, and the use of nuclear medicine imaging in the course of arterial disease including infection of arterial grafts.
An understanding of pre-operative risk assessment and exposure to critical care.

**Knowledge: Specific Clinical Problems**

Assessment of acute and chronic limb ischemia and arterial trauma.
Assessment of the abdominal aortic aneurysm, indications
Indications for arterial reconstruction, endovascular techniques, thrombolytic therapy and other non interventional therapies.
The place of non-invasive vascular investigation and angiography.
Technical training in the use of duplex and hand held doppler.
Understanding of non-atherosclerotic vascular disease

**Venous Disease**

1. Aetiology, assessment and management of common venous disorders, including varicose veins, post phlebitic syndrome and leg ulcerations.
2. The place of non invasive venous investigations, including hand held doppler.
3. The indications for, and an understanding of venous reconstruction.
4. Understanding of the prevention, risk factors, diagnosis and treatment of deep vein thrombosis and coagulation.

**Lower Limb Arterial and claudication**

1. An appreciation of the various modalities of treatment, including exercise, pharmacological manipulation, and endoluminal techniques
2. Assessment of patients with critical limb ischemia
3. Understanding the role of arteriography in lower limb vascular disease
4. An understanding of duplex graft surveillance.
5. An understanding of graft technology and composition.

**Acute Ischemia**

1. Clinical assessment of the ischemic leg and angiography.
2. Appreciation of the indications for thrombolysis and involvement in the cases.
3. An understanding of the place of fasciotomy.
4. An assessment of possible need for urgent intervention

**The Diabetic Foot**

1. An appreciation of the role of revascularization of the diabetic limb.

**Rehabilitation of the Amputee**

Residents will have experience in the rehabilitation of amputees and a full appreciation and understanding of the various needs and requirements of the patient and the services that can be mobilized.

**Percutaneous and Endovascular Surgery**

The resident should be exposed to:

1. Arteriography
2. Balloon angioplasty
3. Thrombolysis

**Aortic Surgery**

2. Involvement in the care of emergency abdominal aortic aneurysms as the first assistant.
3. Pre-operative risk assessment for aortic surgery, including cardiac function.
4. Active involvement with the post-operative care of critically ill patients in the intensive care unit. An understanding of the treatment of cardiac arrhythmias, renal failure, respiratory impairment and coagulopathies.
5. Understanding of graft technology and composition.
6. Understanding of Aortic Dissection
7. Understanding of thoracoabdominal aneurysms

**Cerebral Vascular**

In this expanding speciality, practice may change and the number of operations increase. The resident should develop an understanding of duplex scanning of the carotid arteries, cerebral angiography and cerebral CAT or MRI Scanning.

**Complex Vascular Problems**

It is expected that the resident will obtain experience and exposure to:

- Supra-celiac aneurysms
- Arteriovenous malformations
- Extra anatomic replacement of infected grafts
- Upper limb arterial reconstruction
- Thoracic outlet syndrome
- Thoracoabdominal Aortic Reconstruction

**Knowledge: Technical**

The ability to assist and perform under supervision the common surgical procedures in vascular surgery safely and competently. Techniques for elective and emergency surgical repair of AAA. Understanding of amputation techniques. Knowledge of infra-inguinal arterial reconstructive techniques. Insertion of stents and other endovascular devises. The general surgery resident in Vascular Surgery will gradually gain experience and ultimately be able to perform simple operations and assist with parts of more complicated surgeries. The resident should gain proficient operative skills in the following areas:

- Resident Role: Assistant (A), Surgeon (S):
  - Positioning and Preparation of patients in the OR
  - Assessment of need for operation and ability to determine a reconstructive plan

Specific Techniques:

- Varicose veins, saphenofemoral dissection, stripping and ligation: S.

**Vascular Exposure to Major Vessels:**

- Aorta: A/S
- Mesenteric: A/S
- Femoral: S
- Carotid: A/S
Brachial: A/S
Jugular: A/S

Vascular Anastomosis:
  - Aortic Tube Graft: A/S
  - Aortic Bifurcated Graft: A/S
  - Femoral Artery Graft Anastomosis: S
  - Distal Infra-Popliteal Graft Anastomosis: A
  - Profundoplasty: A/S
  - Saphenous Vein harvest: A/S

Embolectomy: A/S
Fasciotomy: A/S
Amputations: A/S

**Communicator**
Effective consultation skills in presenting well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care provider.

**Collaborator**
Demonstrate effective consultation services with respect to patient care, and education.

**Manager**
Select medically appropriate investigative tools in a cost-effective, ethical and useful manner.

**Health Advocate**
Demonstrate an ability to identify risk factors that predispose to or worsen established pathology.

**Scholar**
Access and apply relevant information to clinical practice.
The capacity to access and apply relevant information as well as new and current therapeutic options to clinical practice.
Knowledge of recent changes in operative indications as a result of publication of results of controlled trials.

**Professional**
Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
Ward Responsibilities

The resident is expected to gain sufficient knowledge and skill to independently round on all patients admitted to the vascular surgery service. These include ward and ICU patients. Patient management plans should be reviewed with the vascular fellow or responsible consultant. Fellows and staff are expected to provide ongoing teaching on the ward and in the OR.

Residents are expected to participate in all consultations to the service. Their participation in the weekly vascular rounds is voluntary. On call, residents are expected to see new consultations and to manage inpatients. A vascular fellow or consultant is available for assistance.

- Evans-modified by Jahromi and Walton-2002

28.13 Neurosurgery

General Aims

1 To investigate and manage general surgical patients with acute and chronic illness. 2 To improve depth of knowledge, technical skills and decision-making capacity with respect to the general surgical patient. 3 To gain knowledge and management skills in the principles of surgery.

Educational Objectives

Clinical Skills

Given a patient with general surgical disease, the core surgery resident will be able to do the following to the satisfaction of his/her supervisor(s):

1. Take a relevant history and perform a physical exam concentrating on the appropriate areas.
2. Arrive at an appropriate differential diagnosis.
3. Order appropriate laboratory, radiological and other diagnostic procedures demonstrating knowledge in the interpretation of these investigations.
4. Arrive at an acceptable plan of management, demonstrating knowledge in operative and nonoperative management of the disease process.
5. To formulate an initial hypothesis in light of conflicting data or events.
6. Manage patients in the ambulatory setting, demonstrating knowledge of common office techniques and procedures.
7. Manage the patient throughout the entire in-hospital course, demonstrating knowledge of and being able to treat potential complications of the disease processes and operative procedures.
8. Provide a plan for patient follow-up.
9. To identify conditions that require urgent treatment.
10. To supervise the management of the critically ill or traumatized patient.

Given a patient with one of the disease entities listed in Section 2, the neurosurgical resident is expected to be able to perform the clinical skills listed in this section. It is expected that the core surgery resident consistently arrive at a correct diagnosis for
common surgical problems. It is expected that the Neurosurgical resident will formulate management strategies based on fundamentally sound surgical principles, but that treatment plans will often require corroboration or alteration by more senior individuals. It is expected that the he/she will recognize the need for surgical intervention in critically ill patients, and in most elective situations.

Knowledge Base
Given a patient with a general surgical disease, the Neurosurgical resident is expected to be able to perform the clinical skills listed in section 1, and be able to demonstrate to the satisfaction of his/her supervisor(s) a fundamental knowledge and understanding of the general areas in 2a and a practical working knowledge of the specific disease processes listed in 2b; the expectations of depth of knowledge will vary with level of training.

General Areas
Principles of Surgery and Post-operative Problems

1. Fluid and electrolyte disorders
2. Acid base disturbances
3. Graft rejection
4. Shock
5. Transfusion reactions
6. Coagulopathies
7. Nutritional deficiencies
8. Wound infection, dehiscence and evisceration
9. Thrombo-embolic disorders
10. Atelectasis and pneumonia
11. Pressure palsy and pressure ulceration
12. Organ failure treatable by transplantation
13. Delirium
14. Stress ulceration
15. Urinary retention

Trauma

1. Airway obstruction 11 Aortic rupture
2. Pneumothorax 12 Tracheobronchial tree injury
3. Cardiac tamponade 13 Diaphragmatic rupture
4. Fractured cervical spine 14 Esophageal rupture
5. Major vascular injury 15 Blunt or penetrating abdominal
6. Head injury trauma
7. Spinal, paraspinar and 16 Fractures, joint injuries, open cord injuries wounds, compartment syndromes &
8. Life Threatening face and neck fracture accompanied by neuroinjuries vascular compromise
9. Myocardial contusion 17 Urologic injuries
10. Pulmonary contusion 18 Burns

Specific Disease Entities/Clinical Syndromes

1. The Acute Abdomen
   - cholecystitis - abscess, fistula, hemorrhoids
   - appendicitis
   - diverticulitis Malignant
   - pancreatitis
   - perforated ulcer
   - intestinal ischemia
2. Upper and Lower GI Bleeding region, Colorectum
3. Gastric Outlet Obstruction
4. Bowel Obstruction and Duodenum
5. Hernias
   - inguinal
   - femoral
   - umbilical
   - incisional
6. Acute Anorectal Disease
   - abscess, fistula, hemorrhoids
7. Breast Lumps
   - benign
   - malignant
8. The Neck Lump
9. Hiatus Hernia & Esophageal Cancer
10. Carcinoma of Stomach, Periapillary Region, Colorectum
11. Peptic Ulcer disease of Stomach and Duodenum
12. The Jaundiced Patient
13. Inflammatory Bowel Disease
14. Abdominal Abscess and Fistula

Technical Skills
Residents at all levels must master:
ASSISTING (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle retraction of tissues, an ability to take direction well, to make reasonable suggestions and enquiry, and to contribute to a positive operating room atmosphere.

Preamble
Given a patient requiring one of the surgical procedures listed below, the neurosurgical resident will participate in the patient’s care as a member of the operating team. It is expected that the resident will initiate the process of technical skill development by assisting in both simple and complex operations, and by performing, under supervision, simple procedures. It is expected that the resident will be familiar with surgical
instruments and suture materials. It is expected that the resident will be able to position and drape patients for surgical operations. It is expected that the Neurosurgical resident will be able to open and close surgical wounds, control bleeding, and demonstrate a knowledge of fundamental principles of tissue handling.

At the end of a rotation in general surgery, the Neurosurgical resident must be able to show technical competence in the following procedures to the satisfaction of his/her supervisor(s). Designation is listed as to expectations of “Surgeon” (S) or “Assistant” (A). The resident may act as surgeon or assistant in those procedures marked (SA) depending on various factors at the time of surgery.

**General Diagnostic and Therapeutic Procedures**

1. Arterial puncture: S
2. Venipuncture: S
3. Naso-gastric intubation: S
4. Insertion and removal of permanent feeding line: S
5. Insertion and removal of venous access reservoir: S
6. Proctoscopy & Sigmoidoscopy: S
7. Insertion and removal of peritoneal dialysis catheter: S
8. Skin suturing & stapling, knot tying: S
9. Selection of abdominal incisions: S
10. Laparotomy & closure of abdominal wall: S
11. Peritoneal tap: S
12. Electrocardiogram: S
13. Foley catheter insertion: S
14. Tracheostomy: A/S
15. General principles of Laparoscopy and Thoracoscopy

**Specific Procedures**

**Integumentary System**

1. Incision and drainage subcutaneous abscess: S
2. Foreign body removal: S
3. Excision skin and subcutaneous lesions: S
4. Suture of lacerations: S

**Breast**

1. Aspiration of breast cyst: S
2. Excision benign breast tumor: S

**Hemic and Lymphatic System**

1. Splenectomy: A
2. Biopsy of enlarged nodes: (cervical, axillary, inguinal, scalene, submandibular): S
Digestive System

Endoscopy

1. Esophago-gastro-duodenoscopy: S/A

Gastric

1. Pyloroplasty: SA
2. Gastroenterostomy: SA
3. Closure of perforated ulcer: SA

Intestinal

1. Rigid sigmoidoscopy: S
2. Flexible sigmoidoscopy: S
3. Insertion feeding enterostomy: SA
4. Colostomy: S
5. Entero-enterostomy: S
6. Resection and anastomosis of small bowel: S
7. Resection and anastomosis of large bowel: S
8. Proctectomy (AP resection): S
9. Lysis of adhesions: S
10. Appendectomy: S

Anorectal

1. Snoscopy: S
2. Excision thrombosed hemorrhoid: S

Liver

1. Incisional liver biopsy: S
2. Local excision liver lesion: SA

Biliary Tract

1. Cholecystotomy: SA
2. Cholecystectomy, open: S
3. Cholecystectomy, laparoscopic: SA
4. Exploration common bile duct: S

Pancreatic

1. Drainage pancreatic abscess: A
2. Whipple procedure: A
3. Distal pancreatic excision: A
Trauma

1. Laparotomy for acute trauma: A
   - splenectomy: A
   - repair liver laceration: A
   - repair ruptured diaphragm: A
   - repair ruptured bladder: A
   - nephrectomy: A

Abdominal Sepsis

1. Drainage intra-abdominal abscess
   - abdominal: A
   - subphrenic: A
   - phrenic: A

Hernia & Abdominal Wall

1. Insertion peritoneovenous shunt: A
2. Laparoscopy: SA
3. Repair inguinal hernia: S
4. Repair femoral hernia: S
5. Repair ventral hernia: SA
6. Excision hydrocele: S
7. Closure evisceration: A

Professional Qualities

Given a patient with a general surgical illness, the Neurosurgical resident should be able to demonstrate:

1. The ability and willingness to work in a cooperative manner with other health care personnel, being sensitive to their roles and abilities, and to be able to give and receive advice in a manner that is consistent with the harmonious operation of a health care team.
2. The ability to communicate with patients and their families explaining to them their disease process and the benefits, risks, and complications, and alternatives of management recommendations in terms each individual can comprehend.
3. Respect for patients’ rights to privacy.
4. Sensitivity to the sexual, moral, ethical, religious and ethnic characteristics of the patient and family, understanding of the special psychological needs of the patient with general surgical disease, and the capacity for supportive and compassionate care in the course of terminal disease.
5. A knowledge of the ethical and legal aspects of general surgery.
6. Honesty, reliability, and respectfulness in working with patients and colleagues alike.
7. The discipline of continued self-education and the appropriate application of this current knowledge to the clinical setting; the ability to supervise and educate undergraduate and postgraduate students in general surgery; the skills to educate colleagues, patients, families, and other health care professionals; the capacity to undertake research, and be aware of the importance of peer review protocols, ethical considerations, and the limitations of such endeavors.

8. The ability to keep succinct, pertinent, and up-to-date medical records.

29. Thunder Bay Regional Hospital

29.1 Thunder Bay Regional Hospital Description

Thunder Bay Regional Hospital represents the amalgamation of McKellar General Hospital and the General Hospital of Port Arthur, effective April 1, 1995. The McKellar site (Corporate site) is located at 325 S. Archibald Street and the Port Arthur site is located at 460 N. Court Street. In addition, the Northwestern Ontario Regional Cancer Centre is attached to the Port Arthur site. Thunder Bay Regional Hospital provides comprehensive health care deliver, including:

- Neurosurgery
- Diagnostic Imaging
- MRI
- CT Scanner
- Implementation and Cardiac Rehab
- High Risk Obstetrics
- Perinatal
- Neonatal
- Family Birthing Centre
- Trauma and Emergency
- Cardiac Catheterization
- Medical Subspecialties
- Surgical Subspecialties
- Oncology
- Base Hospital
- Psychiatry
- Pediatrics
- Dialysis Services

30. Community General Surgery Residents

30.1 Rural Community Rotation

Medical Expert / Clinical Decision Maker

Knowledge: Basic Science and Anatomy
The resident is expected to have a comprehensive understanding of general surgery, specifically those clinical problems frequently encountered and managed in the rural and remote communities. As such, this knowledge is a subset of general surgery as seen at a tertiary facility and will be the same core of knowledge shared by all general surgery rotations.

In addition, the resident is expected to have a working knowledge of selected orthopaedic problems and emergency operative obstetrics as defined under these respective rotations.

**Knowledge: General Clinical**

The purpose of this rotation is to provide one or two, 4 - 6 week rotations to a rural or remote community where general surgeons are normally the only specialist on staff. The resident will gain an appreciation of the breadth of surgery being performed and the specific issues which determine whether a particular patient or type of surgery will be provided locally or arrangements made to refer out of the community for care. There will be exposure to the spectrum of general surgery being practiced and additional exposure to operative obstetrics and selected orthopaedics as well. It is hoped that this contact will provide the resident with a better perspective of the skills to be mastered when they are on these specialty rotations. The experience will be preceptor based and include concurrent exposure to outpatient clinics, hospital wards and the OR.

The resident is expected to perform a careful and accurate assessment of patients seen in consultation in the clinic, the emergency department or hospital wards. The resident should be able to arrive at a working diagnosis and formulate a strategy for investigation and management of the patient. When required the resident should determine the indication for surgery, the most appropriate procedure, possible complications and expected outcomes. The resident should be able to define these issues in a thoughtful concise written report or professional conversation.

The resident should be able to demonstrate on request an in-depth understanding of the underlying pathophysiology of the medical condition being managed. The resident should be able to select appropriate investigations, available in a rural or remote health care facility for the assessment of each patient. The resident should also be aware of the need for specific investigations not normally available and how to access these services as required. The use of diagnostic ultrasound is important and experience in its application is essential. The use of ultrasound to extend examinations and guide biopsies is now commonplace. The resident should be able to interpret standard radiographs of common conditions including routine barium contrast studies and fractures. The resident should be able to interpret CT scans of the brain, chest, abdomen and pelvis. The resident should demonstrate an understanding of laboratory services including specimen collection, handling and reporting.

The resident should be able to describe the indications for operation, the needed preoperative assessment and the potential adverse effects and anticipated outcome of the procedure. The resident should be able to describe in detail the surgical approach and then perform the operation under direct supervision to the preceptor's satisfaction. The resident will be responsible for peri-operative under direct supervision.
Knowledge: Specific Clinical Problems
These include the investigation and management of the patient with an acute abdomen, gastrointestinal bleeding, jaundice, abdominal masses, a neck mass, a pulmonary nodule, hernias, scrotal swelling, breast lesions, soft tissue infections, hematuria and urinary retention and skin lesions. In addition, the resident will become familiar with the care of common fractures including the closed reduction and fixation with cast application. The resident will become familiar with the indications for emergency Caesarean section, the management of an ectopic pregnancy and an incomplete abortion. This list is not meant to be exhaustive or complete but does serve to represent to the breadth of general surgery practiced in a rural or remote community.

Knowledge: Technical
The resident is expected to manage wounds, simple and complex, in the ambulatory setting. This includes traumatic and post surgical wounds both clean and infected. The resident should be able to drain superficial abscesses, cleanse and repair injured tissues, remove foreign bodies, drain effusions, place chest tubes, central venous catheters and perform superficial biopsies. The resident should be capable of performing selected closed reductions of dislocations and fractures and be able to apply a sound cast if required. For other skeletal trauma, the principles of splinting after reduction and the avoidance of further neurovascular injury must be demonstrated.

The resident must be able to demonstrate technical competence in the OR and be able to perform surgery for common conditions under the immediate supervision of the attending surgeon. This will include gastrointestinal endoscopy, laparoscopy and open procedures safely performed in these smaller facilities. The resident will become familiar with the range of equipment, types of procedures and limitations of volume and training that determine the scope of surgery that is possible.

Communicator
The resident will be able to communicate effectively and compassionately with patients, partners and family. The resident will communicate with other health care providers, including nurses, referring physicians and consultants through written records and professional conversation. Appropriate accuracy and brevity is expected.

Collaborator
The resident will collaborate with other members of the health care team in order to provide the optimum care for each patient. Interaction should be professional and indicate respect for the other person's role and contribution.

Manager
The resident should demonstrate an appreciation for fiscal issues pertaining to patient care including the expense and time commitment for each option. The resident should be
able to describe the best treatment option for each patient and be able to justify a choice when greater additional staff time and costs might be incurred. Patient transfer by air ambulance might be an example of the obligation to balance cost against need.

**Health Advocate**

The resident should be an advocate for a healthy lifestyle. This may require identifying specific risk factors from an individual's history, advising the person of potential problems and offering a strategy to reduce the probability of harm. Encouraging participation in structured screening programs is an example. When necessary, the resident should be able to describe a strategy for community based intervention and propose a leadership role for physicians.

**Scholar**

The resident will develop a plan for self-directed continuing education. This may include keeping up to date with the relevant medical literature, applying the principles of evidence based medicine and applying significant advances to their practice. Whenever possible, the resident should be prepared to share knowledge with colleagues and encourage change in patterns of practice for which there is compelling evidence. In the rural and remote locations, the use of the internet and videoconferencing are especially important.

**Professional**

The resident should behave in an honest, ethical and compassionate manner. The resident must show respect for individual privacy and autonomy and be prepared to overcome the added difficulties associated with language, education and cultural differences. This respect should extend to all members of the health care team and foster an attitude of trust and cooperation while caring for each patient.

**30.2 Orthopaedics**

**Medical Expert / Clinical Decision Maker**

**Knowledge: Basic Science and Anatomy**

The resident is expected to have a detailed understanding of the principles of musculoskeletal injury including soft issue trauma and infections, dislocations and fractures. The resident should be able to describe the mechanism of injury, the extent of the injury and the principles and priorities of care. The resident should be able to describe the response to injury, sequence of repair and healing of both soft tissue and bone trauma.

**Knowledge: General Clinical**

The resident is expected to develop a clear understanding of the role of a rural community general surgeon in providing orthopaedic care in carefully defined circumstances. The resident is not expected to develop expertise in orthopaedics beyond selective emergency care. The resident should be able to evaluate by clinical exam,
appropriate plain radiographs and selected investigations such as joint aspirations the extent of an extremity injury. The resident should be able to reduce and immobilize common dislocations and fractures using splints or casts with x-ray control.

**Knowledge: Specific Clinical Problems**

The resident should be able to assess and manage a variety of injuries presenting for care in the emergency room. Elective orthopaedic procedures are not considered part of this training. The resident should be able to describe the management of soft tissue injuries with debridement and repair as required, the management of soft tissue sepsis including necrotizing infections and selected problems such as an abscess and bursal infections. The resident should be able to accurately diagnose a joint dislocation, extremity fracture and associated soft tissue trauma. The resident must know how to prevent further injury with particular attention to safe transportation and avoidance of haemorrhage or neurovascular compromise. Resident must be able to carry out a careful clinical examination based on a detailed understanding of the functional anatomy of an extremity. Spinal injuries and injuries to the trunk are considered elsewhere.

The resident should be able to describe and demonstrate the application of common casts and be familiar with both plaster and fibreglass techniques. The resident should be able to reduce common dislocations and fractures. The resident should be able to apply a secure and functional cast which is specific to the underlying injury. The resident should be able to complete a closed reduction, determine the final position and immobilize the fracture in an appropriate cast or splint. The resident must be aware of cast related complications and have a strategy for dealing with these.

The resident will learn the principles of open reduction and internal fixation and may acquire skills in selected procedures but may require additional training. This might include the management of uncomplicated hip and ankle fractures. In all cases, the resident should be able to recognize and document clinical circumstances that require orthopaedic consultation, either by phone, film review or patient transfer. The goal is safe reduction and immobilization to avoid further injury and then a decision regards definitive care. In general, multi-system trauma will be referred out.

The resident should appreciate the differences between paediatric and adult fracture management and be able to adjust care accordingly.

The resident should be able to conduct a fracture clinic: know when a reduction has been maintained, when it may have lost proper position, when to change or repair casts, when to remove casts and x-ray and when to discontinue rigid furation in favour of mobilization. The resident should be able to adjust care for the requirements of age and associated problems such as osteoporosis.

The resident will be able to describe the indications and operations for extremity amputation.

**Knowledge: Technical**
The resident should be able to reduce and immobilize upper extremity fractures and dislocations such as uncomplicated finger fractures, wrist fractures such as a Colles' fracture, scaphoid fracture, selected forearm fractures, fractures of the humerus and shoulder dislocations. Hip dislocations, undischplaced ankle fractures and fractured metatarsals should be included. The resident should be able to describe the closed reduction of more complex ankle fractures and be able to identify cases suitable for local care and those for referral to an orthopaedic surgeon. The resident will need to recognize a fracture requiring open reduction and internal fixation and the limitations imposed by volume and equipment in the smaller centers.

**Communicator**

The resident will be able to communicate effectively and compassionately with patients, partners and family. The resident will communicate to other health care providers, including nurses, referring physicians and consultants through written records and direct conversation. Appropriate accuracy and brevity are expected.

**Collaborator**

The resident will collaborate with other members of the health care team in order to provide optimum care for each patient. Interaction should be professional and indicate respect for each person's role and contribution.

**Manager**

The resident should demonstrate an appreciation for fiscal issues pertaining to patient care including the expense and time commitment for each option. The resident should be able to describe the best treatment option for each patient and be able to justify a choice when greater additional staff time and costs might incur.

**Health Advocate**

The resident should be an advocate for a healthy lifestyle. This may require identifying specific risk factors from an individual's history, advising the person of potential problems and offering a strategy to reduce the probability of future harm. When necessary, the resident should be able to describe a strategy for community based intervention and propose a leadership role for physicians.

**Scholar**

The resident will develop a plan for self-directed continuing education. This may include keeping up to date with the relevant medical literature, applying the principles of evidence based medicine and adopting significant advances to their practice. Whenever possible, the resident should be prepared to share knowledge with colleagues and encourage change in patterns of practice for which there is compelling evidence.

**Professional**
The resident should behave in an honest, ethical and compassionate manner. The resident must show respect for individual privacy and autonomy and be prepared to overcome the added difficulties associated with language, education and cultural differences. This respect should extend to all members of the health care team and foster an attitude of trust and cooperation while caring for each patient.

### 30.3 Emergency Obstetrics

**Medical Expert / Clinical Decision Maker**

**Knowledge: Basic Science and Anatomy**

The resident is expected to have a detailed understanding of a normal labour and its potential problems. The resident will be able to describe the anatomy, physiology and potential variations associated with pregnancy. The resident will be able to describe the normal anatomy of the female reproductive organs and detail the changes accompanying pregnancy and labour. This knowledge will extend to include postpartum involution. The causes of spontaneous abortion and ectopic pregnancy are required knowledge.

**Knowledge: General Clinical**

The resident is expected to develop a clear understanding of the role of a rural community general surgeon in providing operative obstetrics in carefully defined circumstances. The resident is not expected to develop expertise in obstetrics beyond emergency surgery for complications of pregnancy, labour and/or life threatening blood loss. The goal should be to provide a safe, timely operation when indicated to reduce the risk to both mother and fetus. The primary obligation is to the mother. The resident is not expected to be able to manage labour. The indications and potential complications of surgical sterilization should be known.

**Knowledge: Specific Clinical Problems**

The resident is expected to be able to diagnose and manage the following problems: Incomplete spontaneous abortion, an ectopic pregnancy with or without life threatening haemorrhage, foetal distress or failure of labour to progress despite appropriate medical management. The resident will recognize the need for Caesarean Section and the urgency with which the procedure is required. The resident should be able to manage postpartum complications, including removal of a retained placenta, postpartum haemorrhage and sepsis. The resident may acquire the ability to perform postpartum tubal ligation and circumcision.

**Knowledge: Technical**

The resident should be able to perform a safe, rapid Caesarean Section on short notice for agreed indications. The resident must be able to assess the lie of the fetus, select an incision and perform an appropriate lower segment Section. The resident must recognize problems created by an earlier Section and those complications accompanying this operation including intractable bleeding, postpartum sepsis and visceral injury. In addition, the resident should be able to do a postpartum tubal ligation if planned in
The resident must be aware of the options for managing an ectopic pregnancy including laparoscopic techniques if appropriate. The resident should be able to management and incomplete spontaneous abortion with ongoing bleeding by an appropriate cervical dilatation and curettage.

**Communicator**
The resident will be able to communicate effectively and with empathy with women, especially those experiencing complications of labour, partners and family. The resident will communicate to other health care providers, including nurses, referring physicians and consultants through written records and conversation. Appropriate accuracy and brevity are expected.

**Collaborator**
The resident will collaborate with other members of the health care team in order to provide the optimum care for each patient. Interaction should be professional and indicate respect for the other person's role and contribution.

**Manager**
The resident should demonstrate an appreciation for fiscal issues pertaining to patient care including the expense and time commitment for each option. The resident should be able to describe the best treatment option for each patient and be able to justify a choice when greater additional staff time and costs might incurred.

**Health Advocate**
The resident should be an advocate for a healthy lifestyle. This may require identifying specific risk factors from an individual's history, advising the person of potential problems and offering a strategy to reduce the probability of future harm. When necessary, the resident should be able to describe a strategy for community based intervention and propose a leadership role for physicians.

**Scholar**
The resident will develop a plan for self-directed continuing education. This may include keeping up to date with the relevant medical literature, applying the principles of evidence based medicine and applying significant advances to their practice. Whenever possible, the resident should be prepared to share knowledge with colleagues and encourage change in patterns of practice for which there is compelling evidence.

**Professional**
The resident should behave in an honest, ethical and compassionate manner. The resident must show respect for individual privacy and autonomy and be prepared to overcome the added difficulties associated with language, education and cultural differences. This respect should extend to all members of the health care team and foster an attitude of trust and cooperation while caring for each patient.
31. Calling the Coroner: A Guide for Health Care Professionals

by David Eden, MD, Regional Supervising Coroner Niagara

Coroners in Ontario investigate certain deaths in order to determine the facts surrounding the death, and to make recommendations to prevent future deaths in similar circumstances. Health Care Professionals have a legal and professional responsibility to notify the coroner of cases which may require investigation.

To decide whether or not the coroner should be notified, ask yourself the following questions:

Is the death due to non-natural causes (such as accident, homicide, or suicide)?
  - Note: An injury (e.g. hip fracture) preceding a medical death (e.g. pneumonia) is a non-natural death and therefore a mandatory coroner's case, if the death may be attributable to the injury.

Was the death sudden and unexpected (i.e. not reasonably foreseeable)?

Are the events leading to the death the subject of investigation by police, the hospital, Children's Aid, a professional College, or any other agency?

Is trauma (including a fall in hospital), suicidality, overdose or poisoning related to this death?

Have there been any allegations of malpractice, treatment errors, negligence, or foul play?

Is the deceased a prisoner in custody, or an involuntary psychiatric patient?

Is this a pregnancy-related maternal death?

Is this a neonatal death or stillbirth where there are issues of care, or injury?

Is this a stillbirth in which the delivery occurred outside a hospital, or no MD was present at the delivery?

If the deceased is from a long term care facility such as a nursing home, is this a threshold case?

Have family or caregivers expressed concerns about the death?

If the answer to any of these questions is "Yes", then you should notify the coroner, who will decide whether or not to launch an investigation. These rules do apply (a) when organ harvesting for transplant is planned and (b) in children's deaths; but, in these cases, it is particularly important to call the coroner if you have any uncertainty at all. There is no "24-hour rule" in Ontario, nor are surgical deaths or home deaths automatic coroner's cases - use the above criteria for those instances. (This is a digest - for reference, consult Section 10 of the Coroners Act.)

The most frequent mistake made in notification of the coroner is the failure to link a preceding injury with the death. For instance, where an elderly person falls at home, sustains a hip fracture, undergoes surgery, and dies 5 days later of pneumonia, the underlying cause of death is the accidental fall (because this is the occurrence which initiated the chain of events culminating in death), and this is therefore an accidental
death, not a natural one, and must be reported to the coroner. Another commonly seen issue arises where care has been exemplary, but the family continues to express concerns despite adequate efforts to reassure them. Always call the coroner immediately in this situation; the coroner is independent, and is trained and experienced in intervention to defuse predicaments such as this.

Once you have pronounced the patient dead, and have made the decision that this case should be discussed with the coroner, do not move or touch the body (including cleaning up body fluids, removing tubes or lines) without the coroner's permission. If the coroner decides not to accept the case, you should complete the death certificate, request a hospital autopsy if indicated (for which family consent would be required), and release the body as per hospital protocols.

Coroners have broad powers to investigate a death, and professionals are expected to provide full cooperation. The coroner may discuss the case with you and, in some cases, the coroner may have a police officer assist in the investigation, sometimes by taking a statement from professionals involved in the care.

**32. ACS Updates**

32.1 [PDF]ACS September 2006.pdf
32.2 [PDF]ACS October 2006.pdf
32.3 [PDF]ACS November 2006.pdf

**33. Humour**

33.1 Grant's Rules to Survive a Surgical Residency (modified By Walton)

1. Trust no-one, take names. Anything important, check it yourself.
2. Eat when you can, sleep when you can.
3. Don't mess with the pancreas.
4. Friday is bow tie day (or once a week wear something nice, so everyone knows you still own clothes).
5. Don't make the Nurses the enemy. Treat them with respect, and try to get along. Don't forget however, that they will all jump off a sinking ship together, leaving you to drown.
6. With respect to rule #5, you will always pay if you piss off the enemy.
7. Everything you know, someone taught you. Pass it along. Not only will they appreciate it, but it will make your job easier. If you have a junior/intern/clerk on call with you, any time they save you in not having to write notes etc, you should spend teaching them something.
8. The only bleeding you should panic about is that which you can hear (and your own).
9. All bleeding stops eventually.
10. The spleen is not your friend. Platelets and the stomach are your friends.
11. The boss is always right. It is a privilege to take care of their patients.
12. In the event that the boss is wrong, see rule #11. Remember he or she has years of experience, and it is their patient. (The above two rules may be ignored in the case of an ethical decision, unless of course you have no morals).
13. There are only two reasons for not doing a rectal exam: i.) no finger and ii.) no rectum.
14. Big Brother is watching. Although it may not seem like it, everyone knows who works hard, and who goes the extra mile. You

33.2 Rules of Surgery

1. The Staff Surgeon is always right
2. If the Staff Surgeon is wrong refer to Rule Number One
3. The stomach and the platelets are your friends. The pancreas and the spleen are not
4. All bleeding stops
5. If you do not eat you die
6. Always scope the patient yourself

D.C. Downie M.D., 1996