

Objectives of Training and Specialty Training Requirements in General Surgery at Memorial University of Newfoundland

INTRODUCTION

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 General Surgeon 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 requires competence in all CanMeds roles.

GOALS

Upon completion of training, a resident is expected to be a competent specialist in General Surgery capable of assuming a consultants 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:

1. 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.
2. Mastery of surgical skills of open cavitory surgery, endoscopy, minimal access surgery, endocrine surgery, breast surgery, trauma surgery and soft tissue surgery including abdominal wall surgery.
3. Effective clinical judgement and decision making in dealing with general surgical problems based on sound surgical fundamentals.

Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, sexual orientation, age, culture, ethnicity and ethics in a professional manner.

GENERAL SURGERY COMPETENCIES

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

Medical Expert

Definition:

As Medical Experts, General Surgeons integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central surgeon Role in the CanMEDS framework.

Key and Enabling Competencies:

General Surgeons are able to:

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
2. Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
3. Demonstrate use of all CanMEDS competencies relevant to General Surgery
4. Identify and appropriately respond to relevant ethical issues arising in patient care
5. Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems
6. Demonstrate compassionate and patient-centered care
7. Recognize and respond to the ethical dimensions in medical decision-making
8. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed
9. Establish and maintain clinical knowledge, skills and attitudes appropriate to General Surgery
10. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to the surgeons specialty

11. Demonstrate appropriate interpretations, judgement and skills in general surgical diagnostic techniques including endoscopy and minimal access surgery to manage adult and pediatric patients with the following:
 - a. Diseases of the alimentary tract, including esophagus, spleen, liver, pancreas and biliary tract
 - b. Trauma and critical illness, including emergency and intensive care
 - c. Surgical oncology including multidisciplinary management of cancer patients
 - d. Breast diseases
 - e. Endocrine disease
 - f. Surgical infections and inflammatory diseases
 - g. Abdominal wall pathology
 - h. Skin and soft tissue diseases

12. Explain the principles of surgical management in order to provide effective care exclusive of major surgical techniques related to the following:
 - a. Head and neck disease
 - b. Adrenal and other endocrine diseases
 - c. Transplantation
 - d. Thoracic surgery
 - e. Vascular surgery
 - f. Orthopedic trauma involving neurovascular compromise
 - g. Interventional imaging technologies

13. Describe the CanMEDS framework of competencies relevant to General Surgery
14. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
15. Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices
16. Perform a complete and appropriate assessment of a patient
17. Identify and explore issues to be addressed in a patient encounter effectively, including the patients context and preferences
18. Elicit a history that is relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management
13. Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis and/or management
14. Select medically appropriate investigative methods in a resource-effective and ethical manner
15. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

16. Use preventive and therapeutic interventions effectively
17. Implement a management plan in collaboration with a patient and their family
18. Demonstrate appropriate, and timely application of preventive and therapeutic interventions relevant to the surgeons practice
19. Ensure appropriate informed consent is obtained for therapies
20. Ensure patients receive appropriate end-of-life care
21. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
22. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to General Surgery
23. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to General Surgery
24. Demonstrate the ability to
 - a. Expose, resect, divert, cannulate, anastomose and repair as appropriate the alimentary tract including hepatobiliary system and pancreas
 - b. Expose, resect and repair the spleen
 - c. Manage intraoperatively life-threatening hemorrhage, through control of arteries and veins
 - d. Resect and preserve breast, axillary lymph nodes,
 - e. Resect and preserve thyroid
 - f. Excise and repair hernias and abdominal wall disorders
 - g. Manage operatively the critically injured patient including thoracostomy; thoracotomy; surgical airway; central venous, peripheral venous and arterial access; and trauma laparotomy
 - h. Resect, reconstruct and preserve skin and soft tissues
 - i. Ensure appropriate informed consent is obtained for procedures
 - j. Document and disseminate information related to procedures performed and their outcomes
 - k. Ensure adequate follow-up is arranged for procedures performed
 - l. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise
 - m. Demonstrate insight into their own limitations of expertise
 - n. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
 - o. Arrange appropriate follow-up care services for a patient and their family

Communicator

Definition:

As Communicators, General Surgeons effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Key and Enabling Competencies

General Surgeons are able to:

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families
2. Recognize the importance of communication as a core clinical skill for surgeons
3. Establish positive therapeutic relationships with understanding, trust, respect, honesty and empathy
4. Respect patient confidentiality, privacy and autonomy
5. Listen effectively and respond to nonverbal cues
6. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals
7. Gather information about a disease and about a patient's beliefs, concerns, expectations and illness experience
8. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals
9. Obtain information accurately and effectively under time constraints such as before emergency operations
10. Convey relevant information and explanations accurately to patients and families, colleagues and other professionals
11. Deliver information in such a way that it is understandable, encourages discussion and participation in decision-making
12. Obtain informed consent
13. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care
14. Identify and explore problems to be addressed from a patient encounter effectively, including the patient's context, responses, concerns, and preferences
15. Demonstrate the ability to present and discuss treatment options including nonoperative, radiological and endoscopic measures.
16. Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making

17. Encourage discussion, questions, and interaction in order to engage patients, families, and relevant health professionals in shared decision-making
18. Manage challenging communication issues effectively, such as delivering bad news, disclosing surgical error, and dealing with anger, confusion and misunderstanding
19. Convey effective oral and written information about a medical encounter
20. Maintain accurate, and appropriate records of procedures and other clinical encounters, that include the key elements that guide decision making
21. Document the process of informed consent for operative and other interventions
22. Present verbal reports of clinical encounters and plans

Collaborator

Definition:

As Collaborators, General Surgeons effectively work within a health care team to achieve optimal patient care.

Key and Enabling Competencies:

General Surgeons are able to

1. Define members roles in interprofessional health care teams
2. Identify and describe the roles, responsibilities, expertise and limitations of each member of interdisciplinary team.
3. Recognize and respect the diverse roles, responsibilities, ethics and competences of other professionals
4. Recognized disparate resource needs of other professionals
5. Work with others effectively to assess, plan, provide and review other tasks
6. Work with team members on research problems, education projects, program review and administration
7. Respect team ethics, including confidentiality, resource allocation and professionalism
8. Preserve confidentiality of patients and caregivers
9. Work with others effectively to plan and care for patients
10. Work with others to assess and plan care of patients
11. Participate in the multidisciplinary management of cancer patients
12. Lead effectively the multidisciplinary care of critical ill patients including multiple trauma
13. When available and appropriate, seek input from colleagues in planning treatment
14. Work with other members of the operating team to provide safe and effective care for patients

15. Participate and lead where appropriate in a pause or checklist immediately before incision
16. Communicate clearly and concisely with all operating team members in the operating room
17. Request and provide intra-operative consultations where appropriate
18. Work with operating team members to transfer safely patients and their relevant information to postoperative care providers
19. Interact with colleagues to optimize the quality of postoperative medical care
20. Utilize the expertise and availability of those involved in pain management to optimize postoperative pain control
21. Consult and work with experts in critical care and other disciplines including allied health professionals.
22. Utilize multidisciplinary expertise and community resources to facilitate appropriate and effective patient discharge.
23. Involve appropriate team members in end of life care for patients and their families.
24. Assume roles appropriate to team dynamics.
25. Demonstrate ability to lead or assume supportive roles, appropriate to situations.
26. Work with others effectively to prevent, negotiate, and resolve interprofessional conflict
27. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
28. Work with other professionals to prevent conflicts
29. Employ collaborative negotiation to resolve conflicts
30. Respect differences and address misunderstandings and limitations in other professionals
31. Recognize ones own differences, misunderstanding and limitations that may contribute to interprofessional tension
32. Reflect on interprofessional team function

Manager

Definition:

As Managers, General Surgeons are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of health care systems.

Key and Enabling Competencies

General Surgeons are able to:

1. Contribute to the effectiveness of their health care organizations and systems
2. Work effectively with others in their organizations
3. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
4. Describe the structures and functions of health care systems
5. Describe how health care governance influences patient care, research and educational activities at local, regional, provincial and national levels
6. Discuss the effective functioning of health care organizations, ranging from an individual general surgical practice to local, regional, provincial and national surgical associations
7. Describe principles of health care financing, including surgeon remuneration, budgeting and organizational funding
8. Manage their practice and career effectively
9. Set priorities and manage time to balance professional and personal life
10. Manage a practice including finances and human resources
11. Implement processes to ensure professional improvement
12. Employ information technology appropriately
13. Allocate health care resources appropriately
14. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access
15. Access hospital and other clinical facilities and settings appropriate to patients and patient populations.
16. Describe population-based health care services and their implication for surgical practice and prioritization for access
17. Apply evidence-based management processes for cost-appropriate care
18. Demonstrate the ability to serve in administration and leadership roles
19. Participate effectively in administrative roles and working groups
20. Lead and implement change in health care
21. Plan and implement processes of health care delivery (e.g., work schedules)

Health Advocate

Definition:

As Health Advocates, General Surgeons responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Key and Enabling Competencies:

General Surgeons are able to:

1. Respond to individual patient health needs as part of patient care
2. Identify the health needs of an individual patient
3. Identify opportunities for cancer screening including colon and breast
4. Promote smoking cessation and be aware of available resources
5. Advise patients against high risk behaviours such as drinking and driving
6. Establishes priorities for the care of individual patients whose needs compete with others
7. Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care
8. Identify families at risk for cancer
9. Respond to the health needs of the communities that they serve
10. Describe the practice communities that they serve
11. Understand community needs and attitudes as affected by determinants of health such as poverty, illiteracy, language and attitudes towards surgery
12. Understand and adapt available resources to community needs
13. Identify opportunities for advocacy, health promotion and disease prevention in communities, and respond appropriately, such as encouraging organ donation and road safety
14. Appreciate the possibility that competing political, cultural and other interests influence resource allocation for health care, such as allocation of operating rooms
15. Promote the health of individual patients, communities, and populations
16. Describe an approach to [implementing a] changing a determinant of population health, such as fundraising to develop cancer prevention strategies
17. Describe how public policy impacts on the health of the populations served, such as prioritizing access to specific operations
18. Identify points of influence in the health care system and its structure
19. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of managing limited resources

20. Describe the role of the medical profession in advocating collectively for health and patient safety, such universal precautions for blood borne pathogens

Scholar

Definition:

As scholars, general surgeons demonstrate a lifelong commitment to reflective learning, and creation, dissemination, application and translation of new knowledge and technologies that inform each CanMEDS domain

Key and Enabling Competencies:

General Surgeons are able to:

1. Maintain and enhance professional activities through ongoing learning
2. Describe the principles of maintenance of competence
3. Describe principles and strategies to implement personal knowledge and skills management systems
4. Recognize and reflect on surgical complications and other learning opportunities in practice
5. Audit professional practice including the processes and outcomes of operations and other components of care
6. Pose an appropriate learning question and access and interpret relevant evidence related to it
7. Integrate new learning into practice and document the learning process
8. Evaluate the impact of change in practice such as adopting new techniques and technologies
9. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions
10. Describe the principles of critical appraisal
11. Identify clinical questions in General Surgery
12. Recognize and identify gaps in knowledge and expertise around the question
13. Search, store, retrieve and appraise critically the evidence from appropriate literature in order to address a clinical question
14. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate
15. Describe principles of teaching and learning relevant to medical education
16. Identify collaboratively the learning needs and desired learning outcomes of others
17. Demonstrate effective teaching strategies and content in and outside of the operating room

18. Demonstrate an effective lecture or presentation
19. Assess and reflect on a teaching encounter
20. Provide effective feedback
21. Describe the principles of ethics with respect to teaching
22. Contribute to the development, dissemination, and translation of new knowledge and practices
23. Describe the principles of research and scholarly inquiry
24. Describe the principles of research ethics
25. Investigate a scholarly question through the application of research methods
26. Develop a proposal to solve a research question
27. Select and apply appropriate methods to address the question
28. Carry out the research outlined in the proposal
29. Disseminate the findings of a research investigation
30. Identify areas for further research that flow from the results
31. Collaborate appropriately and effectively in scholarly research
32. Help team members to recommend, plan, conduct, present and publish research and scholarly enquiry

Professional

Definition:

As Professionals, General Surgeons are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Key and Enabling Competencies:

General Surgeons are able to:

1. Demonstrate a commitment and accountability to their patients, profession, and society through ethical practice
2. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism
3. Demonstrate a commitment to delivering the highest quality care and maintenance of competence
4. Accept responsibility for the overall care of the surgical patient

5. Recognize and appropriately respond to ethical issues encountered in practice
6. Establish appropriate and ethical relationship with colleagues, patients and relatives, industry, advocacy groups and other organizations
7. Disclose to patients adverse events and outcomes openly and honestly
8. Describe the principles of biomedical ethics
9. Apply to surgical decision making the principles of patient autonomy, beneficence and non-maleficence
10. Recognize, manage and disclose where appropriate conflicts of interest
11. Recognize the principles and limits of patient and colleague confidentiality as defined by professional practice standards and the law
12. Demonstrate a commitment and accountability to their patients, profession and society through participation in profession-led regulation and improvement
13. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice
14. Fulfill the regulatory and legal obligations required of current practice
15. Explain the principles of medical jurisprudence
16. Demonstrate accountability to professional regulatory bodies
17. Recognize and respond to others unprofessional behaviours in practice
18. Participate in peer review of the processes and outcomes of medical and surgical care
19. Demonstrate a commitment to surgeon health and sustainable practice
20. Balance personal and professional priorities to ensure personal health and a sustainable practice
21. Demonstrate self-awareness of professional limitations
22. Recognize and manage occupational health risks from disease transmission, substance abuse, fatigue and overwork
23. Prevent, recognize and manage personal health impairment that may affect surgical competence
24. Strive to heighten personal and professional awareness and insight
25. Recognize other professionals in need and respond appropriately
26. Recognize the importance of role modeling
27. Act as positive role models for colleagues, trainees and other health professionals
28. Reflect positively the role of general surgeons in society

PREAMBLE TO SPECIFIC ROTATION OBJECTIVES

There are five general surgery clinical teaching units within the Memorial teaching program, in addition to four subspecialty surgery teaching units (vascular, thoracic, plastics, pediatric surgery) and the community hospital rotations. For each rotation in which a resident participates there are objectives describing what the resident should know and be able to do at the end of the rotation. Other objectives will relate to behaviours and attitudes which the resident is expected to display. They may vary depending on the level of the resident, his/her previous experience, and the cases made available in an individual rotation. Many of the objectives are common to all of the general surgery services, whereas others will vary because of the specific interests and practice pattern of the staff people involved.

Objectives are meant to serve as guidelines to let residents (and staff) know what is expected during each rotation. However, the combined experience in the various surgery rotations provided should meet the overall objectives of the program. They should also take into account the variable rates of learning of residents so they should not be considered as absolute guidelines.

Objectives should be utilized at the beginning of the rotation and the resident may negotiate a learning contract with the preceptor to identify further objectives which are personally important for the resident at his/her level of training and development.

Common General Surgery Objectives

Medical Expert

The various surgery services will have different emphasis on certain aspects of general surgery. There are, however, a number of objectives which are common to all of the general surgery services. These include, but are not limited to, the following:

1. Excision of cutaneous and subcutaneous lesions
2. Insertion of lines and tubes
3. Management of the Acute Abdomen: The resident should be able to assess patients presenting to the Emergency Room with acute abdominal conditions. They should be able to discuss with their staff the differential diagnosis and plan a course of treatment.
4. Hernia: The resident should be able to describe the anatomy and diagnose the different forms of abdominal hernia. The resident should, by the end of the second year, be able to perform inguinal, femoral, umbilical, and incisional hernia repair. On some services they have the opportunity to perform these procedures laparoscopically.
5. Gallbladder Disease: All residents should be able to describe the normal physiology of the biliary tract. Residents must be able to describe and discuss the management of the complications of cholelithiasis. Residents must be able to describe and discuss the management of the complications of cholelithiasis. Residents, by the end of the second year, should be able to perform uncomplicated cholecystectomy under direct supervision.

More senior residents should be able to deal with more complicated cases and procedures such as exploration of the common bile duct and the management of complicated pancreatitis and tumours of the biliary tract.

6. **Colorectal Disease:** All of the surgery services will offer some experience in colorectal disease. These will include colorectal cancer, polyps, and benign conditions such as inflammatory bowel disease, diverticular disease, and rectal prolapse. All residents should have a working knowledge of these conditions and be able to participate in the intra-operative management of these patients.. By the end of their senior year, they should be able to perform all of the standard resections for benign and malignant disease of the colon and rectum.
7. **Diagnostic and Therapeutic Endoscopy:** The resident must master the techniques of flexible endoscopic examination of the upper and lower G.I. tracts, including polypectomy. They must also understand the indications and potential complications of these procedures.
8. **Breast Disease**
 - a. Residents must be able to describe an appropriate course of treatment for a patient presenting with a breast lump, breast pain, nipple discharge, or abnormal mammogram.
 - b. Residents must be able to discuss the risk factors associated with the development of breast cancer.
 - c. Residents must be able to discuss various treatments and options with patients with diagnosis of breast cancer, including breast conservation and more radical surgical procedures.
 - d. Residents must understand the rationale and the results of adjuvant therapy with either chemotherapy or hormonal manipulation.
 - e. Residents must be able to describe appropriate approach and management of outpatients presenting with carcinoma in situ of the breast (ductal or lobular).
 - f. The resident should be able to perform fine needle aspiration and core needle biopsy of breast lumps.
 - g. Junior residents should be able to perform a lumpectomy and a simple mastectomy
 - h. Senior residents should be able to perform axillary dissection and sentinel lymph node biopsy.