Objectives of Surgical Foundations Training

2010
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VERSION 1.1

This document applies to those who begin training on or after July 1st, 2010.

(Please see also the "Policies and Procedures.")

DEFINITION

Surgical Foundations encompasses the core foundational surgical competencies that are required for the following surgical specialties:

- Cardiac Surgery
- General Surgery
- Neurosurgery
- Orthopedic Surgery
- Otolaryngology – Head and Neck Surgery
- Plastic Surgery
- Urology
- Vascular Surgery

Surgical Foundations is that initial period of postgraduate training required to acquire the knowledge, skills and attitudes underlying the basics to the practice of surgery in general and preparatory to further training in a surgical specialty or subspecialty. For the purpose of clarity, the Surgical Foundations resident refers to any surgical resident in PGY1 and PGY2 or that resident on remediation, who has not fulfilled the objectives of training. These objectives refer to exit competencies for which a Surgical Foundations resident **must** be evaluated by the end of PGY2.

NOTE:

At the discretion of the Surgical Foundations and home program director, residents who fail to meet these objectives at the end of PGY2 may continue training, however, a remediation plan must be put in place. These objectives of training must be achieved by the end of the third year of training. Successful completion of the Principles of Surgery examination has been designated as one of the means to evaluate the attainment of the objectives of Surgical Foundations, however, if all other objectives are met, but if a candidate fails the POS exam, he/she may be allowed to continue in their home specialty.

GOALS

Upon completion of the Surgical Foundations training period, a Surgical Foundations resident is expected to demonstrate competence in the management of the surgical patient as outlined in this document.

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 resident must be able to address issues of gender, sexual orientation, age, culture, ethnicity and ethics in a professional manner.

Surgical Foundations must provide opportunities for residents to achieve the competencies outlined in these objectives. Training must provide the resident with graduated responsibility for the management of surgical patients under appropriate supervision.

SURGICAL FOUNDATIONS COMPETENCIES

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

Medical Expert

Definition:

As *Medical Experts*, the Surgical Foundations resident will 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 physician Role in the CanMEDS framework.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Demonstrate the ability to perform a consultation, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

1.1. Perform a consultation, including:

1.1.1. Conduct and present well-documented assessments

1.1.2. Prepare recommendations in written and/or verbal form in response to a request from another health care professional

1.2. Demonstrate compassionate and patient-centered care

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to surgical practice

2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to surgical practice during assessment of a patient including:

2.1.1. Anatomy

2.1.1.1. Relevant anatomy to all basic surgical approaches

2.1.2. Physiology

2.1.2.1. Impact of age on specific organ systems as it relates to surgical management

2.1.2.2. Impact of pregnancy on specific organ systems as it relates to surgical management

2.1.2.3. Obesity and the impact of obesity on organ systems

2.1.2.4. Respiratory system

2.1.2.4.1. Lung volumes - flow rates - pressures

2.1.2.4.2. Oxygen transport

2.1.2.5. Hemostasis

2.1.2.5.1. Physiology of coagulation

2.1.2.6. Fluid and electrolyte physiology

2.1.2.6.1. Fluid compartments and body water component

2.1.2.6.2. Osmotic and volume regulation

2.1.2.6.3. Sodium (Na), Potassium (K), Calcium (Ca), Phosphorus (P) and Magnesium (Mg) metabolism

2.1.2.6.4. Regulation of acid-base

2.1.2.7. Circulatory system

2.1.2.7.1. Hemodynamics of cardiovascular system

2.1.2.8. Immunology of sepsis and transplantation

2.1.2.9. Nutrition

2.1.2.9.1. Metabolic needs

2.1.2.9.2. Caloric-protein-lipid requirements, fluids and micronutrients

2.1.2.9.3. Adaptation to starvation as compared to response to surgical stress

2.1.3. Body response to surgical stress

2.1.3.1. Metabolic responses including catabolic response, the need for metabolic support and endocrine changes not mediated by the neuroendocrine axis

2.1.3.2. Mediators, cells

2.1.3.3. Neuroendocrine axis

2.1.4. Sepsis and the inflammatory response

2.1.4.1. Metabolic and hemodynamic patterns

2.1.4.2. Mediators, cells

2.1.4.3. Impact on organ systems

2.1.5. Disease states in organ systems and their impact on the surgical patient:

2.1.5.1. Cardiac

2.1.5.1.1. Coronary Artery Disease (CAD)

2.1.5.1.2. Valvular disease

2.1.5.1.3. Cardiomyopathy

2.1.5.1.4. Cardiac arrest, arrhythmias as per ACLS protocols

2.1.5.2. Pulmonary

2.1.5.2.1. Chronic Obstructive Lung Disease (COLD)

2.1.5.3. Renal

2.1.5.3.1. Renal failure

2.1.5.4. Endocrine

2.1.5.4.1. Diabetes

2.1.5.4.1.1. Physiological complications

2.1.5.4.1.2. Management of glycemia

2.1.5.4.2. Thyroid pathophysiology

2.1.5.4.3. Parathyroid pathophysiology

2.1.5.4.4. Adrenal pathophysiology

2.1.5.5. Hepatic

2.1.5.5.1. Cirrhosis

2.1.5.5.2. Liver failure

2.1.5.6. Hematologic:

2.1.5.6.1. Screening for diatheses

2.1.5.6.2. Hypocoagulable states

2.1.5.6.3. Hypercoagulable states

2.1.6. Indications, complications and benefits for nutritional support, including enteral and parenteral feeding

2.1.7. Risk assessment strategies and scores

2.1.7.1. Anesthetic risks

2.1.7.2. Cardiac risk assessment

2.1.7.3. ICU risk assessment

2.1.7.4. Trauma assessment including Glasgow Coma scale

2.1.7.5. Nutritional assessment

2.1.7.6. Preoperative screening tests and their limitations

2.1.8. Diagnostic modalities including their technology and limitations

2.1.8.1. Plain radiography

2.1.8.2. Ultrasound

2.1.8.3. CT scan

2.1.8.4. MRI technology

2.1.8.5. Fluoroscopy

2.1.8.6. Nuclear Medicine

2.1.8.6.1. PET scan

2.1.8.7. Emerging technologies

2.1.9. Radiation safety principles as they apply to patient and practitioners

2.1.10. Medical treatments and their impact on the surgical management of a patient

2.1.10.1. Immunosuppression

2.1.10.2. Chemotherapy

2.1.10.3. Radiotherapy

2.1.10.4. Common drugs with impact on hemostatic function and how to correct their impact

2.1.10.5. Alternative medicine

2.1.11. Blood products and derivatives, including types, indications and adverse reactions

2.1.12. Oncology

2.1.12.1. Purpose and basis of staging

2.1.12.2. Basic principles of neoplastic transformation including tumor growth and spread

2.1.12.2.1. Pathology requirements for appropriate assessments

2.1.12.2.2. Definition of common pathological terms such as but not limited to neoplasia, malignancy, dysplasia, metaplasia and atypia

2.1.12.3. Genetics of neoplasia

2.1.12.4. Genetics of families at risk

2.1.12.5. Role of environmental carcinogens

2.1.12.6. Paraneoplastic syndromes

2.1.12.7. Principles of multi-modality therapy

2.1.13. Trauma:

2.1.13.1. Principles of advanced trauma life support (ATLS) or principles of trauma care including initial management

2.1.14. Common infection

2.1.14.1. Community and hospital acquired bacteria, fungi and viruses

2.1.14.2. Impact of blood borne pathogens, including HIV, Hepatitis B and Hepatitis C

2.1.15. Transplantation/implantation

2.1.15.1. Description of autograft, xenograft, and allograft

2.1.15.2. Graft rejection - mechanisms and types

2.1.15.3. Implants

2.1.15.3.1. Principles of compatibility

2.1.15.3.2. Biological reaction/rejection

2.2. Demonstrate an understanding of the conduct of a surgical procedure

2.2.1. Principles of patient safety

2.2.2. Principles of management of patient and surgical team with respect to blood borne pathogens

2.2.2.1. Needle stick injury

2.2.2.2. Mucosal exposure

2.2.2.3. Smoke plume inhalation

2.2.3. Wound healing

2.2.3.1. Classification of wounds

2.2.3.2. Normal wound healing

2.2.3.3. Abnormal wound healing

2.2.3.4. Factors that alter wound healing

2.2.4. Principles of energy sources

2.2.4.1. Electro-cautery

2.2.4.2. Laser

2.2.4.3. Emerging energy source modalities

2.2.5. Principles of prophylaxis

2.2.5.1. Wound and systemic infection

2.2.5.2. Thromboembolism

2.2.5.3. Tetanus

2.2.6. Principles of anesthesia, analgesia and sedation

2.2.6.1. Local anesthetic agents, indications, contra-indications and administration

2.2.6.2. Regional anesthetics

2.2.6.3. General anesthetics

2.2.6.4. Procedural sedation, indications, contra-indications and administration

2.2.6.5. Complications arising from the administration of anesthesia

2.3. Demonstrate an understanding of routine post-operative patient care

2.3.1. Fluid management

2.3.2. Wound care

2.3.3. Pain management

2.3.3.1. Pathophysiology and types of pain

2.3.3.2. Common analgesic medications

2.3.3.3. Patient controlled analgesia

2.3.3.4. Regional analgesia, including epidural

2.4. Demonstrate an understanding of the pathophysiology and complications in the surgical patient

2.4.1. Cardiac

2.4.1.1. Principles of advanced cardiac life support

2.4.1.2. Failure

2.4.1.3. Ischemia

2.4.1.4. Arrhythmia

2.4.2. Circulatory shock

2.4.2.1. Distributive

2.4.2.2. Cardiogenic

2.4.2.3. Hypovolemic

2.4.2.4. Obstructive

2.4.3. Multiple organ dysfunction syndrome

2.4.4. Pulmonary

2.4.4.1. Respiratory failure

2.4.4.1.1. Indications, contra-indications and complications of mechanical ventilation

2.4.4.2. Pulmonary embolism

2.4.4.3. Fat embolism

2.4.5. Genito-urinary

2.4.6. Hemostasis

2.4.7. Vascular

2.4.7.1. Deep Venous Thrombosis (DVT)

2.4.7.2. Arterial ischemia

2.4.8. Endocrine

2.4.8.1. Glycemic control

2.4.8.2. Thyroid storm

2.4.8.3. Adrenal insufficiency

2.4.8.4. Syndrome of Inappropriate ADH

2.4.9. Skin

2.4.9.1. Pressure sores

2.4.10. Neurologic

2.4.10.1. Delirium and altered mental status

2.4.10.2. Transient Ischemic Attack (TIA) and stroke

2.4.10.3. Principles of brain death assessment

2.4.11. Psychiatric

2.4.12. Gastrointestinal

2.4.12.1. Stress gastritis

2.4.12.2. Post-operative Ileus

2.4.13. Common postsurgical infections

2.4.13.1. Pulmonary

2.4.13.2. Vascular catheter

2.4.13.3. Urinary

2.4.13.4. Parotitis

2.4.13.5. Surgical site infection, including incisional and organ/space

2.4.13.6. Spreading and necrotizing infections

2.4.13.7. Hematogenous infections

2.4.13.8. Types of bacteria:

2.4.13.8.1. Clostridium difficile

2.4.13.8.2. Multi antibiotic-resistant pathogens

2.4.13.8.2.1. Methicillin-resistant *Staphylococcus aureus*

2.4.13.8.2.2. Multi-resistant gram negative bacilli

2.4.13.8.2.3. Vancomycin Resistant Enterococci

2.4.13.8.3. Common pathogens in the specific surgical site

2.4.14. Compartment syndromes

2.4.14.1. Abdominal

2.4.14.2. Limb

2.4.15. Delayed wound healing

3. Perform a complete and appropriate assessment of a surgical patient

3.1. Elicit a history and perform a physical examination that is relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management

3.1.1. Identify risk factors for disease or diagnoses

3.1.2. Identify aspects that may affect surgical management of the patient

3.1.3. Identify issues that may impact post-operative care

3.1.4. Identify opportunities for risk management and prevention

3.2. Select medically appropriate investigative methods in a resource-effective and ethical manner including but not limited to the:

3.2.1. Preoperative screening tests

3.2.2. Laboratory tests and imaging

3.3. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating the information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1. Formulate and implement a comprehensive management plan in collaboration with patients and their families for the following clinical situations

4.1.1. Preoperative evaluation and optimization of the patient with the following conditions:

4.1.1.1. Cardiac disease

4.1.1.1.1. Arrhythmias

4.1.1.1.2. Ischemic heart disease

4.1.1.1.3. Valvular heart disease

4.1.1.1.4. Heart failure

4.1.1.1.4.1. Myopathy

4.1.1.2. Pulmonary disease

4.1.1.2.1. Respiratory failure

4.1.1.2.2. Chronic lung disease (CLD)

4.1.1.3. Kidney disease

4.1.1.3.1. Acid base disorders

4.1.1.3.2. Electrolytes disorders (sodium, potassium, calcium, phosphorus, magnesium)

4.1.1.3.3. Renal insufficiency

4.1.1.4. Liver disease:

4.1.1.4.1. Cirrhosis and its complications

4.1.1.4.2. Liver failure

4.1.1.5. Endocrine disease:

4.1.1.5.1. Diabetes

4.1.1.5.2. Thyroid disease

4.1.1.5.3. Adrenal disorders

4.1.1.6. Disorders of hemostasis

4.1.1.7. Pregnancy

4.1.1.8. Morbid obesity

4.1.1.9. Malnutrition

4.1.1.10. Patient with immunosuppression:

4.1.1.10.1. HIV

4.1.1.10.2. Secondary to drugs

4.1.1.10.3. Chronic disease states

4.1.1.10.4. Post transplant

4.1.1.11. Trauma

4.1.1.12. Thermal injury

4.1.1.13. Shock of all types

4.1.1.14. Infections

4.1.2. Unexpected perioperative bleeding both surgical and nonsurgical

4.1.3. Prophylaxis:

4.1.3.1. Antibiotic

4.1.3.2. Thromboembolic

4.1.3.3. Immunization, including tetanus

4.2. Demonstrate effective, appropriate and timely application of preventive and therapeutic interventions for post-operative management of patients with:

4.2.1. Uneventful postoperative course

4.2.2. Complicated post-operative course:

4.2.2.1. Approach to a patient with fever

4.2.2.2. Cardiac disorders:

4.2.2.2.1. Ischemia

4.2.2.2.2. Arrhythmias

4.2.2.2.3. Heart failure

4.2.2.3. Pulmonary disease

4.2.2.3.1. Aspiration pneumonia

4.2.2.3.2. Hospital-acquired pneumonia

4.2.2.3.3. Pulmonary embolus

4.2.2.3.4. Respiratory insufficiencies

4.2.2.3.5. Pneumothorax

4.2.2.4. Kidney disease:

4.2.2.4.1. Oliguria – anuria

4.2.2.4.2. Renal failure

4.2.2.4.3. Electrolyte and acid-base disorders

4.2.2.5. Vascular disease:

4.2.2.5.1. Deep venous thrombosis

4.2.2.6. Gastro-intestinal disease:

4.2.2.6.1. GI bleeding

4.2.2.6.2. Ileus

4.2.2.7. Sepsis

4.2.2.7.1. Catheter sepsis

4.2.2.7.2. Superficial surgical site infection

4.2.2.7.3. Deep surgical site infection

4.2.2.8. Compartment syndromes:

4.2.2.8.1. Abdominal

4.2.2.8.2. Limb

4.2.2.9. Fat embolism

4.2.2.10. Pressure sores

4.2.2.11. Recognition of complications from operative positioning

4.3. Ensure appropriate informed consent is obtained for therapies

4.4. Ensure patients receive appropriate end-of-life care

5. Demonstrate proficient and appropriate use of procedural skills

5.1. Ensure appropriate informed consent is obtained for procedures including the discussion of appropriate postoperative care and issues with patients and families

5.2. Pre-procedural skills

5.2.1. Appropriate usage of imaging

5.2.1.1. Demonstrate proficiency in ordering appropriate imaging with sufficient attention to clinical details.

5.2.1.2. Demonstrate an approach to the interpretation of common and simple imaging modalities including:

5.2.1.2.1. Plain chest X-ray

5.2.1.2.2. Plain views of the abdomen

5.2.1.2.3. Common cross-sectional imaging

5.2.1.2.4. Routine trauma imaging

5.2.1.2.5. Ultrasound

5.2.2. Demonstrate effective, appropriate and timely performance of a surgical procedure while maintaining patient and team safety

5.2.2.1. Apply the concept of aseptic technique as it is used for all procedures

5.2.2.2. Gather and manage the availability of appropriate instruments and materials for minor procedures

5.2.2.3. Obtain appropriate assistance

5.2.2.4. Maintain universal precautions

5.2.2.4.1. Demonstrate understanding of the steps to take when there has been a break in universal precautions or a potential contamination

5.2.2.5. Demonstrate appropriate patient positioning

5.2.2.6. Prepare the operative site

5.2.2.7. Cleanse the operative site

5.2.2.8. Appropriately hand-cleanse, gown and glove

5.2.2.9. Demonstrate appropriate draping

5.2.2.10. Deliver pre-procedural anesthesia if appropriate

5.3. Procedural skills

5.3.1. Demonstrate the application of anatomic knowledge as it relates to the surgical procedure in which they are participating.

5.3.2. Demonstrate appropriate use of operative assistance

5.3.2.1. Recognize when to use operative assistance as necessary for the safe and effective performance of operative procedures

5.3.2.2. Demonstrate understanding of personal technical limitations

5.3.2.3. Direct assistants

5.3.3. Demonstrate effective operative assistance

5.3.3.1. Demonstrate how to provide operative assistance as necessary for the safe and effective performance of operative procedures

5.3.3.2. Take direction from a lead surgeon

5.3.4. Demonstrate the appropriate use of common surgical instruments such as but not limited to needle drivers, retractors, forceps, clamps, electrocautery, scalpel and scissors.

5.3.5. Demonstrate the appropriate choice and use of suture materials

5.3.6. Perform the following surgical skills

5.3.6.1. Incision using sharp and energy-based instruments

5.3.6.2. Knot tying

5.3.6.3. Suturing

5.3.6.4. Appropriate tissue handling during surgical procedures paying attention to the preservation of tissue vitality

5.3.6.5. Blunt and sharp dissection without injury to adjacent structures

5.3.6.6. Vascular control in elective and critical situations

5.3.6.7. Closure of simple wounds

5.3.6.8. Appropriate use of drains

5.3.6.9. Application of appropriate wound dressing

5.3.6.10. Urethral catheter insertion

5.3.6.11. Insertion of a nasogastric tube

5.3.6.12. Tourniquet application

5.3.6.13. Splint for bony injury or soft tissue injury

5.3.6.14. Remove a superficial skin lesion

5.3.6.15. Drain a superficial abscess

5.3.6.16. Biopsy (the specifics of tissue type and anatomic locations can be designated as appropriate to the surgical specialty and will be outlined in that OTR)

5.3.6.17. Secure arterial and venous vascular access in critical and non-critical situations

5.3.7. Demonstrate the ability to perform the following procedures in critical situations:

5.3.7.1. Needle thoracostomy

5.3.7.2. Tube thoracostomy

5.3.7.3. Needle Cricothyroidotomy

5.3.7.4. Cricothyroidotomy or tracheostomy

5.4. Post-procedural skills

5.4.1. Preparation and handling of specimen for presentation to a pathologist

5.4.2. Perform appropriate wound surveillance and dressing care

5.5. Document and disseminate information related to procedures performed and their outcomes including operative reports and other records

5.6. Ensure adequate follow-up is arranged for procedures performed

5.6.1. Plan and discuss appropriate postoperative care and issues with patients and families

5.6.2. Discuss immediate and long-term follow-up issues with family members or medical power-of-attorney as appropriate

5.6.3. Arrange for appropriate postoperative resources

Communicator

Definition:

As *Communicators*, the Surgical Foundations resident will effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1. Identify and explore issues to be addressed in a surgical patient encounter effectively, including but not limited to the patient's context and preferences which include items to be addressed such as age, ethnicity, gender, family, and religious beliefs.

1.2. Recognize that being a good communicator is a core clinical skill for surgeons, and that effective physician-patient communication can foster patient adherence to treatment regimens, improved clinical outcomes, patient satisfaction and physician satisfaction.

1.3. Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy

1.3.1. Encourage discussion, questions, and interaction in the encounter

1.3.2. Engage patients, families, and relevant health care professionals to develop a plan of care using shared decision-making

1.4. Respect patient confidentiality, privacy and autonomy

1.4.1. Demonstrate an understanding of the risk of breaching patient confidentiality as a result of new technologies such as telehealth, internet or digital storage and transmission devices

1.5. Listen effectively

1.6. Be aware of and responsive to nonverbal cues

1.7. Facilitate a structured clinical encounter effectively

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1. Gather information about a disease and about a patient's beliefs, concerns, expectations and illness experience

2.2. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Convey relevant information and explanations accurately to patients and families, colleagues and other professionals

3.1. Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

3.2. Plan and discuss appropriate perioperative care and issues with patients and families preoperatively

3.3. Perform informed discharge as it relates to the procedures being done

3.4. Discuss follow-up issues with family members or medical power-of-attorney as appropriate

3.5. Educate the patient and family concerning alternatives for surgical and non-surgical care

3.6. Demonstrate an awareness of effective communication using newer technologies

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1. Respect diversity and difference on decision-making, including but not limited to the impact of:

4.1.1. Gender

4.1.2. Religion

4.1.3. Cultural beliefs

4.1.4. Age

4.1.5. Sexual orientation

4.1.6. Socioeconomic status

4.2. Address challenging communication issues effectively, including:

4.2.1. Obtaining informed consent

4.2.2. Delivering bad news

4.2.3. Disclosing adverse events

4.2.4. Discussing end-of-life care

4.2.5. Discussing organ donation

4.2.6. Addressing anger, confusion and misunderstanding

4.2.7. Language barriers

4.2.8. Cultural differences

5. Convey effective oral and written information about a medical encounter

5.1. Maintain clear, concise, accurate and appropriate records (e.g., written or electronic) of clinical encounters and plans

5.2. Present verbal reports of clinical encounters and plans

Collaborator

Definition:

As *Collaborators*, the Surgical Foundations resident will effectively work within a health care team to achieve optimal patient care.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Participate effectively and appropriately in an interprofessional and interdisciplinary health care team

1.1. Describe the surgeon's roles and responsibilities to other professionals

1.1.1. Describe the elements of a good consultation

1.1.2. Recognize one's own limitations and when help is needed from others

1.2. Describe the roles and responsibilities of other professionals within the health care team

1.3. Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own

1.4. Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)

1.4.1. Arrange for the appropriate postoperative resources to be available

1.4.2. Arrange for appropriate postoperative allied health care assistance as necessary

1.5. Work with others to assess, plan, provide and review other tasks, such as research problems, educational work, educational program review or administrative responsibilities

1.6. Participate effectively in interprofessional team meetings

1.7. Enter into interdependent relationships with other professions for the provision of quality care

1.8. Describe the principles of team dynamics in the operative and non-operative environments

1.9. Respect team ethics, including confidentiality, resource allocation and professionalism

1.10. Demonstrate leadership in a health care team, as appropriate

1.11. Describe the use of a pre-operative team checklist and how it improves patient safety

2. Work with other health professionals effectively to prevent, negotiate, and resolve conflict

2.1. Demonstrate a respectful attitude towards other colleagues and members of a team

2.2. Work with other professionals to prevent conflicts

2.3. Employ collaborative negotiation to resolve conflicts

2.4. Respect differences and address misunderstandings and limitations in other professionals

2.5. Recognize one's own differences, misunderstandings and limitations that may contribute to interprofessional tension

Manager

Definition:

As *Managers*, Surgical Foundations residents will take part in health care organizations, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Demonstrate an understanding of the influences that affect the workings of the health care system at various levels, including an understanding of:

1.1. The Canada Health Act

1.2. Pertinent provincial and federal health legislation

1.3. Provincial regulatory bodies

1.4. Hospital governance

1.5. Operating room governance

1.6. Worker's Compensation organizations

1.7. The role of the Coroner's Office/Medical Examiners

1.8. Public Health as it relates to mandatory reporting of disease

2. Participate in activities that contribute to the effectiveness of their health care organizations and systems

2.1. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives

2.2. Describe the structure and function of the health care system as it relates to their surgical practice, including the roles of physicians

2.3. Describe principles of health care financing

3. **Manage their practice and career effectively**

3.1. Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life

3.2. Employ information technology appropriately for patient care

3.3. Demonstrate an understanding of the introduction of new technologies and the need for:

3.3.1. Health technology assessment

3.3.2. Education

3.3.3. Credentialing

4. Allocate finite health care resources appropriately

4.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access with optimal patient care

Health Advocate

Definition:

As *Health Advocates*, the Surgical Foundations resident will responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Respond to individual patient health needs and issues as part of patient care

1.1. Identify the health needs of an individual patient

1.2. Recognize opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care, such as identifying:

1.2.1. Child abuse

1.2.2. Elder abuse

1.2.3. Domestic violence

1.2.4. Smoking cessation

1.2.5. Substance abuse

1.2.6. Patient behaviours that place them at risk for injury or disease

1.2.7. Disadvantaged populations

1.3. Recognize the importance of organ transplantation

1.3.1. Identification of potential donors

1.4. Identify opportunities to advocate for appropriate screening

2. Describe and respond to the health needs of the communities that they serve

2.1. Demonstrate an understanding of how they may affect surgical disease prevalence

3. Promote the health of individual patients, communities, and populations

3.1. Describe an approach to implementing a change in a determinant of health of the populations they serve

3.2. Describe how public policy impacts on the health of the populations served

3.3. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism

3.4. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper

3.5. Describe the role of the medical profession in advocating collectively for health and patient safety

4. Promote and participate in patient safety

4.1. Describe ways to prevent injury

4.1.1. Appropriate safety equipment for work and leisure pursuits

4.1.2. Error prevention system in operating room

Scholar

Definition:

As *Scholars*, the Surgical Foundations resident will demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Key and Enabling Competencies: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Maintain and enhance professional activities through ongoing learning

- 1.1. Describe the principles of lifelong learning
- 1.2. Describe the principles and strategies for implementing a personal knowledge management system
- 1.3. Pose an appropriate learning question
- 1.4. Access and interpret the relevant evidence including appropriate literature search
- 1.5. Integrate new learning into practice
- 1.6. Evaluate the impact of any change in practice
- 1.7. Document the learning process using methods such as:
  - 1.7.1. Surgical logs
  - 1.7.2. Learning portfolios

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

- 2.1. Describe the principles of critical appraisal including statistics and epidemiology
- 2.2. Critically appraise retrieved evidence in order to address a clinical question
- 2.3. Discuss ways to integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others

- 3.1. Describe principles of learning relevant to medical education
  - 3.1.1. Develop the skills to educate medical students
- 3.2. Identify collaboratively the learning needs and desired learning outcomes of others
- 3.3. Select effective teaching strategies and content to facilitate others' learning
- 3.4. Demonstrate an effective lecture or presentation
- 3.5. Assess and reflect on a teaching encounter

3.6. Provide effective feedback

3.7. Describe the principles of ethics with respect to teaching

4. **Demonstrate an understanding of the principles of dissemination of new knowledge**

4.1. Demonstrate appropriate presentation skills including formal, informal and written presentations

5. **Demonstrate an understanding of the use of information technology to enhance surgical practice, including:**

5.1. Computers

5.2. Presentation software

5.3. Personal digital assistant (PDAs)

5.4. Simulation and other technologies

Professional

Definition:

As *Professionals*, the Surgical Foundations residents 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: by the end of Surgical Foundations training, the Surgical Foundations resident is able to…

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism

1.1.1. Demonstrate the ability to be objective in treating patients regardless of their socioeconomic status or other factors

1.2. Demonstrate and maintain a commitment to delivering the highest quality care

1.3. Recognize and appropriately respond to ethical issues encountered in practice

1.4. Manage conflicts of interest

1.4.1. Demonstrate an awareness of the influence of industry on practice and training

1.5. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law

1.6. Maintain appropriate relations with patients

1.7. Recognize the duality of being a learner as well as a practitioner

1.7.1. Demonstrate an understanding of the role of appropriate supervision

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice

2.2. Fulfill the regulatory and legal obligations required of current practice

2.3. Demonstrate accountability to professional regulatory bodies

2.4. Recognize and respond to others' unprofessional behaviours in practice

2.5. Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice

3.2. Strive to heighten personal and professional awareness and insight

3.3. Recognize other professionals in need and respond appropriately

3.4. Demonstrate an awareness of the risks associated with the high stress environments in which surgeons work

3.5. Demonstrate an understanding of occupational risks and their management

3.6. Promote a healthy lifestyle and demonstrate awareness of personal at risk behaviours

3.6.1. Substance abuse

3.6.2. Exposure to infection

3.6.3. Sleep deprivation

3.7. Demonstrate an understanding of techniques for stress reduction

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