

Goals and Objectives Plastic Surgery Residents – Off Service Rotations McMaster University

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1. Introduction

The following comprises the goals and objectives for various rotations taken by Plastic Surgery residents. These goals and objectives are described using the CanMEDS format.

1.1 CanMEDS Format - Essential Roles and Key Competencies of Specialist Physicians

Medical Expert

- 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

Communicator

- Establish therapeutic relationship with patients/families
- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- Discuss appropriate information with patients/families and the health care team
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in rounds and seminars

Collaborator

- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Allocate finite health care resources wisely
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning

Health Advocate

- 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
- Advocates on behalf of the patient

Scholar

- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

2. Goals and Objectives for the Plastic Surgery Resident on the Oral and Maxillofacial Rotation

General

- Understand the anatomy, physiology and pathophysiology of the jaws and oral cavity.
- Demonstrate the ability to surgically manage these areas when warranted.

Medical Expert / Clinical Decision Maker

Knowledge: Basic Science and Anatomy:

1. Describe and understand the anatomy of the facial skeleton and the associated soft tissue structures.
2. Understand the anatomic changes that occur with growth and development.
3. Understand and be able to evaluate the harmonious arrangement of the jaws, teeth with respect to the facial appearance.
4. Understand the principles of bone healing and how they are clinically applied.

Knowledge: General Clinical

1. Be able to evaluate a new patient with thorough history and physical as well as ordering appropriate tests such as plain radiographs, panorex, cephalograms, CT/MRI and biopsies.
2. Formulate a diagnostic work-up and treatment plan including collaboration with appropriate colleges such as dentists, orthodontists, head and neck surgeons and otolaryngologists.

Knowledge: Specific Clinical

1. Principles of managing trauma to the facial skeleton including:
 - Airway
 - Bleeding
 - Safe surgical approaches to the facial skeleton
 - Mandibular fractures with the application of arch bars and open or closed reduction with internal/external fixation as required
 - Simple dentoalveolar fractures
2. Do an appropriate evaluation and treatment plan for patients requiring orthognathic surgery including the appropriate collaboration with dentists, orthodontists and oral surgeons. Carry out the appropriate LeFort and mandibular osteotomies and genioplasty as required.
3. Carry out appropriate physiotherapy for patients following mandibular injuries or pathology.
4. Describe the characteristics, diagnosis and therapy of benign and malignant jaw tumours including but not limited to:
 - Benign non-odontogenic tumours
 - Fibrous dysplasia

- Osteblastoma
 - Chondroma
 - Osteoma
 - Tori and exostosis
 - Coronoid/condylar hyperplasia
 - Inflammatory Jaw lesions
 - Acute and chronic osteomyelitis
 - Malignant non-odontogenic tumours
 - Osteosarcoma
 - Chondrosarcoma
 - Ewings' sarcoma
 - Metastatic carcinoma
 - Metabolic and genetic jaw diseases
 - Paget's disease
 - Hyperparathyroidism
 - Acromegaly
 - Cherubism
 - Odontogenic tumours
 - Ameloblastoma
 - Odotoma
 - Dentigerous cyst
 - Keratocyst
5. Understand distraction osteogenesis with regards to biological principles and be able to apply it appropriately to the patient population.

Knowledge: Technical Skills:

1. Application of arch bars, ivy loops and MMF.
2. Treat mandibular fractures appropriately with open or closed reduction and internal or external fixation.
3. Perform LeFort and mandibular osteotomies and genioplasties.
4. Carry out distraction osteogenesis with appropriate osteotomies and application of the distracter.
5. Simple extraction of teeth.
6. Carry out alveolar bone grafting.
7. Taking of dental impressions, pouring and mounting of models, carrying out model surgery and manufacturing of dental splints.

Communicator

- Develop therapeutic relationships with patients and their families through effective listening and dissemination of information
- Be able to identify specific concerns of the patient/families, in particular relating to orthognathic surgery so the goals of surgery are clearly identified.
- Discuss information appropriately with patients/families and other members of the health care team

- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form

Collaborator

- Consult and interact effectively with other health care professionals, in particular dentists and orthodontists
- In addition, interact with other services in management of patients (intensivists, anesthesia, general surgery/ENT re airway)
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Be able to manage the diagnosis and treatment of maxillofacial problems in a sound manner with respect to the utilization of health care resources.
- Coordinate multiple services for the management when required (eg ENT for tracheostomy etc)
- Work effectively and efficiently in a health care organization
- Utilize information technology to optimize patient care

Health Advocate

- Familiarity with important determinates of health affecting patients undergoing anesthesia (e.g. smoking, obesity, drug or alcohol dependence, cervical disc problems, family history anesthetic problems) and addresses preventative measures
- Attentive to issues of public policy for health
- Advocates on behalf of patients

Scholar

- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Acts as effective teacher for medical students, and other health care professionals
- Develops knowledge from current literature/journals
- Understands principles of basic and clinical research including design and conduct of clinical trials and critical appraisal of scientific literature
- Takes an evidence-based approach to management problems
- Accepts and acts on constructive feedback

Professional

- Deliver health care to patients in an honest, ethical and professional manner.
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

3. Goals and Objectives for the Plastic Surgery Resident on the Aesthetic Surgery Rotation

Exposure to aesthetic surgery is important in the application of its principles and techniques to general restoration and reconstruction even if aesthetic surgery is not to be a part of the resident's future practice.

Medical Expert / Clinical Decision Maker

Knowledge: Basic Science and Anatomy:

1. The anatomy, embryology and physiology of:
 - Integumentary system including the breast.
 - Extravisceral soft tissue including the subcutis, fascia, muscle, bone and cartilage
2. Basic science as it relates to biomaterials and alloplastic tissue substitutes
3. Understand the effects of sun-damage, nicotine and environmental factors on the normal aging process as well as the anatomic changes that accompany the normal aging process.

Knowledge: General Clinical:

1. Be able to evaluate the aesthetic surgery patient with a proper history and physical as well as obtaining appropriate tests and referrals depending on the patient's needs.
2. Appropriate documentation including photographs when required for treatment planning.
3. Formulating an appropriate treatment plan based on realistic patient goals.

Knowledge: Specific Clinical

1. The influences on patient perception of normalcy including:
 - Ethnicity
 - Age
 - Peer pressure
 - Psychosocial circumstances
2. Methods of skin restoration including:
 - Laser treatment
 - Use of retinoids
 - Dermabrasion
 - Chemical peels

3. Methods of ablating facial crease lines including:
 - Augmentation techniques such as collagen and hyaluronic acid injections and fat grafting
 - Surgical excision of muscle/ nerve
 - Use of Botox™

4. Methods of re-contouring facial features by
 - Augmentation with autogenous tissues including fat, dermis, fascia, cartilage and bone
 - Augmentation with alloplastic materials
 - Surgical redistribution of skin and subcutis, and platysma
 - Direct excision of excess skin and subcutis, cartilage and bone
 - Reposition and suspension of deeper structures
 - SAL

5. Methods of rhinoplasty including open and closed techniques including:
 - Septoplasty
 - Cartilage, bone, soft tissue grafts
 - Osteotomies
 - Suture techniques

6. Breast reduction, mastopexy and augmentation

7. Panniculectomy, abdominoplasty and recontouring upper and lower limbs

8. Understanding of the various methods of surgical weight loss and associated health implications.

9. Specific body contouring needs of patients after massive weight loss

10. Liposuction techniques

11. Non-surgical or medical modalities to improve appearance

Knowledge: Technical Skills:

There is no expectation that residents will have independently performed each of the common aesthetic procedures. The expectation is that residents will gain experience by performing most parts of all common aesthetic procedures in a segmental and sequential fashion under appropriate supervision. By acting as first assist for complete procedures

and participating in post-surgical care residents should be competent to establish their own aesthetic practices.

Communicator

- Develop therapeutic relationships with patients through effective listening and dissemination of information
- Be able to identify specific concerns of the patient relating to aesthetic surgery so the goals of surgery are clearly identified
- Discuss appropriate information with patients/families and the health care team
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form

Collaborator

- Consult and interact effectively with other health care professionals making appropriate referrals as part of the treatment planning process
- Works in cooperation and with respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers
- Understand the role that various other health professionals have in the “cosmetic” industry

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Be able to manage the diagnosis and treatment of aesthetic problems in a sound manner with respect to the utilization of health care resources
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning
- Develop an understanding of the various costs and required resources associated with running an aesthetic practice

Health Advocate

- Awareness of the health and preventive measures related to various disease processes.
- Advocate on behalf of the patient for coverage of surgical procedures that may have significant physiological or psychological impact on them.

Scholar

- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

4. Goals and Objectives for the Plastic Surgery Resident on a Head and Neck Rotation (SJHH)

Medical Expert/Clinical Decision Maker

Knowledge-Anatomy:

Know the anatomy and surgical approach to:

1. **Trachea and tracheostomy - Essential**
2. Anterior and posterior cervical triangles and their contents
3. Major salivary glands (Parotid, Sublingual, Submandibular)
4. The inferior parathyroid glands
5. The superior parathyroid glands
6. Thyroid gland/A retrosternal goiter

Knowledge-General and Specific Clinical Problems:

Be able to demonstrate diagnostic and therapeutic skills in the following topics:

1. Thyroid
 - **normal physiology, benign and malignant conditions - ESSENTIAL**
 - solitary thyroid nodule, multinodular thyroid gland, Thyrotoxicosis, Thyroid "storm", Grave's disease/Hashimoto's disease
 - a decreased sensitive thyroid stimulating hormone (TSH) level
2. Parathyroid
 - **normal physiology, benign and malignant conditions - ESSENTIAL**
 - primary, secondary and tertiary hyperparathyroidism
 - be aware of the preoperative preparation/management of hypercalcemic crisis
3. **Benign and Malignant Conditions of the Lymphatic System of the Head and Neck Region - ESSENTIAL**
4. Benign and Malignant Conditions of the Nasal, Oral and Hypopharynx - DESIRABLE
5. Laryngeal Pathology - AWARENESS
6. Salivary Gland - normal physiology, benign and malignant conditions - DESIRABLE
 - Major: parotid, submandibular, sublingual
 - Minor glands
7. Understand the significant issues in the management of anesthesia in endocrine surgery, including airway management during neck surgery

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 patients including 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:

1. **Tracheostomy - ESSENTIAL**
2. **Thyroidectomy - ESSENTIAL**
3. **Parathyroid Exploration - ESSENTIAL**
4. **Limited lymph node dissection - ESSENTIAL**
5. Various modified and radical lymph node dissections - DESIRABLE
6. Laryngectomy - AWARENESS
7. Radical and ablative surgery of Head and Neck - AWARENESS
8. 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 from patients and their families discussing the risk/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
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Effectively manage most aspects of patient care within the Emergency department, ward and operating room to insure effective and streamlined care
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Allocate finite health care resources wisely
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning

Health Advocate

- Familiarity with important determinates of health affecting patients undergoing anesthesia (e.g. smoking, obesity, drug or alcohol dependence, cervical disc problems, family history anesthetic problems) and addresses preventative measures
- Identify risk factors for head and neck disease and counsel patients on these risk factors
- Attentive to issues of public policy for health

- Advocates on behalf of patients

Scholar

- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Acts as effective teacher for medical students, and other health care professionals
- Develops knowledge from current literature/journals
- Understands principles of basic and clinical research including design and conduct of clinical trials and critical appraisal of scientific literature
- Takes an evidence-based approach to management problems
- Accepts and acts on constructive feedback
- 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

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

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5. Emergency Medicine Rotation Objectives for Plastic Residents

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

- myocardial infarction
- pulmonary edema
- otitis media
- bronchitis
- eye emergencies
- pharyngitis
- pneumonia
- acute abdominal pathologies
- orthopaedic emergencies
- major and minor soft tissue injuries.

Knowledge: Technical

- Management of outpatient wounds, drainage of abscess, and procedures related to treatment of traumatic injuries including suturing.

Communicator

- Establish therapeutic relationship with patients/families
- 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 of the disease processes as well as communicate the need for specialist referral when necessary.
- The resident will communicate 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

- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- The resident should demonstrate an ability to manage medical problems in the Emergency Department in an algorithmic fashion.
- They should be able to triage patients appropriately and provide timely management within the standard of care while doing so in a cost-effective manner
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning

Health Advocate

- Residents should participate in the counseling of patients in modifying of lifestyle issues to avoid or modify diseases. (alcohol abuse, smoking, motor vehicle safety, diabetes, COPD etc)
- Contribute effectively to improved health of patients and communities
- Recognize and respond to those issues where advocacy is appropriate
- Advocates on behalf of the patient

Scholar

- The resident should actively read around patients seen in the Emergency department especially surgically oriented problems
- Recognizes gaps in knowledge and develops strategies to correct these
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations

- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

6. Objectives for Plastic Surgery Residents on ICU Rotation

Medical Expert/Clinical Decision-Maker

Knowledge: Basic Science and Anatomy:

1. The resident will have an advanced knowledge of cardiorespiratory physiology and anatomy pertinent to critical care.
2. The resident will understand renal physiology to assist in the management of fluid and electrolytes.

Knowledge: General Clinical:

1. The resident will learn the differences in history and physical examination in critically ill patients.
2. 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

Multiple System Failure

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

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
- issues surrounding organ donation

Knowledge: Technical

- 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
- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- The resident will develop skills to communicate with a patient on a ventilator.
- Establish therapeutic relationship with patients/families
- The resident will be an important communicator to the families of these critically ill patients
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in organizes rounds and seminars

Collaborator

- The resident, will collaborate and coordinator care of the intensive care unit patient.
- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- The resident will participate in bed management issues and enable efficient care of the critically ill patient by using resources/investigations appropriately
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning

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
- Understand the role of the health professional in organ donation
- Recognize and respond to those issues where advocacy is appropriate

Scholar

- The resident is expected to read around the cases that he or she sees in the ICU
- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

7. Vascular Surgery Rotation Objectives for Plastic Surgery Residents

Introduction

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

- 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

- Etiology, assessment and management of common venous disorders, including varicose veins, post phlebitic syndrome and leg ulcerations.
- The place of non-invasive venous investigations, including hand held Doppler.
- The indications for, and an understanding of venous reconstruction.
- Understanding of the prevention, risk factors, diagnosis and treatment of deep vein thrombosis and coagulation.

Lower Limb Arterial and claudication

- An appreciation of the various modalities of treatment, including exercise, pharmacological manipulation, and endoluminal techniques
- Assessment of patients with critical limb ischemia
- Understanding the role of arteriography in lower limb vascular disease
- An understanding of duplex graft surveillance.
- An understanding of graft technology and composition.

Acute Ischemia

- Clinical assessment of the ischemic leg and angiography.
- Indications for thrombolysis and involvement in the cases.
- Understanding when and how to carry out fasciotomies.
- An assessment of possible need for urgent intervention

The Diabetic Foot

- An appreciation of the role of revascularization of the diabetic limb.

Communicator

- Establish therapeutic relationship with patients/families
- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- Discuss appropriate information with patients/families and the health care team
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in rounds and seminars

Collaborator

- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Allocate finite health care resources wisely
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning

Health Advocate

- 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
- Advocates on behalf of the patient

Scholar

- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

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.

8. Pediatric Surgery Rotation Objectives For Plastic Surgery Residents

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

- Define the principles of investigation and management of infants and children requiring surgical treatment.
- Gain practical experience in the assessment, management, and indications for surgical treatment of common pediatric conditions.
- Learn to perform certain pediatric surgical procedures.
- 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 full term 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 anesthetic 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.

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
- Establish therapeutic relationship with patients/families
- Obtain and synthesize relevant history from patients/families/communities
- Convey pertinent information from the history and physical examination in different circumstances (over the phone, during ward rounds and conferences)
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form

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 i.e. directly talk to the orthopedic surgeons or plastic surgeons

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- 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)
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Health Advocate

- Be aware of the life-long significance of surgical management decisions in children and their impact on quality of life
- Recognize and respond to those issues where advocacy is appropriate (especially

when issues of child abuse/neglect may be evident)

Scholar

- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals
- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

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

9. Orthopedic Rotation Objectives for Plastic Surgery Residents

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
- Histology of normal bone
- Healing of bone primary and callus
- Knowledge of common plating systems
- Healing of bone with plating systems

Knowledge: General clinical

- Develop an understanding of the principles of fracture healing and how orthopedic interventions can affect fracture healing
- Understand the principles of soft tissue management as it relates to musculoskeletal injury
- Develop skills in the assessment of the axial skeleton in trauma and non-trauma pain
- To develop an approach to the assessment of a musculoskeletal injury
- Knowledge of common exposures in the upper extremity
- Knowledge of wrist anatomy and common wrist problems
- Knowledge of bone grafts
- Knowledge of osteomyelitis
- Knowledge of common disorders of bones and joints

Knowledge: Specific Clinical Problems

- Learn the assessment and treatment of orthopedic emergencies such as compound wounds
- Surgical management of the multiply traumatized patient
- **Neurovascular injury with fractures/dislocations**
- Common upper extremity elbow/shoulder/wrist pathology
- **Compartment Syndrome**
- 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
- Infection / osteomyelitis
- Delayed and Mal-Union
- Non-union
- Soft tissue defects

Knowledge: Technical

- Ability to perform a closed reduction and apply cast
- Ability to perform an ORIF in a long bone, wrist and hand and apply appropriate plate and screws
- External Skeletal fixation
- Amputations
- Ability to perform exposure in the upper extremity
- Perform a carpal tunnel release
- Ability to take a bone graft
- Ability to treat a patient with osteomyelitis

Communicator

- The resident is to communicate with the orthopedic residents, staff and emergency physicians in a collegial manner
- Establish therapeutic relationship with patients/families
- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- Discuss appropriate information with patients/families and the health care team
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in rounds and seminars

Collaborator

- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Allocate finite health care resources wisely
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning
- Timely assessment and discharge of patients

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

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

10. Internal Medicine Rotation Objectives for Plastic Surgery Residents

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, hirsutism, 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
- Establish therapeutic relationship with patients/families
- Obtain and synthesize relevant history from patients/families/communities
- Listens effectively
- Discuss appropriate information with patients/families and the health care team
- Dictates/writes clear consultation letters, progress notes, and discharge summaries
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in rounds and seminars

Collaborator

- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers
-

Leader

- Contribute to the improvement of health care delivery in teams, organizations, and systems
- Utilize resources effectively to balance patient care, learning needs, outside activities
- Allocate finite health care resources wisely
- Work effectively and efficiently in a health care organization
- Manages team, delegates tasks and graded responsibility effectively
- Utilize information technology to optimize patient care and life-long learning
- Ability to plan efficiently for discharge using adequate communication with primary physicians and consultants about follow-up

Health Advocate

- Familiarity with important determinates of health affecting internal medicine patients e.g. smoking, alcohol, nutrition, correct medication administration, exercise) and addresses preventative measures
- Attentive to issues of public policy for health
- Advocates on behalf of patients

Scholar

- Uses evidence based medicine
- Develop, implement and monitor a personal continuing education strategy
- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Critically appraise sources of medical information
- Facilitate learning of patients, housestaff/students and other health professionals

- Contribute to development of new knowledge
- Accepts and acts on constructive feedback

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

11. General Surgery Rotation Goals and Objectives for Plastic Surgery Residents

Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy

- Be able to apply basic science and anatomy knowledge to clinical problems.
- Describe the anatomy of the breast.
- Explain the hormonal regulation of the breast.
- Summarize the physiologic changes associated with pregnancy, including breast problems peculiar to pregnancy.

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.
- Actively participate in pre, intra and post-operative decision- making.
- Pre-operative assessment should include risk factors for general anesthetic 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.
- Postoperative 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

Acute abdomen (all aspects of diagnosis and treatment)

- Differentiation of surgical from non-surgical abdominal pain

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

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

Breast – Must Know

1. Take an appropriate history to evaluate breast patients to include:
 - Pertinent risk factors
 - Previous history of breast problems
 - Current breast symptoms
2. 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 breast mass.
4. Discuss the role of mammography (the general indications, uses and imitations), needle aspiration, fine-needle biopsy, open biopsy and mammographic needle localization and biopsy.
5. Summarize the incidence, epidemiology and risk factors associated with breast cancer.
6. Distinguish between these common entities in the differential diagnosis of breast masses:
 - Fibroadenomas
 - Fibrocystic disease
 - Cysts
 - Fat necrosis
 - Abscesses
 - Cancer
7. Discuss the principles for the treatment of breast cancer such as:
 - Radical mastectomy
 - Modified mastectomy
 - Lumpectomy and axillary dissection
8. Outline the genetic and environmental factors associated with carcinoma of the breast.
9. Describe the following pathological types of breast cancer, including the biology, natural history and prognosis of each:
 - Infiltrating ductal carcinoma
 - Ductal carcinoma in situ
 - Infiltrating lobular carcinoma
 - Lobular carcinoma in situ
 - Nonepithelial breast tumours
10. Describe the presentation, natural history, pathology and treatment of the following benign breast diseases:
 - Lactational breast abscess
 - Chronic recurring subareolar abscess
 - Intraductal papilloma
 - Atypical epithelial hyperplasia

- Fibroadenoma

11. Interpret signs suspicious for malignancy on mammogram such as stellate masses or suspicious microcalcifications.
12. Outline the diagnostic work up and the differential diagnosis of various forms of nipple discharge.
13. Demonstrate the ability to satisfactorily orient the surgical specimen for pathologic examination.
14. Determine the indications and special requirements for tissue processing form estrogen and progesterone receptors.
15. Explain the use of tumor, nodes and metastases (TNM) staging in the treatment of breast cancer.

Endocrine system

- Adrenal gland
- Endocrine pancreas

Skin and soft tissue

- Neoplasia
 - Benign tumours-Wart, Keratosis, Keloid, Vascular tumours, Fat tumours, Neural tumours, pigmented lesions
 - Malignant tumours-Malignant melanoma, Basal cell carcinoma, Squamous cell carcinoma
 - Kaposi's sarcoma
- Infection -recognition and treatment of necrotizing fasciitis

Hernias of the abdominal wall and diaphragm

- Inguinal
- Ventral

Trauma of the torso

- Initial stabilization and management
- Definitive management

Knowledge: Technical

- Inserting central lines
- Inserting chest tubes
- Incision and drainage of uncomplicated subcutaneous abscesses
- Development of surgical skills as it relates to surgery including:
 - Making of incisions
 - Suturing and tying of sutures (hand/instrument)
 - Soft tissue dissection and proper tissue handling
 - hemostasis

Communicator

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

1. Patients' 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 Specialties
 - Medical students
 - Nurses
 - Occupational therapists/Physiotherapists
 - Other Health care professionals

Collaborator

- Be willing to participate in interdisciplinary teams, considering and respecting the opinions of other team members and contributing expertise 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

Leader

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

- Understand how the General Surgeon functions within the confines of the structure, financing and operation of the Canadian health system
- 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
- Understand how the General Surgeon makes sound clinical decisions based on evidence for the benefit to the individual patient and larger populations
- 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:
- 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.
- Identify her/his own deficits in knowledge and 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
- Demonstrate an understanding of the concepts of adult learning (in addition to the application) with respect to herself/himself and others
- Demonstrate an understanding of preferred learning methods in working with colleagues, residents, medical and nursing students and other health professionals

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

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12. Objectives for Plastic Surgery Residents on Anesthesia Rotation

Medical Expert

Clinical Ability:

- Basic pre-operative assessment including airway, respiratory and cardiovascular examination.
- Basic routine machine and equipment check, including preparation of routine medications.
- Produce a basic anesthetic plan appropriate for the ASA 1-2 patient.
- Have an understanding of fluid/blood product requirements for routine surgeries.
- Be able to identify normal parameters for routine intra-operative monitors, give an indication of abnormal values and when to intervene.
- Identify basic intra-operative problems (hypotension, hypertension, hypoxemia, bradycardia, tachycardia, raised inflation pressure, laryngospasm) produce a basic differential diagnosis and treatment plan.

Knowledge Base:

- Indicate a basic knowledge of action of and contraindications to routine anesthesia medications including induction agents and muscle relaxants.
- Understand the interactions of the above medications with other therapeutic agents and routine medical problems.
- Demonstrate a basic knowledge of current ACLS guidelines and medications.
- Understand the function and application of CAS routine monitors.

Technical Skills:

- Demonstrate the ability to effectively bag/mask ventilate, intubate patients possessing normal airways, and place a laryngeal mask airway with success in the majority of elective cases.
- Demonstrate ability at obtaining intravenous access in adult patients.
- Begin to obtain experience at neuraxial blockade with faculty assistance.

Communicator

- Present basic anesthetic concerns and pre-operative assessment in an organized fashion.
- Obtain a basic understanding of anesthesia charting and consultation.

Collaborator

- Demonstrate the ability to work together with all members of the health care team
- Exhibit professional and interpersonal behavior with patients and staff.

Leader

- Begin to obtain an understanding of OR and Obstetric anesthesia resource management.
- Begin to develop skill at identifying, prioritizing and managing urgent and emergent situations.

Health Advocate

- Identify health issues in patient management which will improve their preoperative care.
- Gain an initial understanding of the standards for anesthesia management with respect to the CAS guidelines.

Scholar

- Begin an appreciation for the requirement to continuing personal education.
- Understand the basics of critical appraisal as they pertain to anesthesia practice.
- Take part in the education of junior learners with regards to anesthesia knowledge and skills.

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

13. Dermatology Rotation Objectives for Plastic Surgery Residents

Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy

- histology of tissues, skin, bone, nerve, cartilage, muscle, blood vessels etc.

Knowledge: General Clinical

- benign pigmented lesions
- common benign skin and soft tissue tumours
- malignant lesions of the skin, BCC, SCC and melanoma
- inflammatory conditions of skin of vascular lesions
- process of aging of skin
- effects of sun exposure and radiation exposure on the skin

Knowledge: Technical

- ability to perform simple biopsies
- simple excision of skin lesions

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 of the disease processes
- The resident will communicate 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 with nurses, family doctors as well as other consultants.

Leader

- Efficient and effective management of health care resources will be demonstrated
- Timely assessment patients
- Effectively manages multiple takes and demands on time (i.e. follows up on reports, prioritizes tasks appropriately)

Health Advocate

- Residents should participate in the counseling of patients in modifying of lifestyle issues to avoid or modify diseases. (sun protection, cutaneous surveillance)
- Advocates on behalf of the patient

Scholar

- The resident should actively read around patients seen in the clinic
- Recognizes gaps in knowledge and develops strategies to correct these
- Understand the basics of critical appraisal as they pertain to dermatology
- Take part in the education of junior learners with regards to dermatology knowledge and skills.

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

14. Otolaryngology Rotation Objectives for Plastic Surgery Residents

Medical Expert/Clinical Decision Maker

Knowledge: Basic Science and Anatomy

- Embryology, anatomy, histology, physiology, pharmacology, pathology, pathophysiology, microbiology, biochemistry, genetics and immunology of the ear, nose, paranasal sinuses and upper aerodigestive tract and adnexa and related neurological and cervicofacial structures.

Knowledge: General Clinical

- Principles of oncology as they apply to head and neck
- Trauma management as it relates to head and neck
- Understanding therapeutic and diagnostic radiology and their application within the specialty including the interpretation of imaging techniques relevant to the head and neck.

Knowledge: Technical

- Laser therapy, cryotherapy, and electro surgery and their applications
- Principles and techniques used in evaluation and treatment of speech, hearing, voice and swallowing disorders
- Nasal surgery, airflow, septoplasty, rhinoplasty
- Cosmetic surgery in the head and neck

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 of the disease processes
- The resident will communicate via written and oral forms to present information to consultants, nurses as well as family physicians.

Collaborator

- Consult effectively with other physicians and health care professionals
- Contribute effectively to interdisciplinary team activities
- Works with cooperation and respect with nurses, therapists and other members of health care team
- Maintains professional relationships with other health care providers

Leader

- Efficient and effective management of health care resources will be demonstrated
- Timely assessment patients
- Effectively manages multiple tasks and demands on time (i.e. follows up on

reports, prioritizes tasks appropriately)

Health Advocate

- Residents should participate in the counseling of patients in modifying of lifestyle issues to avoid or modify diseases. (sun protection, cutaneous surveillance, smoking, alcohol)
- Advocates on behalf of the patient

Scholar

- The resident should actively read around patients seen in the clinic
- Recognizes gaps in knowledge and develops strategies to correct these
- Understand the basics of critical appraisal as they pertain to dermatology
- Take part in the education of junior learners with regards to dermatology knowledge and skills.

Professional

- Deliver the highest quality care with integrity, honesty and compassion
- Practice medicine ethically consistent with obligations of a physician
- Exhibit appropriate personal and interpersonal professional behaviors
- Value the critical need of ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the surgery
- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socio-economic status

15. Diagnostic Imaging Rotation Objectives for Plastic Surgery Residents

Medical Expert/Clinical Decision Maker

Knowledge

- Thorough performance of a medical history and physical exam pertinent to the assessment of a diagnostic imaging patient as required prior to investigation or invasive procedure(s)
- Knowledge of the indications and contraindication for basic and advanced imaging procedures as they relate to the head and neck and upper extremity including ultrasound, CT, MR, nuclear medicine and PET scans
- Detailed knowledge of cross-sectional anatomy of the head and neck
- Detailed knowledge of cross-sectional anatomy of the upper extremity
- Detailed knowledge of the arterial and venous anatomy of the head and neck
- Knowledge of the indications and contraindication for basics and advanced imaging procedures as they relate to the upper extremity
- Detailed knowledge of the arterial and nervous anatomy of the upper extremity

Procedures

- Interpretation for normal and abnormal CT, MR and ultrasound images
- Carry out an ultrasound exam of the hand

COMMUNICATOR

- Obtains & synthesizes relevant history from patient and family
- Dictates/writes clear consultation letters, progress notes, and procedure notes
- Establish effective therapeutic relationships with patients/families
- Able to explain procedures/treatments, options for treatment, complications and morbidity to patients and families in a clear and understandable form
- Prepares, participates, presents effectively in organized rounds and seminars

COLLABORATOR

- Works with cooperation and respect with nurses, therapists and other members of health care team
- Consults and works effectively with other medical specialists
- Maintains professional relationships with other health care providers

LEADER

- Effectively manages multiple tasks & demands on time (i.e., follows up on reports, prioritizes tasks appropriately)
- Manages team, delegates tasks and graded responsibility effectively
- Utilizes health care resources safely, effectively
- Utilizes information technology effectively
- Works effectively in a health care organization

HEALTH ADVOCATE

- Familiarity with important determinates of health affecting patients diagnostic services (renal disease, allergy) and addresses preventative measures
- Attentive to issues of public policy for health
- Advocates on behalf of patients

SCHOLAR

- Recognizes gaps in knowledge and develops strategies to correct these
- Reads and prepares for scheduled clinical procedures
- Acts as effective teacher for medical students, and other health care professionals
- Develops knowledge of current literature/journals and participates in journal clubs
- Understands principles of basic and clinical research including design and conduct of clinical trials and critical appraisal of scientific literature
- Takes an evidence based approach to management problems
- Accepts and acts on constructive feedback

PROFESSIONAL

- Recognizes limitations and seeks advice and consultation when needed
- Exercises initiative within limits of knowledge and training
- Discharges duties and assignments responsibly and in a timely and ethical manner
- Reports facts accurately, including own errors
- Maintains appropriate boundaries in work and learning situations
- Shows respect of diversity of race, age, gender, sexual orientation, disability, intelligence and socioeconomic status