1. **Surgical Oncology: Breast**

Goals and Objectives
FOD, Core TTP:

a) Knowledge

- Well organised understanding of breast anatomy, pathology and pathophysiology (to include those physiologic changes associated with pregnancy and lactation and hormonal regulation: see as per specific RCPSC goals of training in General surgery)

b) Skills

- Mastery of basic physician skills related to breast pathology
- Introduction to breast specific surgical procedures with graduated performance in the operating room appropriate for the stage of training
- **At the end of this rotation the Resident in Surgical Foundations/ TTD will be able to:**
- Manage the ward with the guidance of a senior/chief resident.
- Recognize most common post-operative complications related to breast surgery and deal with them appropriately.
- Arrange and facilitate efficient investigation of patients in the emergency department and on the surgical ward.
- Competently initiate opening and closing of skin incisions
- Undertake simple breast biopsies
- Assist with complex breast surgery

- **At the end of this rotation the Resident in Core will be able to (for specific details about required management plans and procedures see below, sections 2.2-5.1) :**
- Manage the ward, and perform in-patient and outpatient consultations, and provide outpatient follow up care
- Participate in the care of common and complex breast surgery
- Appreciate the approach to difficult breast reconstructive surgery.
- At the end of this rotation the **Final Year Resident** will be able to complete all the functions of the senior and junior resident and:
- Competently undertake oncologic breast surgery according to standard guidelines (see below)

c) *Attitudes*

- Function as a coordinator and supervisor of junior house staff and students on the surgical oncology service involving preoperative, intraoperative and postoperative patient management delivered in step down unit, ICU and on the ward
- Communicates effectively with patients and families, colleagues & allied health professionals
- Professional behaviours (honesty, reliability, & confidentiality)

d) *Academics*

RC Competencies:

a) *MEDICAL EXPERT*

At the conclusion of the transition to practice the resident should meet all of the following objectives in spite of variations in rotation durations and resident exposure to breast surgery.

1.4.1. **Surgical anatomy**, including arterial supply, venous and lymphatic drainage, and innervation of:
1.4.1.9. Organization of the lymphatic system, including the thoracic duct and cysterna chyli, and lymph node levels in the neck, axilla, and groin
1.4.1.10 Breast and axilla, including relationships to adjacent structures and locations of major nerves

1.4.3. **Physiology** relevant to General Surgery, including:
1.4.3.8.1. Hormonally-mediated breast changes during puberty, the menstrual cycle, pregnancy, and menopause
1.4.3.8.2. Lactation

1.4.6. **Principles of oncology** as it relates to the breast 1.4.6.1. Tumour biology
1.4.6.1.1. The cell cycle and normal regulatory mechanisms 1.4.6.1.2. Effects of radiation on the cell cycle 1.4.6.1.3. Mechanisms of action of systemic therapies, including targeted therapies, on the cell cycle 1.4.6.1.4. Cellular differentiation in normal, premalignant, and malignant tissues 1.4.6.1.5. Growth and dissemination patterns of cancer 1.4.6.2. Tumour genetics 1.4.6.2.1. Oncogenes and tumour suppressor genes 1.4.6.2.2. Role of genetic testing in suspected hereditary cancers 1.4.6.2.3. Common familial cancer syndromes and their genetic mechanisms 1.4.6.3. Cancer epidemiology, including incidence, prevalence, and risk factor. 1.4.6.4. Prevention of malignancy 1.4.6.4.1. Methods that can be used to protect

against or limit the risk of malignancy, including environmental factors, medications, and vaccines 1.4.6.4.2. Definition and important attributes of a screening test, and malignancies for which there are effective screening tests 1.4.6.4.3. Role of prophylactic surgery in patients at high risk 1.4.6.5. Diagnostic tools to establish diagnosis and evaluate patients with cancer 1.4.6.5.1. Role of and the potential impact of molecular diagnostics on treatment, prognosis, and outcome 1.4.6.6. Cancer staging and risk stratification 1.4.6.7. Treatment of patients with malignancies 1.4.6.7.1. Surgical options in the diagnosis and staging, cure, prolongation of survival, improvement in quality of life, and/or palliation of malignancy 1.4.6.7.2. Principles of neoadjuvant, adjuvant and palliative therapies for malignancies, including chemotherapy, radiotherapy, immunotherapy, and hormonal therapy 1.4.6.7.3. Role of treatments that provide effective palliation, enhance prevention and decrease recurrence, and improve quality of life 1.4.6.8. Principles of a follow-up program for patients who have been treated for malignancy 1.4.6.9. Guidelines for management of malignancy

Perform a patient-centered clinical assessment in the area of breast problems and establish a specific management plan

2.2 Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion 2.2.1. Gather a relevant clinical history 2.2.2. Identify and interpret the clinical significance of findings in a physical examination 2.2.4. Select appropriate methods to stage malignancies 2.2.5. Select and interpret medical imaging 2.2.5.1. Radiography 2.2.5.2. Ultrasonography 2.2.5.3. Computed tomography (CT) 2.2.5.4. Magnetic resonance imaging (MRI) 2.2.5.5. Nuclear imaging 2.2.5.6. Positron emission tomography (PET) 2.2.6. Interpret the clinical relevance of laboratory and pathology reports 2.2.7. Determine the indications for, and benefits and risks of surgical intervention for the clinical presentation 2.2.8. Assess peri-operative risk Establish goals of care in collaboration with patients and their families1 2.3. , which may include slowing disease progression, treating symptoms, achieving cure, improving function, and palliation 2.3.1. Identify opportunities for advance care planning discussions and explore the patient's values, wishes and preferences related to end-of life-care 2.3.1.1. Apply knowledge of settings for end-of-life care, including home, hospice, palliative care units, and hospital.

Establish a patient-centered management plan, including non-operative, preoperative, operative, and postoperative care for patients with the following conditions:

Lymph nodes
2.4.54 Conditions affecting lymph nodes, including inflammatory, infectious and.neoplastic diseases
2.4.55 Conditions affecting the lymphatic system, including lymphedema and chyle leakage

Breast
2.4.56. Cysts (Lactational, chronic reoccurring subareolar abscess)
2.4.57 Gynecomastia
2.4.58 Infection
2.4.59 Mastalgia (Fibroadenoma)
2.4.60 Neoplasms, including benign and malignant (include the biology, natural history and prognosis of a. Invasive ductal carcinoma b. Ductal carcinoma in situ c. Invasive lobular carcinoma d. Lobular carcinoma in situ e. Other epithelial tumour types f. Nonepithelial breast tumours (i.e. Phylloides tumors) g. Atypical ducatal/lobular hyperplasia h. Explain the use of tumor, nodes and metastases (TNM) staging in the staging of breast cancer. Inflammatory carcinoma i.Paget's Disease j. Lactiferous duct fistula j. Mondor's Disease k. Phylloides Tumours l.Bilateral breast carcinoma m. Male breast carcinoma n. Summarize the role of neoadjuvant chemotherapy/hormonal therapy, adjuvant chemotherapy/hormonal therapy and adjuvant radiation therapy for the treatment of primary breast carcinoma o. Outline appropriate management of breast cancer diagnosed in pregnant and non-pregnant patients
(Outline the importance of estrogen and progesterone receptors, Her2 and other histological and immunohistochemical markers in the prognosis and treatment of breast cancer.)

2.2.61 Nipple discharge (Differential diagnosis and diagnostic work up)

<u>Plan and perform procedures and therapies for the purpose of assessment and/or management</u>

3.1.2. Screening and surveillance for malignancies
3.2. Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy
3.2.1. Recognize and address challenges arising in emergency situations and when patient capacity to provide consent is limited

3.3. Prioritize procedures or therapies, taking into account clinical urgency and available resources 3.3.1. Triage patients appropriately for emergent, urgent or elective care and interventions 3.3.2. Select patients appropriately for intraoperative pathology consultations
3.4. Perform procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances

Diagnostic Procedures and technical skills specific to Breast and Lymph node surgery

Fine needle aspiration (FNA), core needle biopsy, and incisional biopsy of

3.4.1.lesions of the skin and soft tissues, lymph nodes, *breast*, liver, spleen, peritoneum, and omentum
3.4.2. Punch biopsy of lesions of the breast
3.4.3. Excisional biopsy of skin, breast, soft tissue lesions and lymph nodes
3.4.4. Sentinel lymph node biopsy for breast neoplasms and melanoma
3.4.5 Tissue sampling for diagnosis of malignancies, including optimal handling of specimens for evaluation by pathologists and other laboratory professionals
3.4.5.1 Lesional sampling for intraoperative pathology consultation
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Lymph nodes

3.4.66 Axillary dissection (levels I and II: senior)

Breast

3.4.67. Cyst Aspiration (junior)
3.4.68 Incision and drainage of abscesses.
3.4.69. Major and minor duct excision
3.4.70. Lumpectomy with or without localization (junior)
3.4.71 Mastectomy, including segmental, modified radical, skin sparing, and.nipple sparing, sentinel node biopsy (senior)

Establish plans for ongoing care and, when appropriate, timely consultation

4.1 Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation (Summarize the major considerations for post-mastectomy breast reconstruction)
4.1.1. Identify indications for consultation with other health care professionals
4.1.1.1Provide referral for advanced operative or endoscopic procedures.
4.1.1.2 Identify indications for and timing of consultation with medical and/or radiation oncologists
4.1.2. Provide follow-up on results of investigations and response to treatment
4.1.3. Recognize and manage complications
4.1.4 Provide management of and/or referral for end-of-life care

Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety

5.1 Recognize and respond to harm from health care delivery, including patient safety incidents
5.2 Adopt strategies that promote patient safety and address human and system factors
5.2.1 Participate and/or lead in a pause or checklist immediately before surgical .incision
5.2.2 Apply strategies to enhance patient and provider safety and reduce the risk of complications from surgical interventions. For outline of the other competencies and EPA's see general RSO

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