University of Minnesota Lab Medicine and Pathology

SOFT TISSUE AND BONE ROTATION

Location: C459 Mayo
Duration: One month
Rotation Director: Paari Murugan, M.D. phone 612-273-5465 (pager 899-4268)
Other Faculty: Emilian Racila, M.D. (pager 899-5052)

General Description:
The STB service provides an unique experience that few other practices can offer. The tertiary care setting is staffed by a multidisciplinary team comprised of three experienced full time musculoskeletal oncologist surgeons, dedicated STB radiologists and oncologists. The resident obtains a robust understanding of the specialty in this environment and will come across a complete spectrum of cases ranging from simple day-to-day material to complex resections and unusual histologies. Sign-out is performed by a team of 2 specialized STB pathologists, one pathologist is on service each day. The resident will learn the pathology of benign and malignant soft tissue and bone lesions, the differential diagnoses and the features that help make the distinction. This involves grossing, learning diagnostic criteria on microscopic exam including frozen section material, understanding the critical importance of integrating clinical and radiological findings, acquiring knowledge of the use of IHC, cytogenetic and molecular tests and effectively communicating with the clinical team. Participation in ongoing or new research projects is highly encouraged.

Goals and Objectives:
The learning objectives below reference the corresponding ACGME core competencies: Patient Care (PC), Medical Knowledge (MK), Professionalism (Prof), Communication Skills (CS), Practice Based Learning and Improvement (PBLI), and Systems-Based Practice (SBP).

General:
- Gross large specimens with guidance from pathology assistants and faculty (PC, MK, SBP)
- Look up clinical history and prior diagnoses for potential frozen section cases on grossing day. Participate in the frozen section diagnosis and subsequent conversation with the surgeon (PC, MK, SBP, CS, Prof)
- Sign out cases alternating 2:1 with grossing days. Commensurate with level of training, look up clinical history, radiological findings, review slides, study relevant literature, request special studies in consultation with the pathologists, enter diagnoses and double scope with the attending pathologist for final signout (PC, MK, SBP, Prof)
- Gain a practical understanding and appreciation of clinical importance of diagnoses in STB pathology (PC, MK)
- Effectively communicate with STB clinicians, addressing their needs (Prof, MK, CS)
- Participate in translational research projects in STB pathology (MK, PBLI)
- Demonstrate respect for fellow trainees and anatomic pathology staff (Prof, CS)
- Engage in intradepartmental discussions with colleagues and faculty (Prof, MK, CS)
- Attend STB multidisciplinary tumor board and daily consensus meeting held for discussing difficult and interesting cases (CS, MK, Prof, PBLI)

Soft tissue (PC, MK):
- Learn grossing of soft tissue resection specimens
- Learn triage of specimens and use of IHC, cytogenetic and molecular testing
- Learn identification of non neoplastic mimics
- Understand major categories of soft tissue neoplasms
  - Spindle cell, epithelioid, round cell, pleomorphic
  - Myxoid, adipocytic, vascular
  - Giant cell rich
- Know the major categories of spindle cell neoplasms
- Understand concept of grading, margin evaluation of sarcomas and their importance in patient management

**Bone (PC, MK):**
- Learn grossing of bone resection specimens
- Learn histology of bone
- Learn anatomy of bone, common radiological features, clinical presentation and typical lesion locations
- Understand decalcification procedures and effect on ancillary testing
- Learn triage of specimens and the use of IHC, cytogenetic and molecular testing
- Learn identification of non neoplastic mimics
- Know diagnostic features of
  - Osteosarcoma
  - Chondrosarcoma
  - Giant cell tumor
  - Fibrous dysplasia
  - Osteoid osteoma
  - Aneurysmal and solitary bone cysts
  - Enchondroma
  - Osteochondroma
  - Chondromyxoid fibroma
  - Chondroblastoma
  - Ewing sarcoma
  - LCH
  - adamantinoma
  - Chordoma
  - Fracture callus

**Assigned Reading:**
- Practical Soft Tissue Pathology by Hornick
- Practical Orthopedic Pathology by Deyrup
- Case based literature review

**Optional Reading:**
- Soft tissue tumors by Enzinger and Weiss
- Bone tumors by Czerniak
- WHO Classification Tumors of the Soft Tissue and Bone, 2016

**Call Duties:** Resident will take call after office hours as per the residents/fellows call schedule

**During the rotation, the trainee is expected to join the following conferences:**
- Daily consensus conference (Benson, 2 pm)
- Weekly: Thursday STB tumor board conference (CSC 4.6 or Mayo 441/444, 7:00 am)
- Wednesday unknown slide conference (Bell, 7 am)
- Weekly Grand Rounds (MCRB 450, 8 am)
- Wednesday didactic lecture (Bell, 9:15 am)

**Other Requirements:**
- Maintain a grossing and case log

**Assessment methods:**
Resident performance on this rotation will be assessed by:
- Formative feedback provided by attending physician(s)
• Performance evaluation completed by attending physician(s) at the end of the rotation