

Learning Objectives – Orthopaedic Oncology Service

	Junior Resident	Senior Resident/ Fellow
Patient Care	<p>Able to effectively develop the initial patient care and clinical skills to facilitate adequate evaluation of common bone and soft-tissue neoplastic conditions seen in the pediatric and adult patient population;</p> <p>Demonstrates clinical skills that include reproducible physical examination of the musculoskeletal system including an evaluation of palpable masses, including a physical examination of the skin, muscle, bone, and joint that includes a vascular and neurological evaluation;</p> <p>Able to demonstrate surgical skills with attending supervision appropriate to the level of training that includes the performance of an open biopsy of a soft-tissue mass and bone lesion with special attention paid to the location and direction of any skin incisions, the avoidance of contamination, and the prevention of a hematoma or pathologic fracture;</p> <p>Able to perform toe, foot, below knee and above knee amputations;</p> <p>Able to place intramedullary fixation for lower extremity metastases;</p> <p>Demonstrates basic understanding of the information gathering process of the detailed history and physical exam with attention to a history of trauma, infection, systemic disease, familial syndromes and a careful assessment of the factors related to the patient's complaint. This would specifically include the duration of pain or of a mass, and identify alleviating factors, aggravating factors, duration of symptoms, a history of cancer, risk factors for cancer and prior treatments including imaging studies;</p> <p>Attends the weekly Multidisciplinary Sarcoma Conference and Service Specific didactic sessions;</p> <p>Participate in Outpatient evaluation of new and return oncology service patients;</p>	<p>In general a senior resident or fellow is expected to achieve the learning objectives of the junior resident in addition to:</p> <p>Participate in Outpatient evaluation of new and return oncology service patients;</p> <p>Demonstrate a refined and advanced patient care evaluation of patients with suspected bone and soft-tissue tumors, such as: Able to take a detailed history, complete an appropriate and accurate physical exam, and review appropriate imaging studies to allow integration of information to formulate an appropriate diagnosis and treatment plan including observation, additional imaging or operative intervention;</p> <p>Possesses advanced physical exam skills that permit the detection of distant sites of disease, familial syndromes, and other clues that assist in making a diagnosis;</p> <p>Demonstrates basic understanding of the appropriate indications for non-operative versus operative treatment. Specifically understands the role and timing of biopsy and the options regarding biopsy of a soft-tissue mass or bone lesion;</p> <p>Is familiar with common limb salvage techniques and capable of directing a biopsy site that will facilitate future limb salvage procedures;</p> <p>Possesses and is able to apply an appropriate understanding of the expected postoperative progression and rehabilitation of patients following common tumor resections, amputations and limb salvage surgeries;</p> <p>Able to recommend strategies to minimize the possibility of pathologic fracture;</p> <p>Ability to evaluate patients with spine tumors and to detect neurological injury seeking appropriate consultation when necessary;</p>

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<p>Demonstrate ability to manage inpatient care including fluid and blood resuscitation, antibiotics, physical therapy and nursing orders, and discharge planning;</p> <p>Ability to evaluate patients with spine tumors and to detect neurological injury seeking appropriate consultation when necessary;</p> <p>Effectively communicates and demonstrates care and respectful behaviors when interacting with patients and families;</p> <p>Able to develop and carry out patient management plans;</p> <p>Demonstrates the ability to practice culturally competent medicine;</p> <p>Able to use information technology to support patient care decisions and patient education;</p> <p>Able to coordinate health care services aimed at preventing health problems or maintaining health (OT, PT);</p> <p>Able to work with other health care professionals from various disciplines to provide excellent patient-focused care;</p> <p>Ability to recognize common postoperative or treatment related complications and initiate strategies including appropriate consultation with the supervising physician.</p>	<p>Demonstrates ability to perform incisional and percutaneous biopsies of bone and soft-tissue masses, amputations of the lower extremity and prophylactic internal fixation of lower extremity metastases independently;</p> <p>Possesses and demonstrates more advanced and refined surgical skills with faculty supervision appropriate to level of training including advanced tumor resection and reconstructive skills :</p> <p style="padding-left: 20px;">Wide Resection of the Distal Femur, Proximal Femur. Proximal Tibia, proximal humerus and Distal Humerus;</p> <p style="padding-left: 20px;">Endoprosthesis and allograft reconstructions of long bone defects and joints;</p> <p style="padding-left: 20px;">Prophylactic fixation of impending pathologic fractures of patients with metastatic disease;</p> <p style="padding-left: 20px;">Curettage and grafting of benign bone lesions;</p> <p style="padding-left: 20px;">Wide and marginal resection of soft-tissue masses;</p> <p style="padding-left: 20px;">Manage operative complications such as infection, wound dehiscence, prosthetic dislocation, and tumor recurrence;</p> <p>Effectively oversees the appropriate care of inpatients under the supervision of the R2 junior resident;</p> <p>Attends the weekly Multidisciplinary Sarcoma or Tumor Conference;</p> <p>Effectively communicates and demonstrates care and respectful behaviors when interacting with patients and families;</p> <p>Able to counsel and educate patients and their families;</p> <p>Demonstrates the ability to practice culturally competent medicine;</p> <p>Able to use information technology to support patient care decisions and patient education;</p>
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		<p>Able to provide health care services aimed at preventing health problems or maintaining health;</p> <p>Able to work with other health care professionals from various disciplines to provide excellent patient-focused care (radiation oncology, medical oncology, radiology, pathology, rehab, OT, PT, etc);</p> <p>Communicates patient care issues to the Attending Physician.</p>
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Medical Knowledge	<p>Able to demonstrate basic preoperative and postoperative patient evaluation and assessment skills;</p> <p>Possesses a basic understanding of the anatomy including the concept of anatomic compartments and the location of important nerves and vessels to the extremity;</p> <p>Possesses knowledge of appropriate imaging studies to recommend for the more common clinical conditions encountered in those with neoplastic conditions;</p> <p>Able to read and interpret these imaging studies mentioned above in light of characteristics that help in distinguishing neoplasm from non-neoplastic conditions (infection and trauma) as well as benign from malignant disease;</p> <p>Attends and participates in the weekly Multidisciplinary sarcoma Conference and weekly subspecialty conference or journal club;</p> <p>Able to recommend a strategy for evaluating an adult with a malignant appearing bone lesion including the correct tests and images to detect a primary tumor or myeloma;</p> <p>Able to recommend a staging workup for an individual with primary bone or soft-tissue sarcoma that reflects knowledge about the behavior of these tumors;</p> <p>Understand staging systems commonly used for patients with bone and soft-tissue tumors;</p> <p>Ability to interpret histological specimens and contrast benign and malignant characteristics for common soft-tissue and bone tumors;</p> <p>The ability to distinguish radical, wide, marginal and intralesional resections and amputations;</p> <p>Understand the rationale for the use of adjuvant chemotherapy and radiation therapy;</p>	<p>Possesses in depth knowledge of the pathogenesis and behavior of common bone and soft-tissue tumors;</p> <p>Possesses a strong working knowledge of biopsy alternatives and techniques including common limb salvage approaches;</p> <p>Recognize incidentally noted bone and soft-tissue lesions that merit observation as opposed to intervention;</p> <p>Advanced ability to interpret the results of imaging studies in order to arrive at a narrow differential diagnosis;</p> <p>Able to recommend a strategy for evaluating an adult with a malignant appearing bone lesion including the correct tests and images to detect a primary tumor or myeloma;</p> <p>Demonstrates an understanding of the various surgical options to treat benign, malignant and metastatic bone and soft-tissue tumors. And to recommend a specific treatment approach including adjuvant therapy;</p> <p>Demonstrate the ability to accurately stage a patient with neoplastic disease;</p> <p>Ability to delineate those factors place a patient at risk of pathologic fracture;.</p> <p>Ability to correctly make histological diagnosis for osteosarcoma, chondrosarcoma, giant cell tumor of bone, small blue cell tumors, soft tissue lipomas and soft tissue sarcomas;</p> <p>Ability to recognize and institute appropriate care for complications arising from treatment;</p> <p>Attends and participates in the weekly Multidisciplinary sarcoma Conference and weekly subspecialty conference or journal club;</p>

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	<p>Understand the indications and contra-indications for limb salvage surgery and the comparative effectiveness of limb salvage options and amputations;</p> <p>Understand those factors that are associated with the development of a pathologic fracture in patients with metastatic disease;</p> <p>Ability on the basis of history, examination and laboratory findings to diagnose postoperative complications such as infection, compartment syndrome, nerve or vascular injury, deep venous thrombosis, etc.</p>	<p>Make recommendations regarding a treatment plan that reflects an understanding the indications and contra-indications for limb salvage surgery and the comparative effectiveness of limb salvage options and amputations;</p> <p>Ability on the basis of history, examination and laboratory findings to diagnose postoperative complications such as infection, compartment syndrome, nerve or vascular injury, deep venous thrombosis, etc.</p>
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Practice-Based Learning & Improvement	<p>Able to locate, appraise and assimilate evidence from scientific studies related to patients' health issues;</p> <p>Able to obtain and use information about his/her patient population and the larger population from which patients are drawn;</p> <p>Able to apply knowledge of study designs and statistical methods to the appraisal of clinical studies;</p> <p>Able to use information technology to manage information, access on-line medical information and support his/her own education;</p> <p>Able to facilitate the learning of medical students and other learners on the Oncology service and other health care professionals on an informal basis in clinics, operating rooms and conferences;</p> <p>Attends and participates in the Morbidity and Mortality Conference, Journal Club and multidisciplinary Sarcoma Conference;</p> <p>Ability to critically evaluate literature regarding patients with bone and soft-tissue tumors;</p> <p>Ability to analyze the circumstances surrounding a complication and to formulate an improvement plan to improve future care.</p>	<p>Able to locate, appraise and assimilate evidence from scientific studies related to patients' health issues;</p> <p>Able to obtain and use information about his/her patient population and the larger population from which patients are drawn;</p> <p>Able to apply knowledge of study designs and statistical methods to the appraisal of clinical studies;</p> <p>Able to use information technology to manage information, access on-line medical information and support his/her own education;</p> <p>Able to facilitate the learning of Junior Residents as well as medical students and other learners on the Oncology service;</p> <p>Demonstrates leadership and responsibility for overseeing the appropriate care of inpatients under the supervision of the R2 junior resident;</p> <p>Efficiently and effectively interprets advanced imaging studies commonly used to evaluate patients suspected of having tumors;</p> <p>Assures that learners on the service are exposed to the breadth and depth of experience including the distribution of operative cases and procedures to ensure competency at all levels;</p> <p>Participates in the Morbidity and Mortality Conference;</p> <p>Ability to critically evaluate literature regarding patients with bone and soft-tissue tumors;</p> <p>Ability to analyze the circumstances surrounding a complication and to formulate an improvement plan to improve future care.</p>

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Interpersonal & Communication Skills	<p>Communicates with radiology, consulting physicians and services in order to coordinate patient care effectively;</p> <p>Invites questions from patients and their families providing education regarding the patient’s condition and the treatment plan;</p> <p>Able to create and sustain a therapeutic and ethically sound relationship with patients and their families;</p> <p>Able to effectively use listening skills;</p> <p>Able to effectively provide information via various methods;</p> <p>Able to work effectively with others as a member or leader of a health care team;</p> <p>Provides necessary reporting to more senior residents, fellows and attending staff to ensure good patient care;</p> <p>Respond to patient phone calls and communication from allied health professionals.</p>	<p>Communicates with radiology, consulting physicians and services in order to coordinate patient care effectively;</p> <p>Invites questions from patients and their families providing education regarding the patient’s condition and the treatment plan;</p> <p>Able to create and sustain a therapeutic and ethically sound relationship with patients and their families;</p> <p>Able to effectively use listening skills;</p> <p>Able to effectively provide information via various methods;</p> <p>Able to work effectively with others as a member or leader of a health care team;</p> <p>Provide timely and informative communication to the supervising physician when necessary based on a change in patient condition or potential complication;</p> <p>Respond to patient phone calls and communication from allied health professionals.</p>

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Professionalism	<p>Maintains the strictest confidence in any and all interactions dealing with all patients;</p> <p>Demonstrates compassion and empathy for those being evaluated for bone and soft-tissue neoplasms;</p> <p>Demonstrates respect, compassion and integrity in response to the needs of patients and their families;</p> <p>Demonstrates ethical principles pertaining to patient confidentiality issues;</p> <p>Demonstrates sensitivity to the culture, age, gender and disabilities of patients;</p> <p>Provides compassion and understanding about end of life issues;</p> <p>Promptly recognizes and acknowledges complications that arise;</p> <p>Maintain adequate documentation and timely completion of medical records;</p> <p>Complete teaching and rotation evaluations.</p>	<p>Maintains the strictest confidence in any and all interactions dealing with all patients;</p> <p>Demonstrates respect, compassion and integrity in response to the needs of patients and their families;</p> <p>Demonstrates ethical principles pertaining to patient confidentiality issues;</p> <p>Demonstrates sensitivity to the culture, age, gender and disabilities of patients;</p> <p>Demonstrates ability to break bad news in an empathetic way that is informative and reassuring to the patient and their family;</p> <p>Maintains contact with patient and family through end of life issues as appropriate;</p> <p>Promptly recognizes and acknowledges complications that arise;</p> <p>Maintain adequate documentation and timely completion of medical records;</p> <p>Complete teaching and rotation evaluations.</p>

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Systems-Based Practice	<p>Maintains the strictest confidence in any and all interactions dealing with all patients;</p> <p>Demonstrates knowledge of treatment plans and their impact on cost-effectiveness and efficiency of patient care;</p> <p>Acts as an advocate for quality of patient care;</p> <p>Able to assess, coordinate and improve the care of patients within the current health care model(s) or systems in the program [OT, PT and Rehab];</p> <p>Complete all requirements for compliance, risk management, and safety education.</p>	<p>Maintains the strictest confidence in any and all interactions dealing with all patients;</p> <p>Demonstrates knowledge of indications and their impact on cost-effectiveness and efficiency of patient care;</p> <p>Acts as an advocate for quality of patient care;</p> <p>Able to assess, coordinate and improve the care of patients within the current health care model(s) or systems in the program;</p> <p>Work as a effective member of a multidisciplinary team including radiologists, pathologists, medical oncologists and radiation oncologists;</p> <p>Complete all requirements for compliance, risk management, and safety education.</p>