

**Family Medicine Residency****Orthopedics Rotation****Faculty Coordinator: Justin Turner, MD (Updated: June 2021)****Rotation Goal**

The orthopedics rotation is a minimum 100 hours experience gained by a 4-week block rotation and other longitudinal experiences. Additional educational experiences in orthopedics include conferences during the 3-year program. The resident should spend time in the SOS clinic, and also gain surgical experience with the attending in the OR. The resident should spend time in casting and splinting of simple non-displaced fractures during this rotation. They should perform aspiration and injections of large joints. We also have longitudinal experiences for sports medicine that include pre-participation physicals and on-site training for events such as high school athletics at Liberty, Humboldt, FHU, JSCC, Union, and Lane. Resident Clinic at UTFMC- 3 half days per week to maintain 6 half days with preceptor each week.

The goal of these guidelines is to provide a framework within which the family practice resident can gain a working knowledge of the many aspects of musculoskeletal disease and gain the skills necessary to provide care for his/her patients. The specialty of family practice is vitally interested in all aspects of musculoskeletal problems. Family physicians must have knowledge of even the most intricate problems so that appropriate judgments are made regarding the ultimate care of the patient. Appropriate history-taking and competency in physical examination and diagnosis of musculoskeletal problems are essential parts of family practice training. Family physicians should be able to competently diagnose and treat those musculoskeletal problems that are within the scope of family practice. The family physician may not provide definitive care in all instances, depending on training and experience, but must have the knowledge to refer appropriately and educate the patient's family. The ultimate goal of this curriculum is optimal patient care by the family physician, either with or without a consultant.

**Supervision**

Supervision is provided by direct observation by attending faculty physicians. Attending physicians include Keith Nord M.D., and Dr. Justin Turner.

**Rotation Objectives**

By the end of the Orthopedics rotation, PGY II residents are expected to expand and cultivate skills and knowledge learned during previous training and to achieve the following objectives based on the six general competencies. The resident should exhibit an increasing level of responsibility and independency as he or she progresses throughout the year.

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>  Under direct supervision, perform an adequate history and physical examination of the adult and pediatric patient with a musculoskeletal disorder.	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually

	<p>Develop skills that allow for up to date, compassionate care of the adult and pediatric patient with a musculoskeletal problem while integrating evidence based medicine, local standards of care, nationally defined quality care markers and specialty recommendations upon consultation</p>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Under direct supervision develop skills to perform the following procedures commonly performed in the musculoskeletal medicine:</p> <ul style="list-style-type: none"> <li>• Joint aspiration and Injection</li> <li>• Casting and Splinting</li> <li>• X-Ray Interpretation</li> <li>• Fracture management of simple non-displaced fractures</li> <li>• Uncomplicated Joint reduction</li> </ul>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Establish a reasonable and safe method of outpatient follow-up of patients.</p>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Maintain adequate, compassionate communication between the patient and medical staff.</p>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Develop a rational plan of care for these patients including diagnostic testing, initiation and alteration of medications, and specialty consultation.</p>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Perform a complete history and physical examination including:</p> <ol style="list-style-type: none"> <li>a) Focused history and examination of the musculoskeletal, neurologic, and cardiovascular systems</li> <li>b) Psychological assessment and counseling</li> </ol>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Promote preventive techniques, including physical training and safety and assessment of the exercise environment</p>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Comprehensively manage the musculoskeletal patient or athlete</p>	<p>Conferences/Didactics Grand Rounds</p>	<p>Direct Feedback Global Evaluation</p>	<p>Daily Monthly</p>

	<ul style="list-style-type: none"> <li>a) Assessment and care of the acutely injured musculoskeletal patient or athlete</li> <li>b) Closed head injuries</li> <li>c) Sprains and strains</li> <li>d) Fractures/dislocations</li> <li>e) Spine injuries</li> <li>f) The acutely ill athlete</li> <li>g) Sports-specific injuries</li> <li>h) Overuse/chronic injuries</li> <li>i) Indications for consultation and referral to orthopedic surgery and other appropriate specialties</li> </ul>	Patient Assessment Case Presentations	Procedure Certification In-training Exam	Monthly Annually
	<p>Prescribe the appropriate rehabilitation program:</p> <ul style="list-style-type: none"> <li>a) Understanding the role of sports physical therapy</li> <li>b) Understanding home rehabilitation techniques</li> </ul>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	<p>Plan and implement the techniques in pre-participation evaluation</p> <ul style="list-style-type: none"> <li>a) Use of graded exercise testing</li> <li>b) Body fat determination</li> <li>c) Flexibility determination</li> <li>d) Cardiac risk assessment</li> <li>e) Organization of large group screening</li> </ul>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	<p>Appropriately utilize medical equipment and supplies</p> <ul style="list-style-type: none"> <li>a) Taping and strapping techniques</li> <li>b) Casting and immobilization techniques</li> <li>c) Bracing techniques</li> <li>d) Team physician's equipment bag</li> </ul>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			

	<p>Develop basic knowledge of general considerations when caring for the orthopedic patient:</p> <ol style="list-style-type: none"> <li>Integration of family practice philosophy</li> <li>Ethical, psychosocial, economic and medicolegal issues</li> <li>Interaction with orthopedic physicians</li> <li>Integration of basic sciences           <ol style="list-style-type: none"> <li>Exercise physiology</li> <li>Anatomy</li> <li>Biomechanics and kinesiology</li> </ol> </li> <li>Nutrition, fluids, electrolytes, and dietary supplements</li> <li>Basic and clinical research</li> </ol>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Develop basic understanding of problems associated with exercise</p> <ol style="list-style-type: none"> <li>Exercise addiction</li> <li>Abuse of anabolic and performance-enhancing agents</li> <li>The intermittent exerciser</li> <li>Chemical use and exercise</li> <li>Eating disorders</li> <li><u>Exercise-induced medical syndrome</u></li> </ol>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<ol style="list-style-type: none"> <li>Medical management of the patient with a musculoskeletal injury</li> <li>Rehabilitation of ill and injured patients and athletes</li> <li>Exercise as treatment---physical and psychological problems</li> <li>Medical equipment and supplies</li> <li>Medical decision-making involving communication and interaction with athlete, coach, parents, significant others and consultants</li> </ol>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>
	<p>Develop an understanding of the following patient care aspects when caring for an orthopedic patient</p> <ol style="list-style-type: none"> <li>The role of family physician in musculoskeletal care</li> <li>Assessment and care of the patient with musculoskeletal complaints           <ul style="list-style-type: none"> <li>Pain, swelling and erythema</li> <li>Muscular pain, swelling and injury</li> <li>Joint Musculoskeletal trauma</li> <li>Fractures</li> </ul> </li> </ol>	<p>Conferences/Didactics Grand Rounds Patient Assessment Case Presentations</p>	<p>Direct Feedback Global Evaluation Procedure Certification In-training Exam</p>	<p>Daily Monthly Monthly Annually</p>

	<ul style="list-style-type: none"> <li>• Dislocations</li> <li>• Tendon injuries</li> <li>• Nerve injuries</li> <li>• Bone and joint deformities</li> <li>• Bone and joint infections</li> <li>• Metabolic bone diseases</li> <li>• Musculoskeletal congenital anomalies</li> <li>• Musculoskeletal birth injuries</li> <li>• Compartment syndrome</li> <li>• Avascular necrosis</li> <li>• Osteoporosis</li> <li>• Overuse syndrome</li> </ul> <p>c) Pediatric problems</p> <ul style="list-style-type: none"> <li>• Hip dislocation</li> <li>• Congenital hip dysplasia</li> <li>• Legg Calvé-Perthes disease</li> <li>• Osgood-Schlatters disease</li> <li>• Slipped capitofemoral epiphysis</li> <li>• “Clubfoot” (talipes)</li> <li>• Intoeing (metatarsus adductus, tibial torsion, femoral anteversion)</li> <li>• “Bow leg” (genu varum) and “knock knee” (genu valgum)</li> <li>• Epiphyseal injuries in children according to the Salter-Harris classification</li> <li>• Transient synovitis</li> <li>• Child abuse</li> <li>• Overuse syndrome</li> </ul>		
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	<p>Develop knowledge of health promotion &amp; prevention relevant to the care of orthopedic patients</p> <ul style="list-style-type: none"> <li>a) Role of exercise in mental and physical health promotion</li> <li>b) Pre-participation evaluation</li> <li>c) Injury prevention <ul style="list-style-type: none"> <li>i) Equipment</li> <li>ii) Taping techniques</li> <li>iii) Coaching techniques</li> <li>iv) Environment</li> </ul> </li> <li>d) Conditioning and training techniques, including principles of aerobic and resistance training</li> <li>e) Exercise prescription <ul style="list-style-type: none"> <li>i) Age-related</li> <li>ii) Patients with chronic illness</li> <li>iii) The physically challenged athlete</li> <li>iv) Cardiac rehabilitation</li> </ul> </li> <li>f) Community programs and facilities</li> <li>g) Epidemiology of exercise and injury</li> <li>h) Promotion of patient education</li> </ul>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	<p>Develop a basic knowledge of the common disorders in the musculoskeletal system of the adult and pediatric patient with assistance from upper level residents, faculty and orthopedic specialists</p>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	<p>Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.</p>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
<p>Practice Based Learning and Improvement</p>	<p><b>SPECIALTY SPECIFIC OBJECTIVES</b></p>			
	<p>See General Family Medicine Objectives for a comprehensive list.</p>			
	<p>Identify strengths, deficiencies and limits in one's knowledge and expertise; set learning and improvement goals; and identify and perform appropriate learning activities</p>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually

	Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems (i.e., use information technology to optimize learning and evidence based resources)	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Participate in the education of patients, families, students, residents and other health professionals, as documented by evaluations of a resident's teaching abilities by faculty and/or learners	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Family Medicine Objectives for a comprehensive list.			
	Communicate effectively with families while in the presence of their daily preceptor.	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Research and describe community resources available to patients and their families	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Describe the mechanisms for psychosocial support and counseling	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Convey information in a clear and concise manner to patients, families, and other health professionals (i.e., use appropriate vocabulary choice, realistic outcomes, and working with difficult patients and family)	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Family Medicine Objectives for a comprehensive list.			
	Develop skills to provide compassionate and high quality care to all patients regardless of gender, age, culture, race, religion, disabilities, sexual orientation or socioeconomic class	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Behave in a professional manner when interacting with patients or other health care providers (i.e., integrity, respect, accountability, punctuality)	Conferences/Didactics Grand Rounds Patient Assessment	Direct Feedback Global Evaluation Procedure Certification	Daily Monthly Monthly

		Case Presentations	In-training Exam	Annually
	Participate in discussion with patients and family about “difficult situations” involving poor outcomes, poor prognosis, and/or risk versus benefit of various treatment modalities	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
Systems-Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Family Medicine Objectives for a comprehensive list.			
	Summarize the considerations of cost awareness and risk-benefit analysis in patient care	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Advocate for quality patient care and optimal patient care systems	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Develop a basic understanding of the role of ancillary modalities of patient care that are available and pertain to the specialty including: <ul style="list-style-type: none"> <li>• Nutritional education, wound care, physical therapy and mental health referral for psychiatric illness.</li> <li>• Awareness of community resources such as the Health Department, DHS, DCS and proper triage of patients when abuse is suspected.</li> <li>• Incorporation of cost awareness and benefit analysis in the ordering of appropriate laboratory and radiology services.</li> </ul>	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Develop an understanding of coding and billing relevant to orthopedic care.	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually
	Work effectively in various health care delivery settings and systems relevant to their clinical specialty and work in interprofessional teams to enhance patient safety and improve patient care quality	Conferences/Didactics Grand Rounds Patient Assessment Case Presentations	Direct Feedback Global Evaluation Procedure Certification In-training Exam	Daily Monthly Monthly Annually

### **Educational Resources**

1. [www.uptodate.com](http://www.uptodate.com) (available free through [www.utdol.com](http://www.utdol.com) in Jackson General Hospital based computers)
2. [www.epocrates.com](http://www.epocrates.com)
3. [www.emedicine.com](http://www.emedicine.com)
4. Procedures for Primary Care Physicians, John Pfenniger and Grant Fowler
5. Emergency Orthopedics: The Extremities 4<sup>th</sup> edition, Robert Simon and Steven Koeniggknecht

### **References**

Acher, S. and Taylor, K. (2019). *5-Minute Sports Medicine Consult*. 3rd ed. Philadelphia: Wolters Kluwer Health.

Azar, F., Canale, S. and Beaty, J. (2017). *Campbell's Operative orthopaedics*. 13th ed. Philadelphia: Elsevier.

Cleland, J., Koppenhaver, S., Su, J. and Netter, F. (2016). *Netter's Orthopaedic Clinical Examination: An Evidenced-Based Approach*. 3rd ed. Philadelphia, PA: Elsevier.

Eiff, M. and Hatch, R. (2018). *Fracture Management for Primary Care*. 3rd ed. Philadelphia, PA: Elsevier.

Jacobson, J. (2017). *Fundamentals of Musculoskeletal Ultrasound*. 3rd ed. Philadelphia, PA: Elsevier Health Sciences.

Madden, C., Putukian, M., McCarty, E., Young, C. and Netter, F. (2018). *Netter's Sports Medicine*. 2nd ed. Philadelphia, PA: Elsevier.

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