Curricular area: Musculoskeletal medicine/nonoperative orthopaedics
Specific Rotations: Musculoskeletal Elective
Responsible faculty: Dr. K. Kip Owen
Reviewed and revised by Dr. Amer Malas, Program Director, on 12/1/2013
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Goals: Internists evaluate and treat a wide variety of musculoskeletal conditions. By the end of the training period residents will develop the necessary knowledge base, medical interviewing and examination skills, procedural skills, and clinical acumen to diagnose and manage common musculoskeletal medicine disorders at the level of a board certified general internist.

Residents will learn to identify problems requiring joint management with an orthopaedic or other specialist.
Residents will learn to work collaboratively with rehabilitation medicine specialists, orthopaedic surgeons, rheumatologist, pain management and other specialists in the management of patients with musculoskeletal diseases.

Setting: Residents are exposed to the broad field of musculoskeletal medicine in a variety of clinical settings including the inpatient wards and critical care units, the ambulatory care setting and the emergency center (see curricula for these areas). Residents may also choose a more in-depth experience on the Primary Care Orthopedics Elective rotation (described below).

Residents on the Primary Care Orthopaedics elective work with the orthopaedic specialists at the OSM Sports Medicine Center.

Key to Competencies: PC = Patient care MK = Medical Knowledge I/C = Interpersonal/communication skills PR = Professionalism PBL = Practice based learning SBP = System based practice

Teaching activities: Topics relevant to musculoskeletal medicine are covered in the resident lecture series, the intern learning groups, and in selected M and M conferences.

On the Primary Care Orthopedics elective attendings provide direct case-based teaching on all patients seen in the outpatient musculoskeletal medicine clinics.

Residents are expected to read independently about musculoskeletal medicine conditions encountered during the rotation. A full syllabus is provided to residents rotating on the elective (table of contents is appended). Residents have access to online textbooks and databases at all clinical sites. Attending physicians provide supplemental reading material related to specific cases discussed during the rotation.

Level of supervision: All clinic patients are discussed with an attending physician.
The attending physician provides face-to-face feedback to the resident physician at the end of the rotation, and as needed during the course of the rotation.
The resident physician is expected to ask for specific feedback at the midpoint of the rotation.

Patient characteristics:
Patients cared for at the OSM Sports Medicine Center are a diverse group which includes men and women, age 16 and over with acute and chronic diseases commonly encountered in internal medicine practice. Many patients are indigent and may be Spanish speaking or come from other linguistic or ethnic backgrounds.

**Reading lists/resources:** Residents are provided with a syllabus at the start of the rotation (table of contents is appended). Residents are expected to read about musculoskeletal conditions encountered during their clinical training.

**Sample Schedule:** Please contact Dr. K. Kip Owen or Paula Owen at 956-994-8983 before the rotation begins.

| 8:00-9:00 Resident morning conference | Monday - Thursday  
Clinic: 9:30 a.m. – 12:00 p.m.  
Resident Lecture: 12:00 – 1:00 p.m.  
Lunch: 1:00 p.m. – 1:30 p.m.  
Clinic: 2:00 – 5:00 p.m. (consultation or inpatient service with Dr. Owen) | Friday: Medicine continuity clinics |
**Musculoskeletal medicine**

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<th>OBJECTIVES &amp; SKILLS</th>
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<th>GEN COMP</th>
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| Residents will learn to evaluate patients presenting with musculoskeletal conditions by history and physical examination. Residents will be able to convey these findings to consultants, attendings and other members of the team. | PGY-1:  
• Obtain history as relevant to musculoskeletal diseases. Identify key elements as they relate to musculoskeletal medicine.  
• Recognize physical exam findings in common musculoskeletal diseases.  
• Utilize appropriate resources to obtain historical information important to the diagnosis and management of patients with musculoskeletal diseases, including accessing medical records, data from other health care facilities, physicians and family members as appropriate.  
• Demonstrate the ability to convey key information to other residents, attendings, consultants and other members of the health care team in a logical, coherent manner. | PC, MK, I/C, Di | Direct instruction and demonstration by attendings  
House staff lectures  
Musculoskeletal medicine conference in primary care block rotation | Global eval miniCEX |
| PGY-2  
• Increase the ability to recognize important elements of the CC, HPI and other aspects of history, as they related to a patient’s musculoskeletal condition.  
• Increase skills in physical examination to include recognition of signs of musculoskeletal disease and more advanced interpretation of findings.  
• Be able to synthesize key elements of the history and physical in a logical, coherent manner leading to the development of an appropriate differential diagnosis.  
• Show the ability to demonstrate key findings to learners. | | |
| PGY-3  
• Master the elements of history-taking and physical examination of the patients with musculoskeletal disorders at the level expected of a board-certified general internal medicine specialist  
• Demonstrate the ability to guide learners to acquire these skills | | | |
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| Residents will acquire the medical knowledge relevant to the diagnosis and management of common musculoskeletal diseases. Residents will demonstrate the medical knowledge and skills required to triage patients requiring more specialized care. | PGY-1:  
- Residents will understand basic principles in the anatomy and physiology of musculoskeletal medicine, and be able to use this knowledge to recognize common musculoskeletal diseases and initiate appropriate diagnostic and therapeutic plans.  
- Residents will have the knowledge to be able to recognize and initiate appropriate management of patients with musculoskeletal medicine conditions requiring urgent intervention. | PC MK, PBL | Direct instruction and demonstration by attendings  
Resident lecture series  
Musculoskeletal medicine conference in primary care block rotation | Global eval  
Inservice scores  
miniCEX |
| PGY-2:  
- Increase the knowledge base required for evaluation and management of patients with musculoskeletal diseases presenting to the Emergency Center or occurring on inpatient and critical care services.  
- Resident will have the medical knowledge to recognize and manage common musculoskeletal conditions presenting in ambulatory patients. | | | |
| PGY-3:  
- Master the knowledge base required to evaluate and manage patients presenting with musculoskeletal diseases disease at the level of a board-certified general internist. | | | |
| (see Musculoskeletal medicine appendix A for list of musculoskeletal diseases commonly seen by general internists) | | | |
Residents will learn the indications for diagnostic tests and procedures relevant to the evaluation of patients with musculoskeletal diseases. Residents will be able to interpret results and apply to patient care.

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<td>PGY-1:</td>
<td>Know indications for and interpretation of diagnostic tests and procedures commonly used to evaluate patients with musculoskeletal diseases. Be able to use the results of diagnostic tests to clarify the differential diagnosis and initiate appropriate management.</td>
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<td>PGY-2:</td>
<td>Demonstrate increased understanding of diagnostic tests and procedures, including more specialized and less commonly performed tests, and how to apply the results to the care of patients with musculoskeletal diseases.</td>
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<td>PGY-3:</td>
<td>Demonstrate mastery of diagnostic testing in the assessment of patients with musculoskeletal conditions at the level of a board certified general internist. Be able to explain the purpose and meaning of diagnostic tests to other members of the health care team.</td>
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(See Musculoskeletal medicine appendix B for common diagnostic tests and procedures used in the care of patients with musculoskeletal diseases)

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<td>Residents will learn to communicate and collaborate with consultants, physical therapist, physicians from other specialties and other members of the health care team, providing optimal patient care in a cooperative team effort.</td>
<td>PGY-1:</td>
<td>PC I/C SBP</td>
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<td>- Demonstrate effective communication with consulting services for the benefit of the patient, including effective use of the written medical record/consult note.</td>
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<td>- Be able to explain to patients the role of consultants and other services in their health care plan.</td>
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<td>- Be able to communicate effectively with patients and families to provide clear and accurate information about their disease.</td>
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<td>PGY-2:</td>
<td>- Demonstrate increasing skills in effective communication with consulting services, specialists, and other members of the health care team in the care of patients with musculoskeletal disease.</td>
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<td>PGY-3:</td>
<td>- Master all aspects of communication skills and interpersonal relationships to evaluate and manage patients with musculoskeletal diseases, including communication with patients and families and other members of the health care team.</td>
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<td>- Master the communication and interpersonal skills required to provide collaborative care to patients with musculoskeletal diseases requiring consultation with an musculoskeletal medicine specialist.</td>
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| Residents will demonstrate skills in practice-based learning required to evaluate and manage patients with musculoskeletal conditions. | **PGY-1:**  
- Resident will demonstrate evidence of study to improve knowledge of musculoskeletal diseases commonly encountered by general internists.  
- Demonstrate the ability to access appropriate resources, including practice guidelines, online textbooks, and other medical literature to increase understanding of musculoskeletal diseases.  
- Seek feedback from attendings and other members of the health care team to improve performance.  
- Show evidence of reflection and the ability to learn from errors.  
**PGY-2:**  
- Increase ability to generate questions based upon clinical encounters and to use the medical literature to answer these questions.  
**PGY-3:**  
- Demonstrate increasing competence in the use and interpretation of the medical literature.  
- Demonstrate an understanding of how to analyze medical errors and poor outcomes and use this experience to improve performance. | PBL MK PC SBP | Direct instruction and demonstration by attendings  
Evidence-based medicine course  
Journal club | Global eval  
Resident portfolio |
| Residents will demonstrate skills in systems-based practice required to care for patients with musculoskeletal disease. | **PGY-1:**  
- Learn the role of consultants and demonstrate the ability to use consultants appropriately to enhance patient care.  
- Maintain appropriate professional relationships with nurses, pharmacists, clerks, and all other members of the health care team.  
**PGY-2:**  
- Upper level residents should be able to teach students and junior residents when to involve ancillary services and consultants in the care of the patients, and the appropriate role for these services.  
**PGY-3:**  
- Master aspects of systems-based practice needed to ensure optimal patient care and utilization of available resources.  
- Demonstrate patient advocacy within the system of care.  
- Teach students and junior level residents how to use the system to optimize patient care. | SBP PC | Direct instruction and demonstration by attendings | Global eval |