



Body System: Musculoskeletal		
Session Topic: Ultrasound-Guided Joint Injection		
Educational Format		Faculty Expertise Required
Clinical Procedural Workshop (CPW)		Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience teaching hands-on procedural workshops. The majority of the education must emphasize hands-on learning, with feedback from faculty.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<p>Data from a recent AAFP Common Medical Procedures Needs Assessment indicate that family physicians have a need for ultrasound-guided joint injection education, and are actively seeking training.</p> <p>Data from a recent AAFP CME Needs Assessment survey indicates that family physicians have a statistically significant and meaningful gap in the knowledge and skill to effectively and efficiently utilize imaging studies for musculoskeletal conditions, diseases, and injuries in the optimal management of their patients.</p> <p>Needle placement based upon external landmarks alone is often inaccurate; however, with proper training, ultrasound-guided injection has shown to be a reliable and effective procedure.</p>	<ol style="list-style-type: none"> 1. Discuss the basic principles of ultrasound imaging, equipment, functionality, aseptic technique and injectate selection for ultrasound-guided pain procedures. 2. Develop scanning techniques to optimize musculoskeletal windows for ultrasound guided injections. 3. Practice joint injection techniques using models. 4. Establish appropriate billing and coding protocols for performing billable injections. 	<p>Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement newly acquired ultrasound-guided joint injection skills and competencies to practice.</p>
ACGME Core Competencies Addressed (select all that apply)		



X	Medical Knowledge	Patient Care
	Interpersonal and Communication Skills	Practice-Based Learning and Improvement
	Professionalism	Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
 - Visit <http://www.aafp.org/journals> for additional resources
 - Visit <http://familydoctor.org> for patient education and resources
- Provide strategies to identify major sources of shoulder and knee pathology on ultrasound (tendinosis, tendon rupture, joint effusion)
- Provide an opportunity for learners to practice performing ultrasound-guided injections of the knee, AC, and shoulder joint; and provide feedback to foster skill adoption.
- Provide strategies to help explain to patients the benefits of ultrasound-guided versus palpation guided injections
- Provide recommendations to help learners establish appropriate billing and coding protocols for performing billable injections.

Needs Assessment

Musculoskeletal diseases, which include back pain, arthritis, bodily injuries and osteoporosis, are reported by people in the U.S. more than any other health condition. It is estimated that nearly 108 million adults (or one in two people over the age of 18) report suffering from a musculoskeletal condition lasting three months or longer. In addition, nearly 15 million adults report they are unable to perform at least one common activity, such as self-care, walking or rising from a chair, on a regular basis due to their musculoskeletal condition.¹ According to the recent publishing of *The State of US Health, 1990-2010 Burden of Diseases, Injuring, and Risk Factors*; musculoskeletal disorders are among the largest contributors to patients living years with disability (YLD), and has increased 30% from 1990 to 2010.²

Consider the following statistics from the CDC:

- The 2009 *Health of the U.S.* publication reported that arthritis and other musculoskeletal conditions were the leading causes of activity limitation among working-age adults 18–64 years of age in 2006–2007.³



- The 2009 *National Health Interview Survey* reported 5.9 million injuries occurred playing sports (3.8 million, or 26%, among men and 1.7 million, or 12%, among women – particularly teenagers).⁴
- The most recent *National Ambulatory Medical Care Survey* reported that family physicians provide patient education on “injury prevention” in over 4.4 million office visits.⁵

Musculoskeletal complaints are among the most common conditions seen by family physicians, accounting for up to 25% of all outpatient diagnoses.⁶⁻⁸ Despite their prevalence in practice, education in musculoskeletal conditions and treatments lags far behind with only 2% of medical school and primary care residency curricular content being devoted to musculoskeletal care.⁹⁻¹² Musculoskeletal injections are among the most common procedures performed by family medicine physicians, but many physicians lack confidence in their ability to perform injections safely and accurately.^{13,14} Musculoskeletal ultrasound offers family physicians a tool to improve their musculoskeletal diagnostic ability, their procedural efficacy, and their reimbursement for procedures performed.¹⁵⁻¹⁷

- Data from a recent AAFP Common Medical Procedures Needs Assessment indicate that family physicians have a need for ultrasound-guided joint injection education, and are actively seeking training.¹⁸
- Data from a recent AAFP CME Needs Assessment survey indicates that family physicians have a statistically significant and meaningful gap in the knowledge and skill to effectively and efficiently utilize imaging studies for musculoskeletal conditions, diseases, and injuries in the optimal management of their patients.¹⁹
- Needle placement based upon external landmarks alone is often inaccurate; however with proper training, ultrasound-guided injection has shown to be a reliable and effective procedure.²⁰⁻²³

CME outcomes data from 2015 and 2016 AAFP FMX: *Introduction to Musculoskeletal Ultrasound and Guided Injections* sessions, suggest that physicians have knowledge gaps with regard to proper ultrasound-guided MSK injection techniques.^{24,25} However, much of the evidence suggests that US-guided musculoskeletal injections provide no advantage over landmark-guided or intramuscular injection, in most uncomplicated cases.²⁶⁻²⁸ Therefore, the education for this topic should focus on scenarios where US-guided musculoskeletal injection should be considered as the preferred methodology.

References

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