

Study Guide for Joint Injection Procedure- 2020



THE UNIVERSITY OF ARIZONA

College of Nursing

1. Overview

Joint injection involves arthrocentesis or steroid injection of a joint for diagnostic or therapeutic purposes. The goals of joint injection include diagnosis, decreased pain or swelling, and improved mobility for the adult patient.

2. Goals of the procedure

- Identify evidence-based resources for performing joint injections.
- Determine indications and contraindications for joint injections.
- Identify elements of informed consent for procedure.
- Demonstrate proper technique in performing knee injection using a simulation model.
- Describe post procedure management including wound care, warning signs, and follow-up instructions.

3. References

- [Cato, R. K. \(2016\). Indications and Usefulness of Common Injections for Nontraumatic Orthopedic Complaints. Medical Clinics of North America, 100\(5\), 1077-1088.](https://www-clinicalkey-com.ezproxy4.library.arizona.edu/#!/content/playContent/1-s2.0-S0025712516372716?returnurl=null&referrer=null)
- Juni, Peter, Hari, Roman, Rutjes, Anne W. S., Fischer, Roland, Siletta, Maria G., Reichenbach, Stephen, & da Costa, Bruno R. (2015). Intra-articular corticoid for knee osteoarthritis. *Cochrane Database of Systematic Reviews 2015, Issue 10*. Art. No.: CD005328. DOI: 10.1002/14651858.CD005328.pub3.
- [Monseau, A. J. & Nizran, P. \(2013\). Common injections in musculoskeletal medicine. Primary Care Clinical Office Practice, 40, 987-1000.](https://www-clinicalkey-com.ezproxy4.library.arizona.edu/#!/content/playContent/1-s2.0-S0095454313000936?returnurl=null&referrer=null)

4. Required Reading and Video

- PowerPoint posted to CSI Website posting and all embedded links for resources, including journal articles and video links below.
- Knee anatomy and assessment
 - <https://www-nejm-org.ezproxy4.library.arizona.edu/doi/10.1056/NEJMvcm0803821>
 - <http://www.nejm.org/doi/full/10.1056/NEJMvcm0803821>
 - <https://www.rheumtutor.com/msk-examination/videos/> (select knee exam) or <https://vimeo.com/36295185>
- From AHSL (<http://ahsl.arizona.edu/>) STAT!Ref - Essentials Evidence Plus & AHFS DI Essentials: (Note: May receive "Auto Log On screen which will then automatically take you to link")
 - [Knee pain](#)
 - [Knee injection](#)
- Video demonstration: Knee (lateral approach)
 - <https://www.rheumtutor.com/injection-techniques/msk-injection-techniques-teaching-demonstration-series/> or <https://vimeo.com/89955918> and <https://vimeo.com/89955917>

5. Required Procedure Competencies

- Identify anatomical landmarks on simulation model.
- Simulate sterile, no touch bacteriocidal prep
- Insert needle into model in correct location and with appropriate angle.
- Confirm proper needle placement
- Draw syringe back and simulate medication administration
- Withdraw needle from model

6. During CSI Skills Lab

- a. Prior to arriving, you are expected to have read and watched the above. The skills lab is intended to build upon the above information and allow you to engage in a more patient-centered way.
- b. You will spend forty-five minutes at this skills station. This will be divided in the following manner:
 - i. 15 minutes: Short introduction to the skill
 - ii. 5 Minutes: Focused HPI (consider pointing out one student for OLDCARTS) and Basic Exam
 - iii. 20 Minutes: Procedure
 - iv. 5 Minutes: Final Report and Preceptor Presentation
- c. Please see the Case Study Worksheet on the next page

Case Study Worksheet

CC: Mary Grace is a 68yo female presenting with worsening L knee pain x 3 months.

O	Onset	
L	Location/radiation	
D	Duration	
C	Character	
A	Aggravating factors	
R	Relieving factors	
T	Timing	

- Considering these answers, are there any follow up questions you would ask that would not be asked below in the ROS?

ROS: Given the above, which systems will you focus on?

General	
HEENT	
Respiratory	
Cardiovascular	
Musculoskeletal	
Endocrine	
Neuro/Psych	

Exam:

- How would you document the exam?

Differential Diagnoses:

- List three differentials in their order of likelihood
 1. Probable:
 2. Possible:
 3. Unlikely:

Preceptor Report:

Case Study Worksheet: Instructor's Guide

CC: Mary Grace is a 68yo female presenting with worsening L knee pain x 3 months.

O	Onset	3 months
L	Location/radiation	Left knee
D	Duration	Chronic but worsening
C	Character	Generalized knee aching without radiation or instability
A	Aggravating factors	Walking
R	Relieving factors	IBU/Tylenol, RICE
T	Timing	Constant but with acute triggers

- Considering these answers, are there any follow up questions you would ask that would not be asked below in the ROS?
 - What is your PMH?
 - When is the last time you had imaging on the affected joint?

ROS: Given the above, which systems will you focus on?

General	Denies fever, chills, wt gain/loss
HEENT	
Respiratory	
Cardiovascular	
Musculoskeletal	Left knee with pain as above and slight swelling; denies erythema
Endocrine	
Neuro/Psych	

Exam:

- How would you document the exam?

Differential Diagnoses:

- List three differentials in their order of likelihood
 1. Probable: Osteoarthritis
 2. Possible: Meniscus Tear
 3. Unlikely: Septic Joint

Preceptor Report:

Mary Grace is a 68yo female presenting with worsening L knee pain x 3 months. She has a long history of bilateral knee osteoarthritis with a right knee replacement 5 months ago. Her left knee has been "achy" for a long time, but this has worsened over the last 3 months. She describes this as generalized knee aching without radiation or instability. The patient feels like the pain is worse if she walks for long periods of time. She notes some swelling, but denies redness and fevers. She takes Ibuprofen and acetaminophen as directed, which was usually effective; they are no longer helping as much. The patient reports that wrapping the knee with a bandage or resting with legs elevated also helps. She is waiting to have the left knee replaced; she expects this to be in several months when family able to help care for her. She had joint injection in L knee last year with significant, though

temporary, improvement. She would like another joint injection in her left knee now. The patient is otherwise well, and ROS is negative. Her knee exam was unremarkable. The contours of the joint were normal, no effusions were noted. She had slightly reduced ROM, but gait was unaffected. She did have mild, diffuse pain upon resisted extension; strength was normal. She did not have any joint line pain. Anterior/posterior drawer tests were unremarkable.