

# **OSTEOARTHRITIS**

Jeanette Tetrault, M.D.  
**Week 24**

## **Educational Objectives:**

1. Describe the epidemiology and risk factors associated with osteoarthritis
2. Develop an algorithm for evaluating knee pain in patients at risk for osteoarthritis
3. Explain the pathophysiology of osteoarthritis at the level of the joint
4. Outline and provide evidence for the various treatment options available for osteoarthritis

## **Author's Note:**

I chose to focus on osteoarthritis of the knee, but many of the concepts can be translated to osteoarthritis of any joint.

## **CASE ONE:**

**Ms. G.P. comes to see you for a new patient appointment. She is a 65-year-old retired house cleaner with a past medical history significant for Type 2 DM, prior tobacco use, HTN, and gout. She just moved to the area to be closer to her grandchildren. Her only complaint today is pain in her knees which has been going on for more than three months and has been limiting the amount of time she can spend gardening, which is one of her passions.**

## **Questions:**

1. **What other information do you want to know from the patient's history to guide you in the work-up of her knee pain?**
  
  
  
  
  
  
  
  
  
  
2. **What are the epidemiologic factors associated with osteoarthritis of the knees?**

**CASE ONE CONTINUED:**

**Ms. P. reports that her pain is worse when she is carrying her groceries upstairs, after a long day gardening, or playing with her five grandchildren. She does not appreciate any specific morning pain or stiffness. Yesterday evening, as she was getting out of the bath, she reports that her left knee gave way, and she felt like she was going to fall.**

- 3. Describe the process of joint destruction associated with osteoarthritis.**
  
  
  
  
  
  
  
  
  
  
- 4. Describe the focused knee exam for this patient. Feel free to demonstrate on a colleague.**
  
  
  
  
  
  
  
  
  
  
- 5. What is the differential diagnosis of Ms. Payne's knee discomfort?**

**CASE ONE CONTINUED:**

**On exam, Ms. P. has a blood pressure of 142/88, heart rate of 70 that is regular, and BMI of 31. Her heart, lungs, and abdominal exams reveal no abnormalities except central obesity. Upon standing she has no varus or valgus abnormalities but walks with an antalgic gait. There is no warmth or swelling in either knee, but both reveal clicking and crepitus with passive range of motion in the left knee, more marked than the right. McMurray exam reveals joint laxity with valgus stress of the left knee but not the right.**

- 6. What is your diagnosis?**

7. **Is your exam sufficient, or do you need to send the patient for further studies?**

8. **What pharmacologic and non-pharmacologic treatment options are available for this patient?**

**Primary References:**

1. Felson, D.T. Osteoarthritis of the knee. *New England Journal of Medicine*. 2006. 354 (8):841-848.
2. Clegg D.O. et al. Glucosamine, chondroitin sulfate and the two in combination for painful knee osteoarthritis. *New England Journal of Medicine*. 2006; 354(8): 795-808. ABSTRACT ONLY.
3. Geba GP, Weaver AL, Polis AB, Dixon ME, Schnitzer TJ, Vioxx ACTG. Efficacy of rofecoxib, celecoxib, and acetaminophen in osteoarthritis of the knee: a randomized trial. *Journal of the American Medical Association*. 2002;287(1):64-71. ABSTRACT ONLY.

**Additional References:**

4. Pincus T, Koch GG, Sokka T, et al. A randomized, double-blind, crossover clinical trial of diclofenac plus misoprostol versus acetaminophen in patients with osteoarthritis of the hip or knee. *Arthritis Rheum*. 2001;44(7):1587-1598.
5. Fitzgerald GA. Coxibs and cardiovascular disease. *New England Journal of Medicine*. Oct 21 2004; 351(17):1709-1711.
6. Ettinger WH Jr, Burns R, Messier SP, et al. A randomized trial comparing aerobic exercise with a health education program in older adults with knee osteoarthritis: the Fitness Arthritis and Seniors Trial (FAST). *JAMA*. 1997; 277: 25-31.
7. Baker KR, Nelson ME, Felson DT, Layne JE, Sarno R, Roubenoff R. The efficacy of home based progressive strength training in older adults with knee osteoarthritis: a randomized controlled trial. *J Rheumatol*. 2001; 28: 1655-65.
8. Scharf H-P, Mansmann U, Streitberger K, et al. Acupuncture and knee osteoarthritis: a three-armed randomized trial. *Annals of Internal Medicine*. 2006;145(1):12-20.
9. Michalsen A, Klotz S, Ludtke R, Moebus S, Spahn G, Dobos GJ. Effectiveness of leech therapy in osteoarthritis of the knee: a randomized, controlled trial. *Annals of Internal Medicine*. 2003;139(9):724-730.