**Problem Assisted Learning (PAL)**

**Diseases/Disorders of the Joint**

This PAL is based on the following objectives:

* + List the most frequent causes (acute and chronic) of monoarthritis and polyarthritis.
	+ Discuss the management of degenerative arthritis.
	+ List the various indications, contraindications and side effects of medication used to treat arthritis.
	+ Distinguish between osteoarthritis (OA), rheumatoid arthritis (RA), septic arthritis and gout from the physical exam.
	+ List causes of low back pain
	+ Identify risk factors and red flags from history and physical exam of low back pain
	+ List when diagnostic imaging is needed for low back pain

**Case #1:**

A 57-year-old woman comes to your office with right knee pain, gradually getting worse over last 2 to 12 months. No history of acute injury. She has had falls on and off in past skiing, no major injuries or broken bones. No major past medical problems. She has taken “a few Tylenol (acetaminophen)” with no help. Now she wonders if she should have an MRI and a prescription for Celebrex (celecoxib).

1. What else would you like to know about her pain?
2. What physical examination would you do?
3. What is your differential diagnosis for knee pain?
4. Is there a role for diagnostic imaging at this point? Any other tests?
5. What would you recommend to manage her pain?

**Case #2:**

A 27-year-old man has pain in his lower back. It started gradually 2 months ago. The pain is described as dull and achy with spread to his buttocks. No other symptoms are present except that he is more tired than usual. Advil (ibuprofen) 200mg po does seem to help when it is sore.

1. What else would you like to know about his pain? Why is family history important to ask?
2. What physical examination would you do? What is Shober’s manoeuvre? Why would you check his eyes?
3. What is your differential diagnosis for his back pain?
4. Is there a role for diagnostic imaging at this point? Any other suggestions?
5. What would you recommend to manage his pain?

**Case #3:**

A 67-year-old man has a really sore part of his foot (at base of 1st toe). It gets red and very sore several times a year. He wonders if he should put ice on it and Tylenol (acetaminophen) doesn’t seem to help.

1. What else would you like to know about his pain?
2. What physical examination would you do?
3. What is your differential diagnosis for his foot pain?
4. Is there a role for diagnostic imaging at this point? Other investigations?
5. What would you recommend to manage his pain?

**Case #4:**

A 62 year old woman presents with a 3 month history of right shoulder pain. The pain, at times, radiates down her right arm. She has tried OTC ibuprofen with minimal relief. She is a 40 pack year smoker. She was treated for breast cancer 3 years ago, and has not had any metastatic disease.

 1. What else would you like to know about her pain?

1. What physical examination would you do?
2. What is your differential diagnosis for her shoulder pain?
3. Is there a role for diagnostic imaging at this point? Other investigations?
4. What would you recommend to manage her pain?

 **Things to cover using those cases:**

**Red Flags:** temperature, previous history of cancer, trauma and infection signs.

**History:** trauma, swelling, morning stiffness, sexually transmitted diseases, osteoporosis, recent surgery, infiltration, stability of the joints

**Physical Exam:** general appearance; obesity; presence or absence of heat, redness, swelling and pain; amplitude of movements, test for ligaments, test for meniscus and test to determine the presence of effusion in the joints; approach to patient with low back pain

**DDX:** ligament or meniscus problems, osteoarthritis vs. rheumatoid arthritis, monoarthritis vs. polyarthritis, gout, multiple myeloma, metastasis, scoliosis, ankylosing spondylitis.

**Investigations:** blood tests, uric acid, radiography, knee aspiration

**Treatments:**

* *Non pharmacological*: weight loss, exercise, aqua fit, diet, stop alcohol, physiotherapy, prosthesis, glucosamine.
* *Pharmacological*:
	1. Tylenol, NSAIDs. Mention the side effects and complications of the NSAID such as gastro, renal, cardiac, etc.
	2. Consult with an orthopedic surgeon for arthroscopy and knee replacement.
	3. For rheumatoid arthritis, early diagnosis and refer promptly to a rheumatologist. Discuss role of oral cortisone, and other disease modifying medications (DMARD’s)