Knee Arthritis and Total Knee Replacement

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Arthritis

- What is arthritis?
- What are the symptoms of arthritis?
- What is the physical exam a physician will perform?
- What can be done to help?
- What are the indications for total knee replacement?
- What can I expect after surgery?
What is Arthritis?

- Arthritis is an inflammation of one of the joints in your body
  - Symptoms include pain, swelling, and stiffness
  - Everyday activities such as climbing stairs may be difficult with arthritis
- How common is it?
  - Roughly 50 million people in US were told that they have some form of arthritis
  - Roughly 5 million people living in US with total knee replacements
Wear and Tear

- Osteoarthritis
  - Also known as degenerative joint disease (DJD)
  - Most common type of arthritis of the knee
    - It is “wear and tear” arthritis
    - It results in wearing away of cartilage and can result in bone wear as well as bone spurs
Many Types of Arthritis

- Arthritis
  - Primary Arthritis - articular degeneration without any apparent underlying reason
  - Secondary Arthritis - a consequence of with abnormal forces across the joint or abnormal articular cartilage
Symptoms

- Pain or swelling may be worse in the morning or after sitting and resting.
- Vigorous activity may cause the pain to swell up.
- Loose fragments or cartilage may cause "locking" or "sticking".
  - This is called crepitus.
Symptoms

- Pain may cause a feeling of weakness or buckling
- Many people feel increase in joint pain with rainy weather
Knee Arthritis Assessment

- Pain with weight bearing
- Aggravated by stairs, hills, sit to stand
- Bowing deformity and Instability
  - Seen later in presentation
Occasionally pain can be referred from the hip or lower back to the knee.

Selective anesthetic injections is occasionally needed to elucidate the relative contributions of overlapping pathologies.
Exam

- Joint swelling, redness, or warmth
- Tenderness about the knee
- Range of passive and active motion
- Instability of joint
- Any sign of injury to muscles, tendons, ligaments surrounding the knee
Imaging Studies

- Radiographs are the standard for initial evaluation
- Should include weight bearing studies
MRI?

- MRI
  - Is grossly overused in the arthritic patient population

- If joint space is narrowed on radiograph then MRI is NOT indicated
Treatment

- There is no cure for arthritis

- But....
  - There are a number of treatments that may help relieve pain and disability
Knee Arthritis Treatment

- Non-operative

  - Activity Modification
    - Reduce impact-loading exercises
    - Reduce weight
    - Avoid stairs, incline, squatting
Injections

- Joint Injections
  - Corticosteroid - anti-inflammatory treatment
  - Hyaluronate
Canes and Braces

- Unloading brace
  - Can be helpful but low compliance
  - Suited for exercises activity

- Assist device
  - Cane
    - Placed in opposite hand of affected knee
Arthroscopy

- Not indicated for Arthritis

- Success related to degree of mechanical symptoms noted preoperatively
  - Meniscal tears with catching and locking
  - Loose bodies
  - Unstable cartilaginous flaps
Total Knee Arthroplasty

- **Indications**
  - Debilitating pain affecting activities of daily living
  - Pain not well controlled by conservative measures
  - Medically fit for surgery
  - No active infection
Total Knee Arthroplasty

- Total knee arthroplasty (TKA) survival
  - Well-balanced knee
  - Neutral mechanical alignment
Post-operative Rehabilitation

- Post-op
  - Quad sets, straight leg raises, ankle pumps
  - Walking with crutches or walker
  - CPM machine
Survivorship

- **Decreased survivorship**
  - Younger age - 55 years or younger
  - Osteoarthritis
  - Due to high activity level

- **Increased survivorship**
  - Older age - 70 years or older
  - Rheumatoid arthritis
  - Cemented fixation of all components
  - Due to low activity level
Questions?

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