Understanding Osteoarthritis: Symptoms, Causes, and Treatment Options

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Objectives

1. Discuss the causes of Osteoarthritis
2. Explain the risk factors for developing Osteoarthritis
3. Identify the symptoms of knee OA
4. Discuss the treatment options for knee OA
5. Identify the symptoms of hand OA
6. Discuss the treatment options for hand OA
What is Osteoarthritis?

- “Wear and tear” of joints
  - Breakdown of articular cartilage
  - Loss of cartilage leads to “bone on bone” rubbing
  - Abnormal bone growth- bone spurs form (called osteophytes)
  - Other joint structures can be damaged- ligaments and menisci
How common is Osteoarthritis?

- Very common!
  - 65% of people over age 65 have arthritis
  - Affects more people as we age

- Knees, Hips, Spine, and Hands are most commonly affected
Costs of Osteoarthritis

- OA is a leading cause of disability
  - 40% of older adults with arthritis report work-related disability
  - 20% of adults with arthritis have loss of mobility

- OA is expensive
  - Up to $300 billion dollars/year in US
  - 2% of gross domestic product
    - Loss of productivity from disability (indirect costs)
    - Direct medical expenses
Risk Factors for Developing OA

- Getting older/ advanced age

- Genetics- “runs in the family”
  - Not one gene that causes OA

- Joint Injury
  - Can include ligament tears, meniscal injuries, and broken bones

Photo credit: LA Times, RG3
Risk Factors for Developing OA

- Excess Body Weight
  - Increased load on the joint
  - Metabolic changes- increased inflammation from fat cells can contribute to joint damage

- Abnormal alignment/ joint mechanics
  - Ex: congenital hip dysplasia
  - Ex: bow-legged
Knee OA
Symptoms

- **Pain**
  - Gets worse with activity and better with rest
  - May fluctuate (like with the weather) but no episodes of severe pain, redness
- **Stiffness, often worse at night**
- **May have some swelling**
- **Crepitus - crackling/grating sensation in the knee**
- **Bony enlargement**
Treatment Options

- Physical Therapy
- Exercise/Strengthening
- Weight loss

- Medications:
  - Tylenol
  - NSAIDs
    - Naproxen is safest
  - Topical medications
    - Capsacin cream
    - Topical NSAIDs- Diclofenac gel

- Joint injections
  - Corticosteroids
  - Hyaluronic acid

- Surgery
Treatment Options:

- **Physical Therapy**
  - Strengthen muscles supporting the joints
  - Improve flexibility

- **Exercise**
  - Reduces pain
  - Improves physical function

- **Weight loss**
  - 10% weight loss over 10 years cuts your risk of knee OA in half
  - Reduces pain, improves physical function and mobility, improves health-related quality of life
Treatment Options: Medications

- **Oral Medications:**
  - Acetaminophen
  - NSAIDs
    - Naproxen is safest
  - Narcotics
    - Avoid if possible

- **Topical medications**
  - Capsaicin cream
  - Topical NSAIDs- Diclofenac gel
Treatment Options

- Joint injections:
  - Corticosteroids
    - Proven benefit
    - Can be repeated up to 3-4 times per year
  - Hyaluronic acids
    - Controversial- possible placebo effect

- Surgery
  - If symptoms persist after these other treatments are tried
Additional Treatment Options

- Assisted devices
  - Cane
  - Walker

- Natural remedies/ alternative therapies
  - Chondroitin
  - Glucosamine
  - Turmeric
    - Works like an NSAID
Hand OA

Photo credit of Marcy Bolster
Symptoms

- Often affects the base of the thumb and distal finger joints
- Pain and stiffness in the hands
- Joints get larger and can change shape of the fingers
Treatment Options

- Occupational therapy?

- Medications:
  - Tylenol safest for most patients
  - NSAIDs
    - Naproxen safest
  - Topical medications
    - Capsaicin cream
    - Topical NSAIDs
  - Other anti-inflammatories
    - Still investigational

- Assistive Devices

- Joint injections?
  - Not routinely recommended

- Surgery?
  - Not routinely recommended- only in rare cases
Summary

- Osteoarthritis is very common and causes disability
- Multiple causes/risk factors:
  - Age, obesity, genetics, injuries
- Symptoms:
  - pain, stiffness, bony enlargement, minimal redness or swelling
- Treatment options:
  - Physical therapy and exercise for knee OA
  - Weight loss
  - Medications- Tylenol, NSAIDs, topicals
  - Joint injections
  - Assistive devices
  - Surgery- for knee OA
References