DØDEHAV STIFTELSEN

Osteoarthritis

Essentials – Mini Review

Introduction

- Most common form of arthritis
- 237 million affected: 3.3% of the population
- Among >60 years old, 10% of males and 18% of females
- United States: 30 to 53 million people affected
- Becomes more common as people become older (M/F)

What are the characteristic symptoms?

- **PAIN**
  - Activity related or mechanical
  - Exacerbated by use; Alleviated by rest
  - Insidious in onset; Nocturnal in advanced disease
  - Morning stiffness of brief duration
  - Reduced ROM; Crepitus; No systemic symptom

What are the major risk factors for OA

- Older age
- Genetic inheritance
- Race and ethnicity (Hip OA)
- Being female
- Local mechanical factors (Excessive joint load)

A challenge

Should diet and physical activity be modified to prevent knee OA?

- Obesity most important MODIFIABLE risk factor !
- Encourage physical activity
  - Individual programs, graduated training
  - Muscle strengthening for quadriceps
- But AVOID intense load in previously injured joints

1st bottom line: Introduction

- Diet and physical activity can modify knee OA risk
- Proper training is important

What are the characteristic physical examination features?

- Crepitus – audible and palpable
- Bony prominence – fingers and MCP
- Mal-alignment – thigh and lower leg

Imaging studies?

- OA diagnosis:

  History and Physical exam
- X-Ray insensitive to early disease
- Poor correlation with symptoms
- MRI sometimes useful

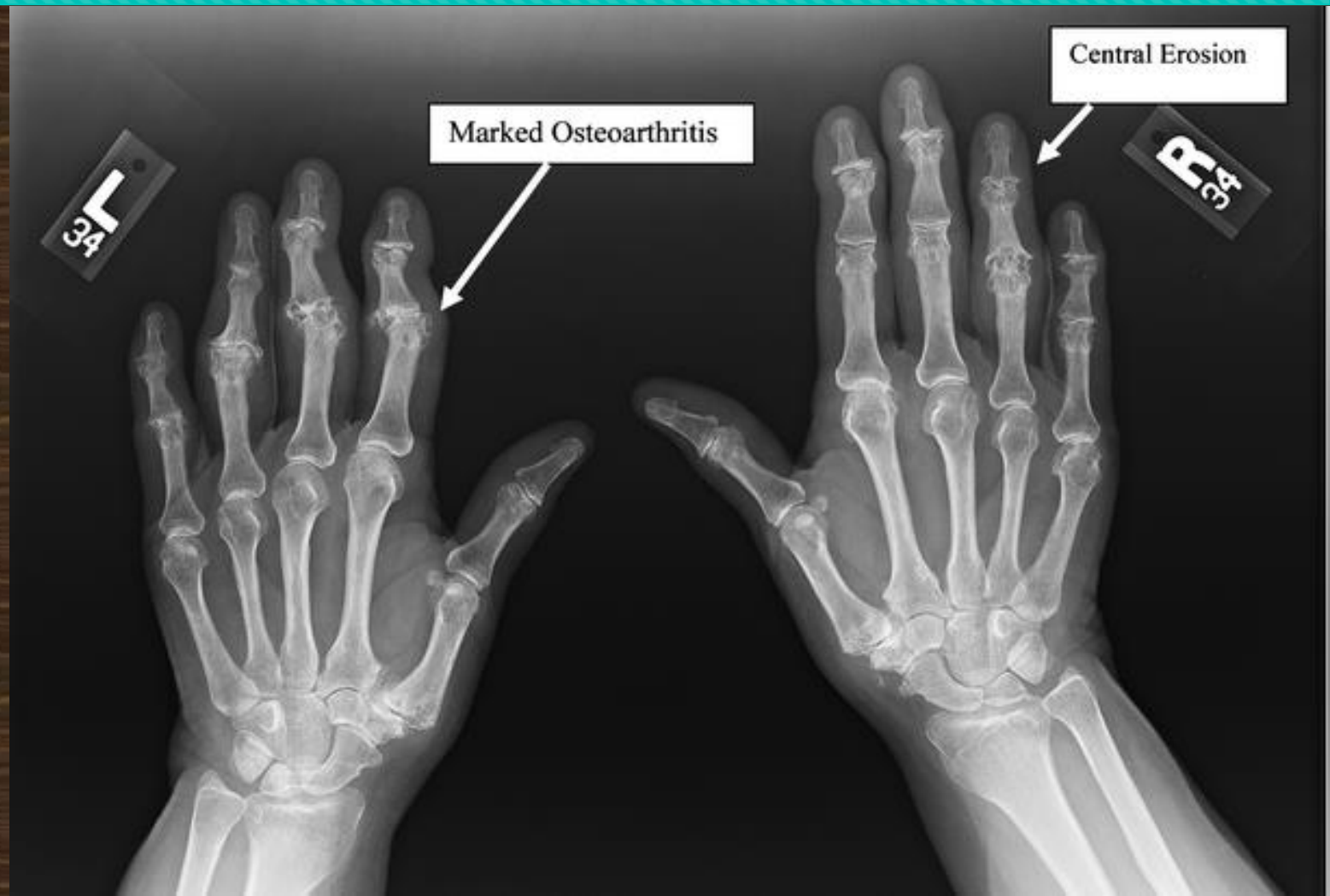
Other studies?

- Lab studies not helpful
- CBC , ESR, CRP = normal
- Before NSAIDs:

  renal and liver function

Are there distinct clinical forms?

- Generalized OA
- Secondary OA
  - Injury, Endocrine
- Erosive OA
  - Hands, Women,
  - Erythema, Swelling,
  - Severe pain

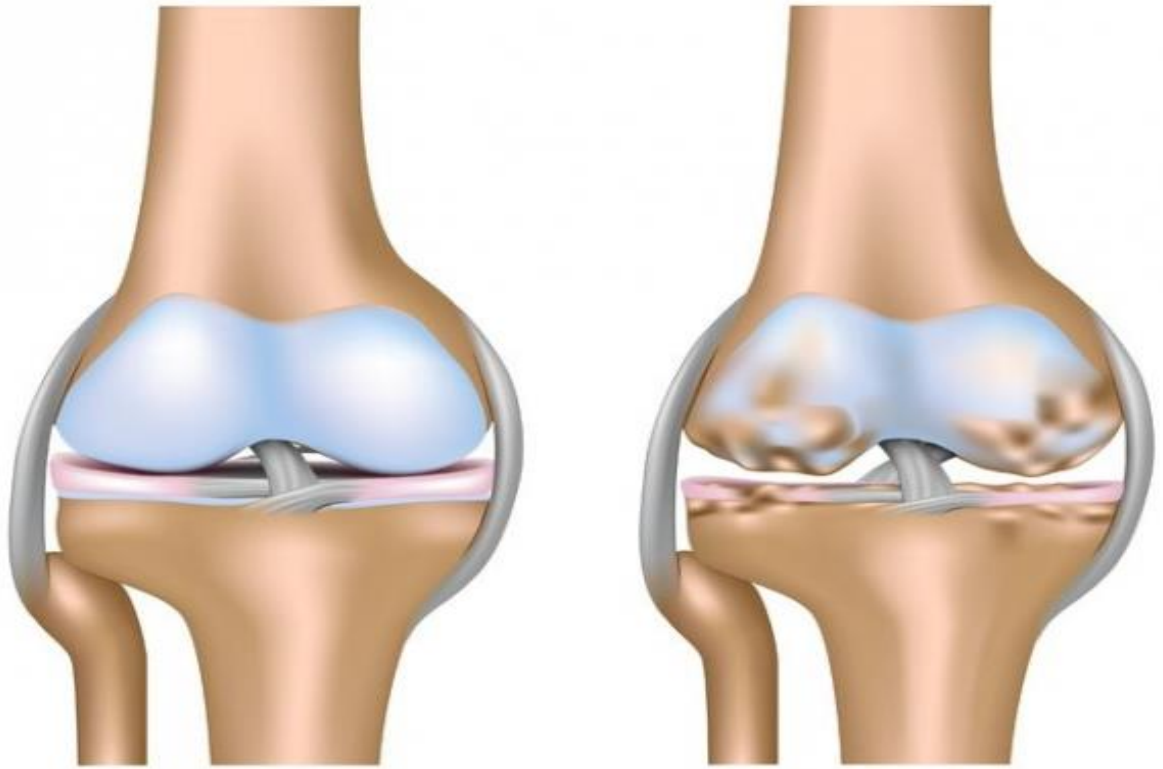


Differential diagnosis

- Rheumatoid Arthritis
- Psoriatic Arthritis
- Trochanteric bursitis
- Tenosynovitis de Quervain
- Meniscal tear
- Gout
- Neuropathic joint (Charcot)
- Osteonecrosis
- Acromegaly
- Hemochromatosis

2nd bottom line: Diagnosis

- History and Physical exam
- Regular X-ray for confirmation
- Joint aspiration in atypical cases
- MRI reserved for knee



Healthy knee joint

Osteoarthritis

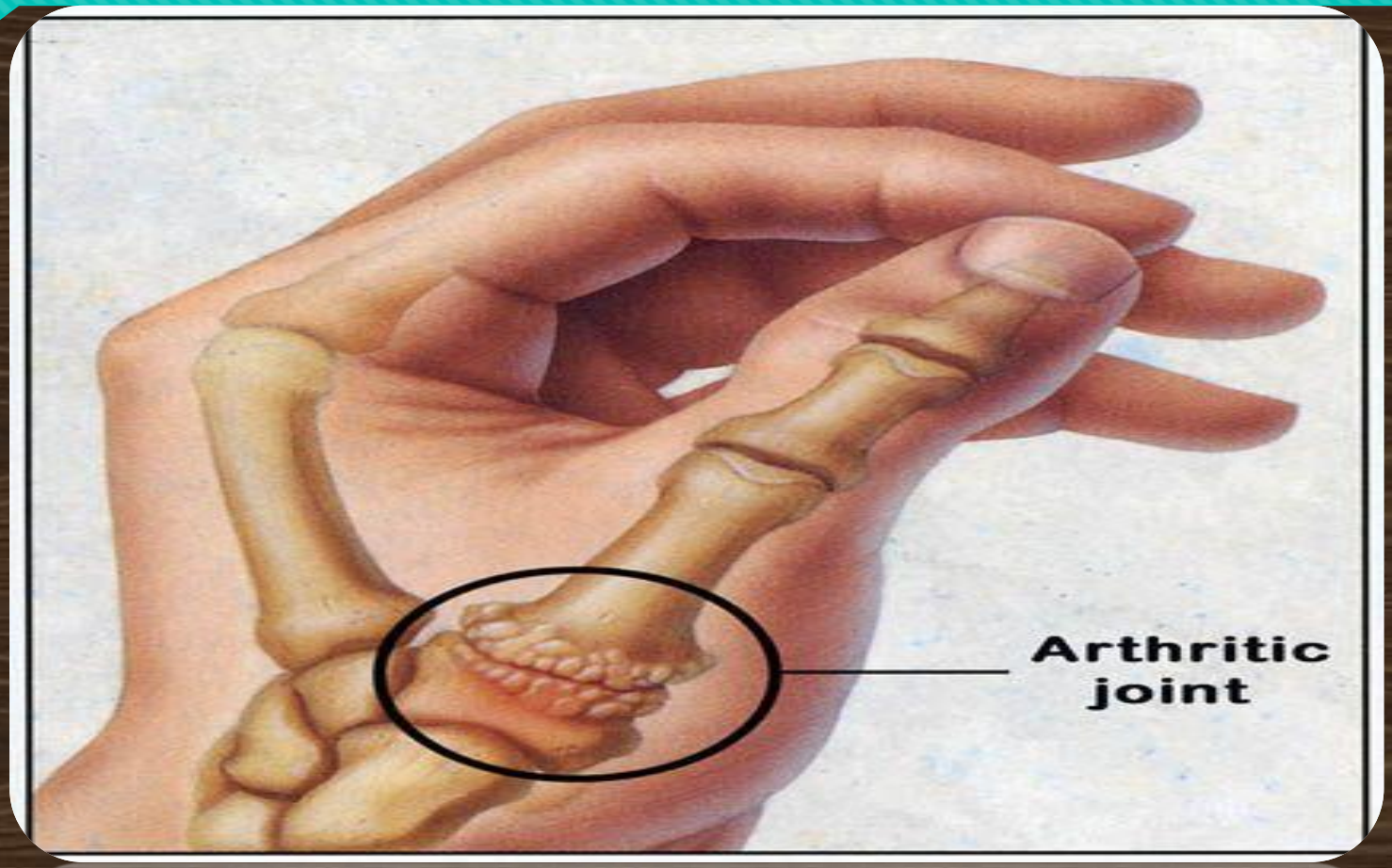
Osteoarthritis of the spine

disks narrow and bone spurs form

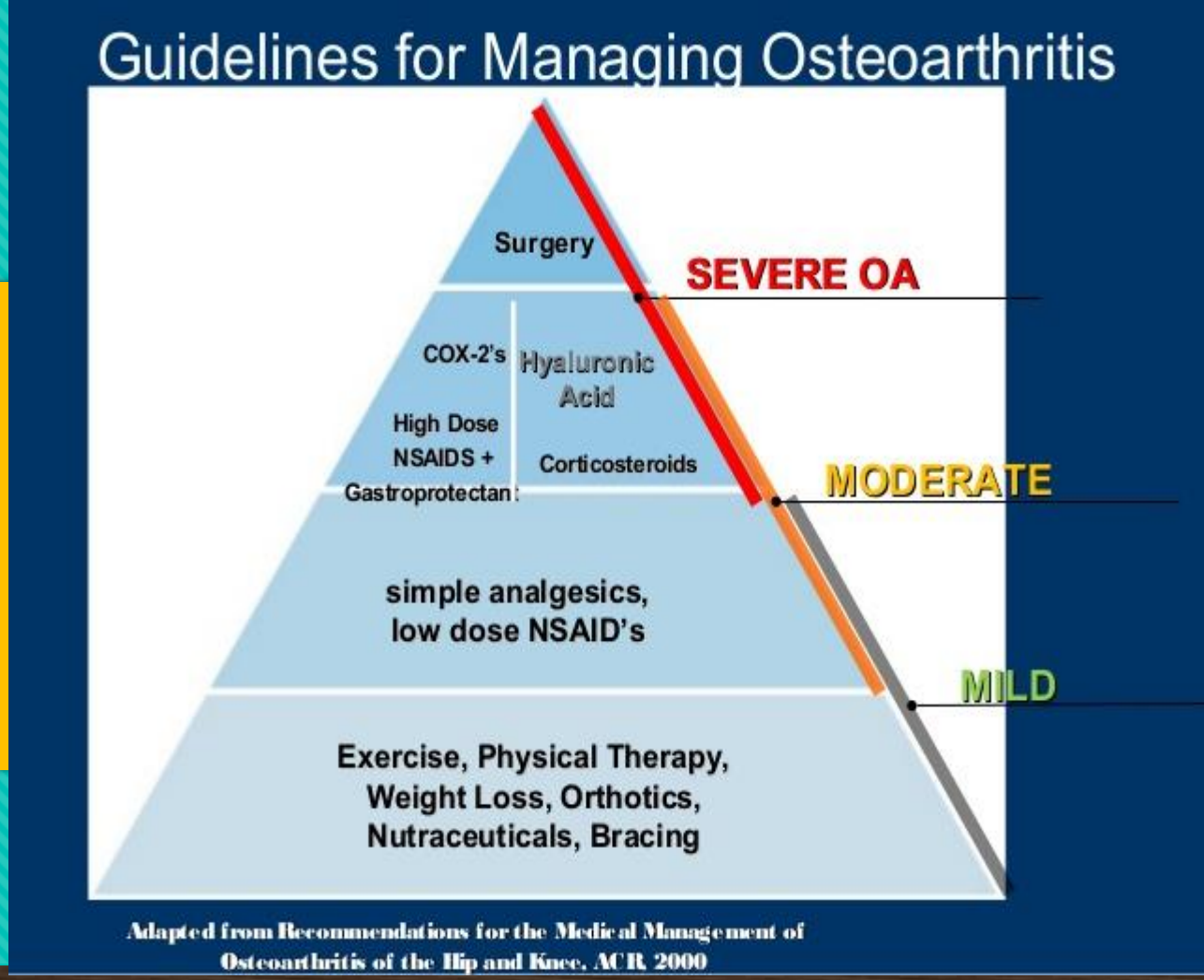
Osteoarthritis of the hip

Right side of the image: deterioration of cartilage and formation of bone spurs

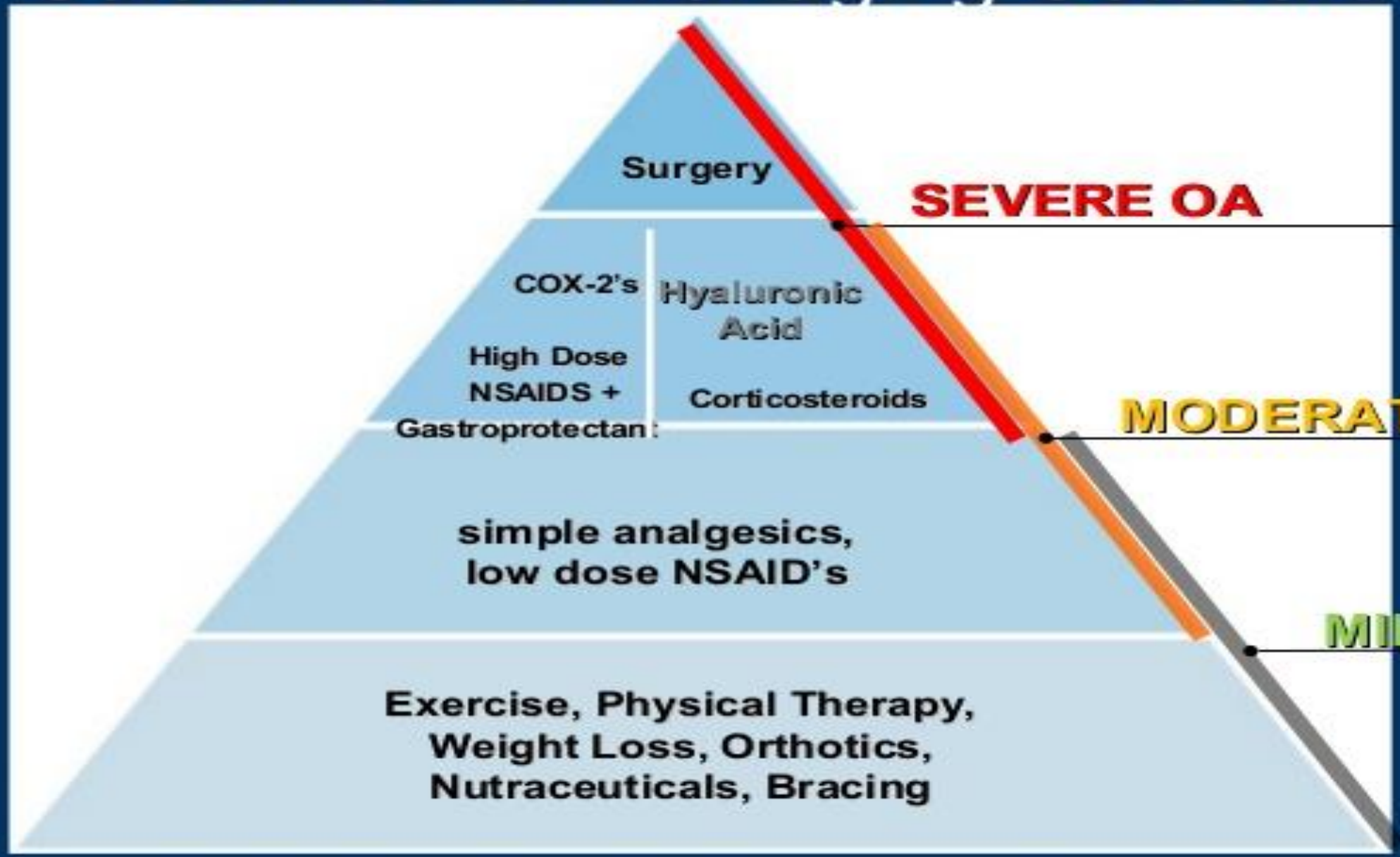
Metacarpal-phalangeal join OA



OA Treatment



Guidelines for Managing Osteoarthritis



Adapted from Recommendations for the Medical Management of Osteoarthritis of the Hip and Knee. ACR 2000

Overall therapeutic approach

- Tailored managed to the individual patient
- Diminish joint pain, enhance functional capacity
- Begin by non-pharma , non surgery

Overview on Therapy

1. Patient education
2. Weight loss / Exercise
3. Physical and Occupational therapy
4. Assistive devices
5. Medications / Surgery

1. Patient Education

- Self-management program
- Information; instruction on coping skills
- Support and follow-up

2a. Weight loss part of the treatment plan?

- Absolutely !
- Encourage weight loss through diet and exercise
- Can surely alleviate OA symptoms

2b. Exercise for Knee and Hip OA

- Increases
  - Aerobic capacity; Muscle strength; Endurance
- Facilitates weight loss
- Low impact better than high velocity/ high impact

3a. Physical Therapy PT

- Improves biomechanics in knee and hip OA
- Active and passive ROM exercise
- Muscle strengthening
- Improves alignment

3b. Occupational Therapy OT

- Key resource in management of hand OA
- ROM exercises
- Joint protection instruction
- Splint (MCP)

4. Assistive devices

- For knee or hip OA
  - Cane or walker improves gait and mobility
  - Diminish pain
  - Transfer body weight away from the limb compromised
  - Proper instruction warranted

4. Assistive devices

- For hand OA
  - Large grip utensils, writing instruments, key holders
  - Reduce force across fingers and base of thumb
  - Enhance the gripping motion
  - Reduce pain

5. Medications - Basic

- First – Acetaminophen up to 4 g/day
- NSAIDs
  - Routine non recommended
  - Significant potential toxicity, elderly +++
  - Toxicity contributes to hospitalizations

5. Medications - Topical

- Good first-line agent
- Minimal side effects
- NSAIDs or Capsaicin

5. Med. – Glucosamine/Chondroitine

- Similar to placebo in studies
- Well appreciated in real world
- Uncertain benefits on structural modifications

5. Medications - Acupuncture

- Equivocal data
- Safe

5. Medications – IA Steroids or HA

- Improve pain and function
- Short term benefit (1-2 weeks)
- Steroids
  - No more than every 4 months
  - Repeated use can cause damage
- Hyaluronic Acid

3rd bottom line: Treatment

- Non-pharma treatment first: Weight, PT, OT
- Pharma: Paracetamol, caution with NSAIDs
- Surgery:
  - For advanced disease
  - When symptoms don't respond to medical therapy

And what about Climatotherapy at the Dead Sea?

Climatotherapy and Rehabilitation at the Dead Sea

- Combined multidisciplinary approach
- Climatic factors and rehabilitation program
- Real world follow-up in a 3-week stay
- Impressive results

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