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Orthopedic Team Course Meeting: Nonoperative Treatment of Hip OA

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Disclosures

Consultant and Royalty Agreements

Research Support

Biomet Orthopedics

Consultant: Link Orthopedics

Institutional Research Support:

Stryker, Depuy, Zimmer

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Introduction

- **Hip OA: Most Common Cause of Hip Pain in Older Adults**

33 Yo Female Hockey Coach

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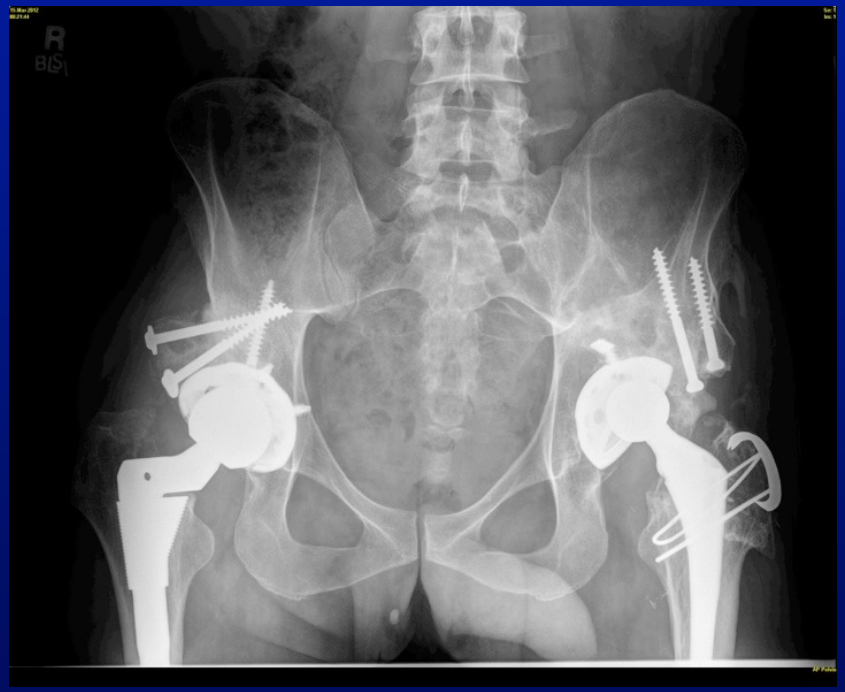
Leading to THA < 55 yo



- Osteoarthritis 50%
  - DDH
  - FAI
- Osteonecrosis 30%
- Inflammatory 7.8%
- Postraumatic 7.7

Clohisy et al JBJS 2011

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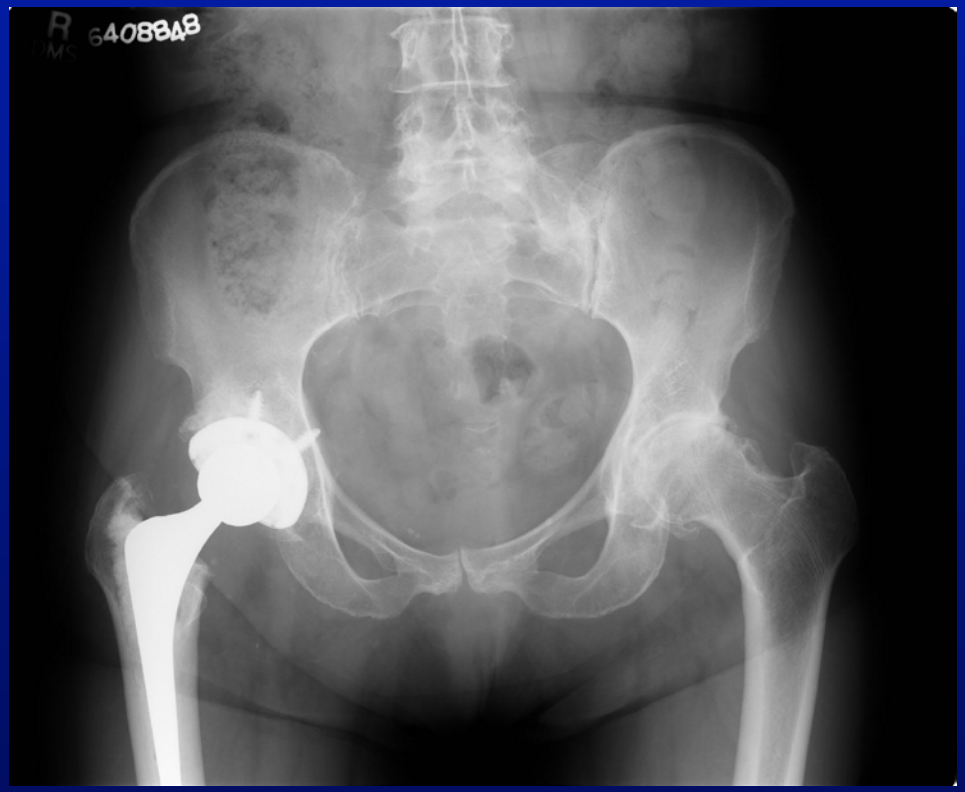
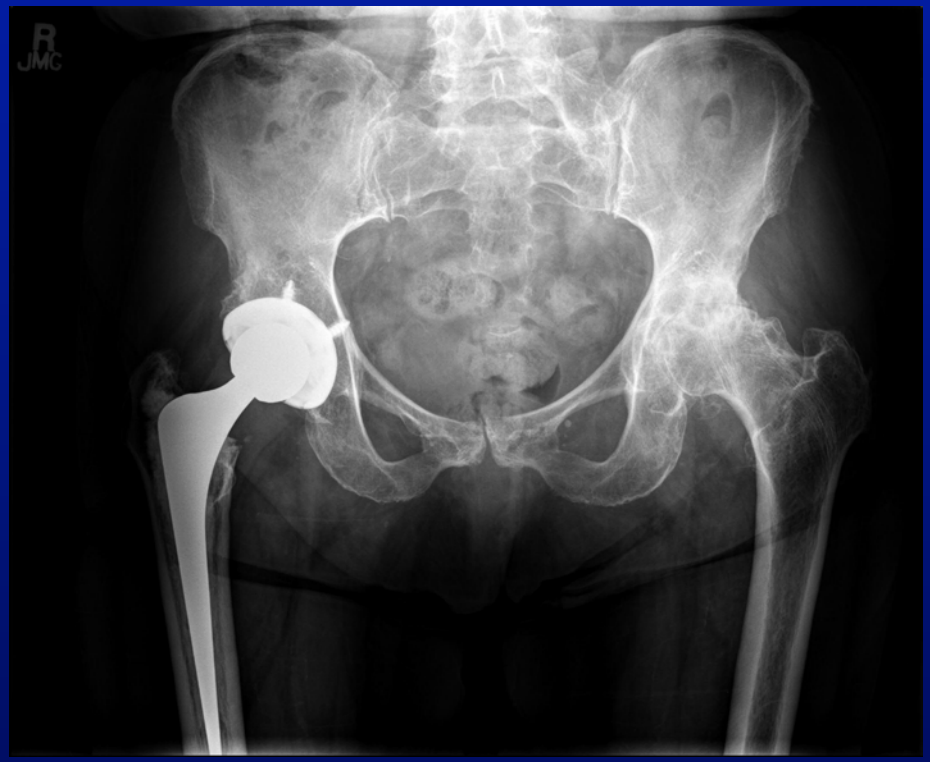
Many Years



2007



2015

Rate of Degenerative Change

Median Time To Progression Between Tönnis Stages

	CDH	FAI	Normal
T0 → T1	15.9 years	12.6 years	17.9 years
T0 → T2	27.2 years	25.7 years	30.6 years
T0 → T3/THA	33.1 years	–	–

Log-Rank Test*

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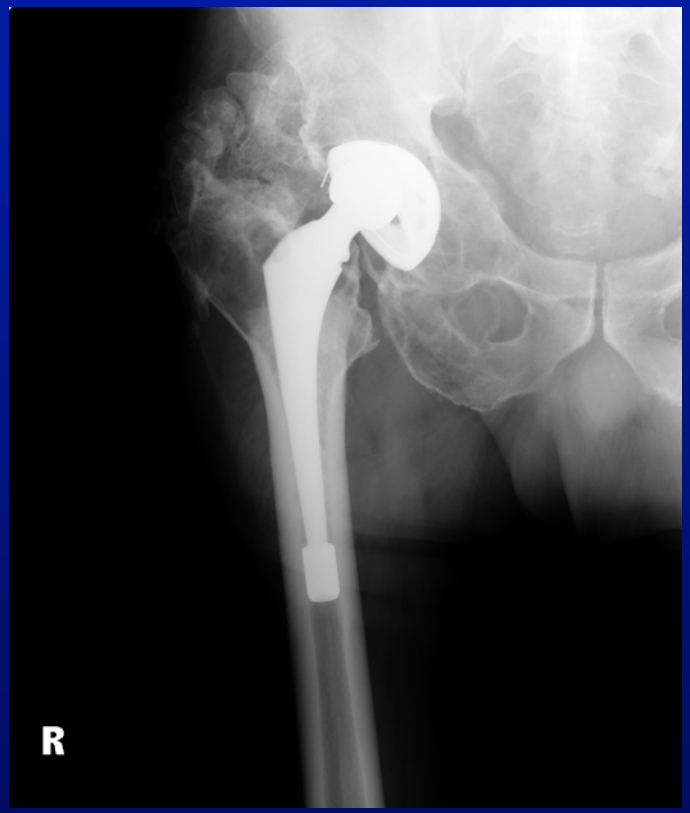
Nonoperative Treatment

- Despite the optimism of alternative bearing surfaces including highly cross linked polyethylene, THA should be recommended only after appropriate nonoperative treatment has been exhausted



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Outline

1. Radiographic features of Hip Arthritis that are commonly missed
2. Patients with hip symptoms you don't want to miss as joint preservation may help
3. Nonoperative treatment modalities for hip OA and their evidence
4. When should I refer for surgery?

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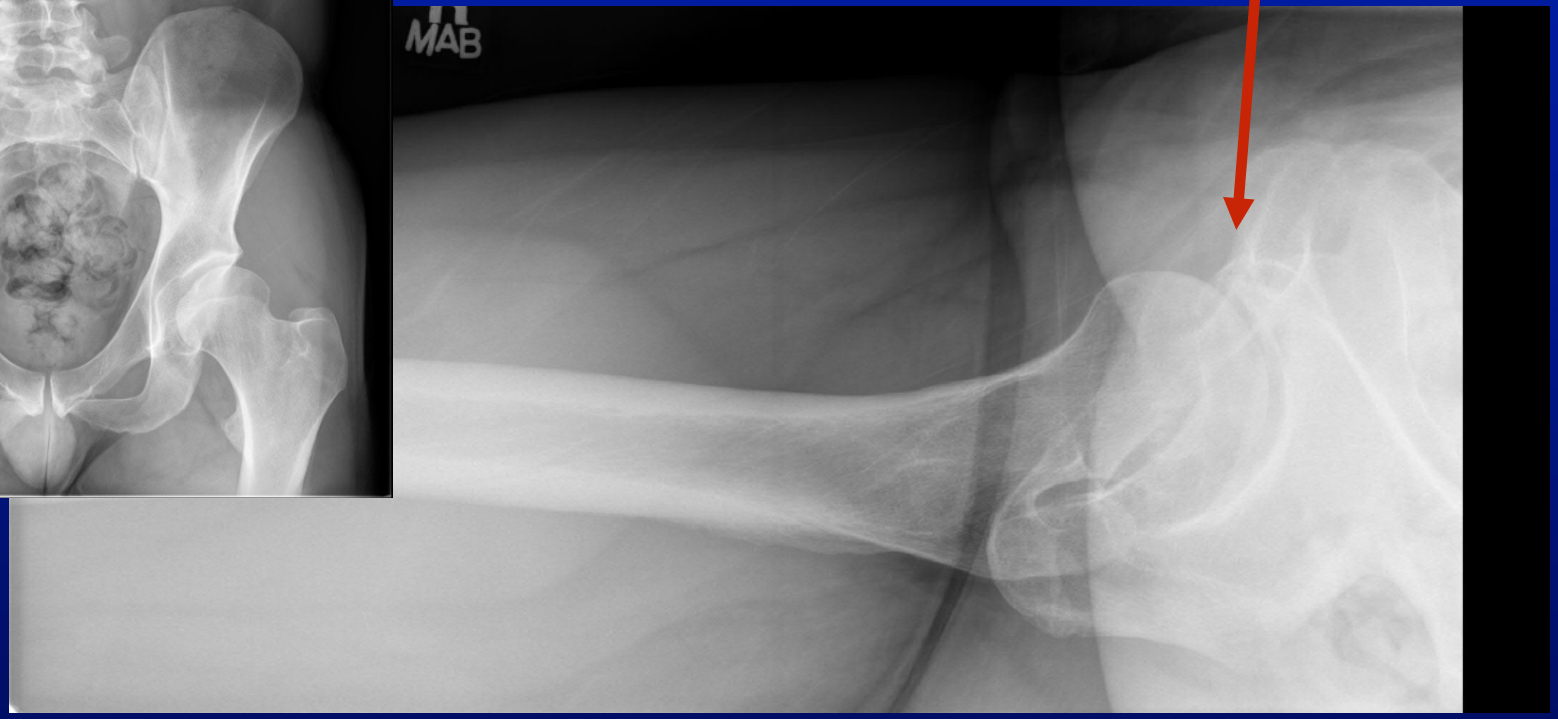
Whats easy to miss…



Anterior Wear Pattern
Instability

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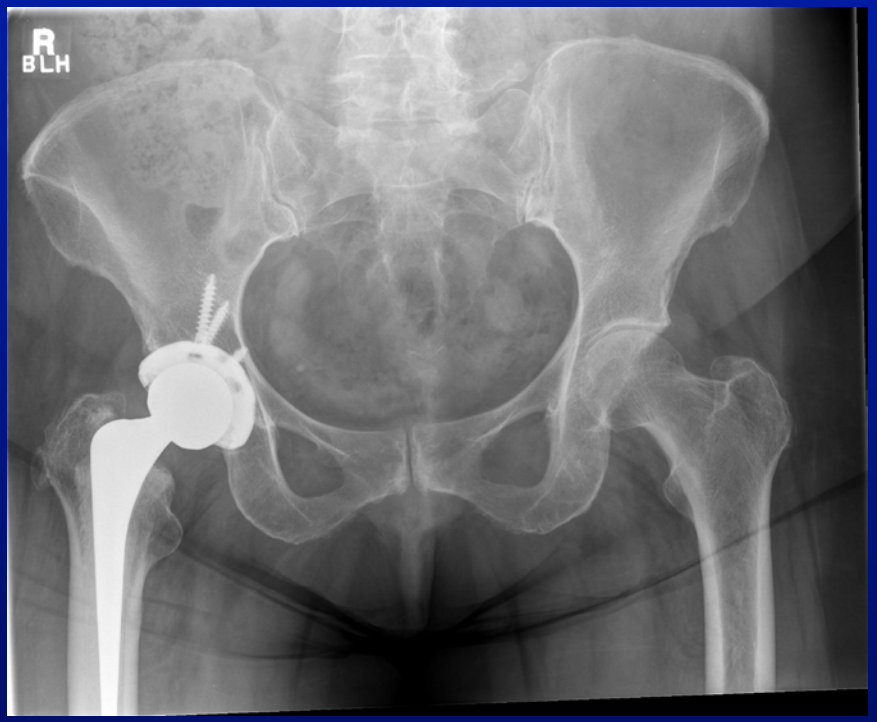
Medial OA



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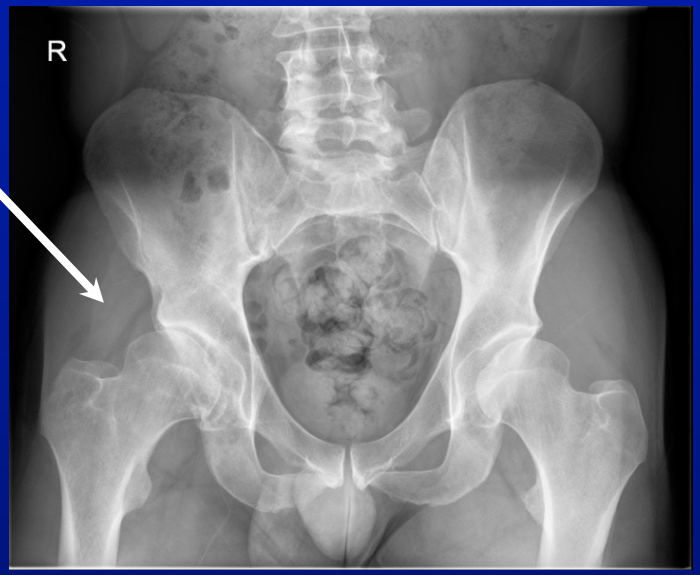
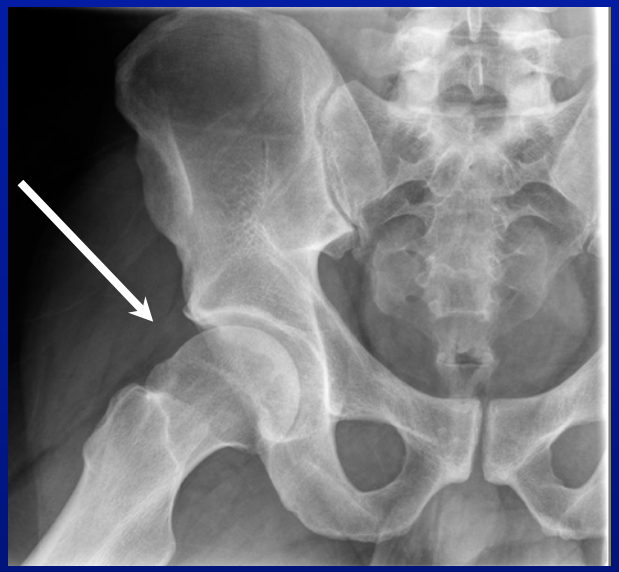
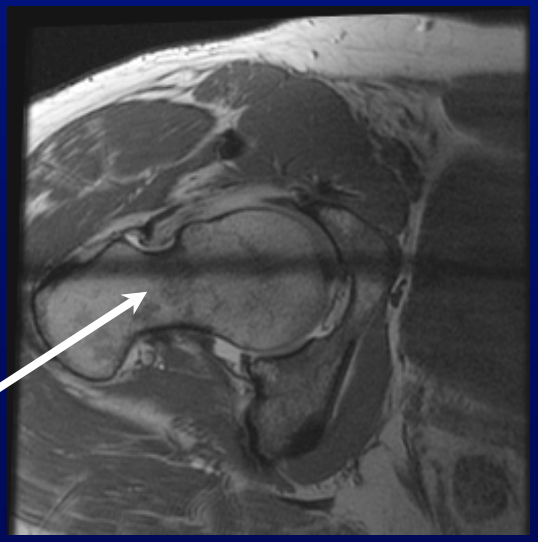
What not to Miss?

DDH





FAI



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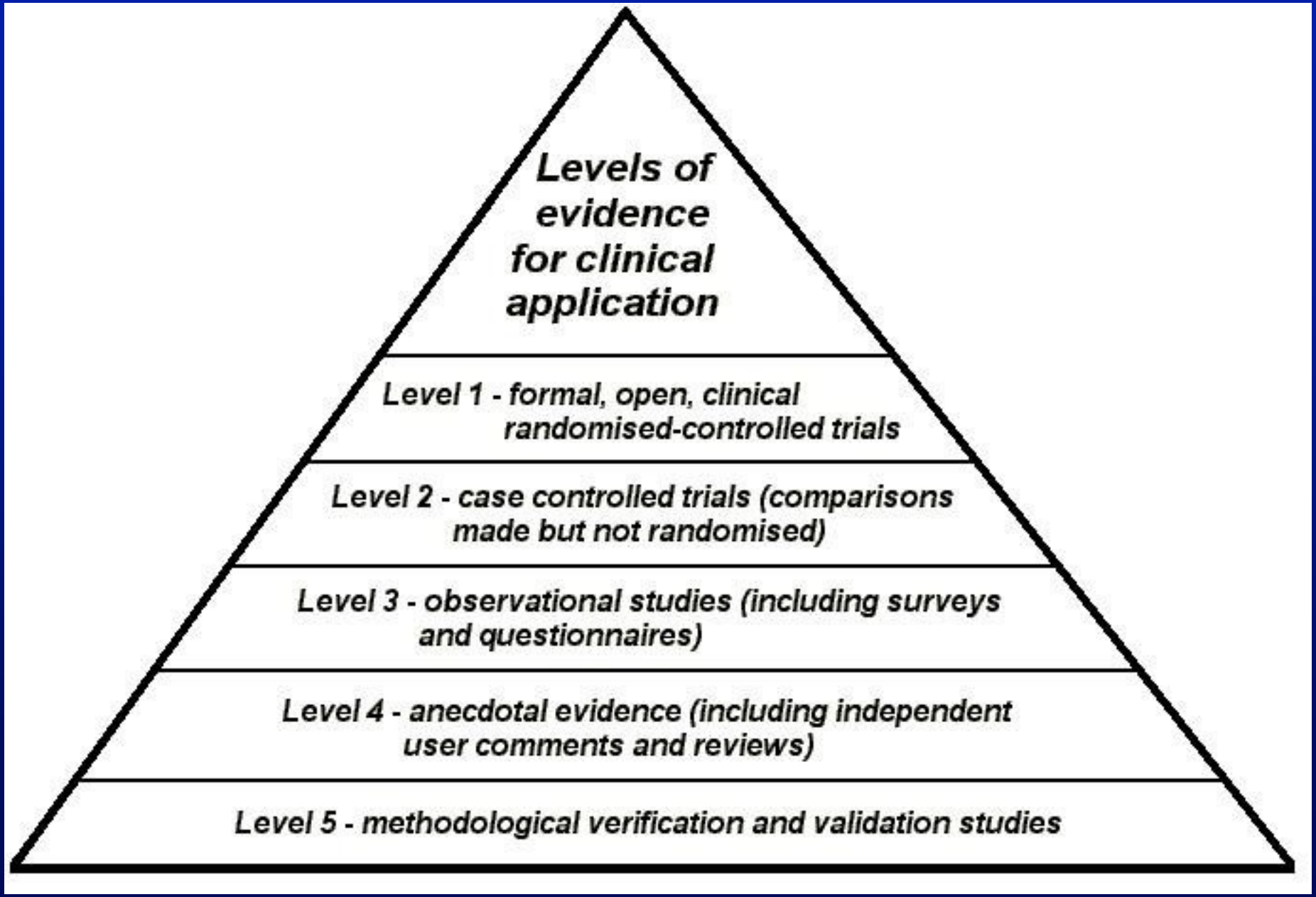
Adult Hip Osteoarthritis Non operative Treatment

- Nonoperative Treatment may be beneficial in early stages of OA
- Results are highly patient dependent


Levels of evidence for clinical application
Level 1 - formal, open, clinical randomised-controlled trials
Level 2 - case controlled trials (comparisons made but not randomised)
Level 3 - observational studies (including surveys and questionnaires)
Level 4 - anecdotal evidence (including independent user comments and reviews)
Level 5 - methodological verification and validation studies

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Patient Education

- Decreases Pain
- Improves Function
- Reduces Stiffness and Fatigue
- Decreased Medicine Use
- 20% more Pain relief than NSAIDS alone

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Patient education	Activity modification Exercise recommendations Weight reduction Methods to unload joint	(Moderate evidence, Level I-II) Decreased pain, decreased stiffness and fatigue, improved function and decreased medication usage reported in studies involving patient education in self-management of arthritis [1, 3, 4, 21-24].

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Assistive Devices

- Reduce Pain and Activity Limitation
- Cane in contralateral hand
- Carry Loads in ipsilateral hand

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Gait training	Use of assistive device to decrease the load on the arthritic hip. (cane, crutches, walker)	(Weak evidence, Level II-IV) Decreased pain and improved activity levels reported with use of gait aide[25]. Expert consensus endorses the use of assistive devices.

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NSAIDS

- Randomized Trials showing benefit in hip OA
- Must weight the risk of GI bleed and HTN

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NSAIDS

Table 3
Recommendations for the selection of non-steroidal anti-inflammatory drugs (NSAIDs) for the treatment of osteoarthritis (OA) according to patients' risk factors

Normal GI risk	Non-selective NSAIDs with PPI Cox-2-selective NSAIDs (consider PPI)
Increased GI risk[a]	Cox-2-selective NSAIDs with PPI Avoid non-selective NSAIDs
Increased CV risk	Prefer naproxen Avoid high-dose diclofenac and ibuprofen (if on low-dose aspirin) Caution with other non-selective NSAIDs Avoid Cox-2-selective NSAIDs
Increased renal risk	Avoid NSAIDs[b]

Cox-2, cyclo-oxygenase-2; CV, cardiovascular; GI, gastrointestinal; NSAID, non-steroidal anti-inflammatory drug; OA, osteoarthritis; PPI, proton pump inhibitor.

[a] Including use of low-dose aspirin.

[b] With glomerular filtration rate < 30 cc/min; caution in other cases GI.

Seminars in in Rheumatism 2015

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Cortisone Injections

- I like to Use
- Placebo controlled trial showed benefits of its use
- Improvements for ~ 3 months

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Viscosupplementation

- Not FDA approved
- May be best for mild to moderate OA
- Metanalysis shows potential benefit in hip OA

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Glucosamine-Chondroitin

- Mixed Results. Glucosamine may have short term improvement in pain and function
- Chondroitin: Minimal benefit or non-existent

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Table 6. Pharmacologic recommendations for the initial management of hip OA*

We conditionally recommend that patients with hip OA should use one of the following:
- Acetaminophen
- Oral NSAIDs
- Tramadol
- Intraarticular corticosteroid injections

We conditionally recommend that patients with hip OA should not use the following:
- Chondroitin sulfate
- Glucosamine

We have no recommendation regarding the use of the following:
- Topical NSAIDs
- Intraarticular hyaluronate injections
- Duloxetine
- Opioid analgesics

American College of Rheumatology Recommendations 2012

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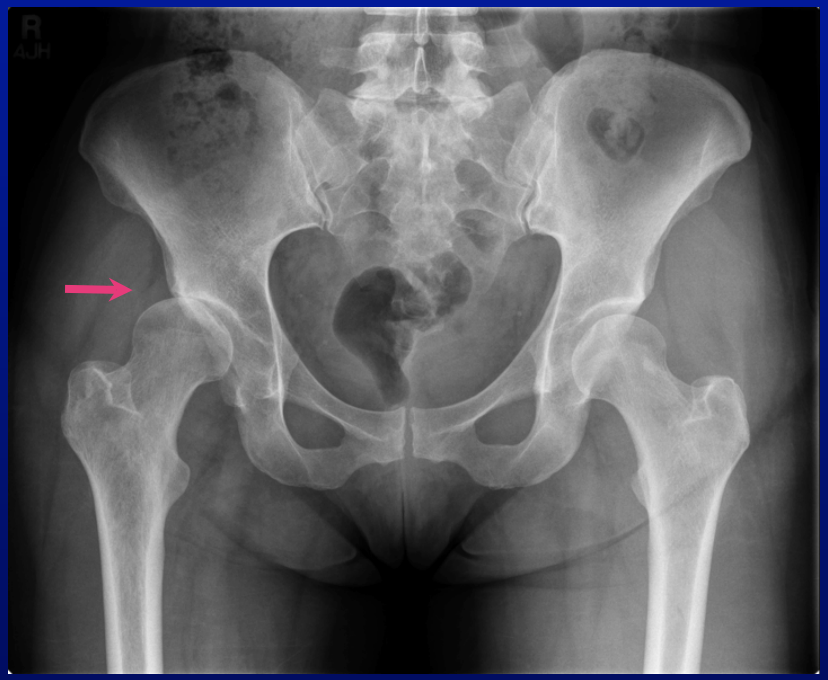
Physical Therapy



- Commonly recommended
  - Functional Training
  - Flexibility, Strengthening, endurance
  - Hydrotherapy
- Manual therapy and ROM

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Balance and functional training	Exercises to simulate ADLs performed at varying speeds and progress difficulty level Chair rise Reaching Stepping Squatting Balance and proprioception training	(Weak evidence, Level II) Improved functional performance with weight bearing activities reported [26].

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Mostly Level II

Manual therapy	Assisted stretching, traction manipulation, mobilization (P/A, distraction/traction). Recommend use in combination with exercise.	(Moderate evidence, Level I, IV) Short-term pain relief and improved hip mobility and function reported in studies [27, 28].
Flexibility	Stretch identified tight structures. Target: iliopsoas, rectus femoris, hip adductors	(Moderate evidence, Level II) Decreased pain, less use of medication, improved function reported in studies [1, 29-31].
Strengthening	Strengthen identified weak structures. Target hip abductors and hip extensors	(Moderate evidence, Level II) Decreased pain, less use of medication, improved function reported in studies [1, 29, 32-34].
Aerobic/Endurance	Intensity: 60-80% max capacity Duration: at least 20 minutes, 3 times/wk Type: Low/no-impact (land and aquatic based)	(Moderate evidence, Level II) Improved function and decreased pain have been reported in studies [1, 24].

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Real World..

- Patients Want to Be Active
- Many Do not Want to Change their Activity Level
- Patients find it hard to loose weight
- Hip Replacement is very Successful at all ages…

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Arthroplasty

- **Indications**
  - Hip pain that does not respond to non-operative management
  - Interfering with patient activity level and quality of life

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Total Hip Arthroplasty

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In Conclusion

- Hip Arthritis is Common
- Do Not want to Miss Patients with Early Structural Hip Disease that may benefit from joint preservation
- Patients Education, NSAIDS, Cortisone Injections, Physical therapy are accepted forms for non operative management with differing success rates

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In Conclusion

- When Failure of nonoperative management referral for THA is very appropriate.

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