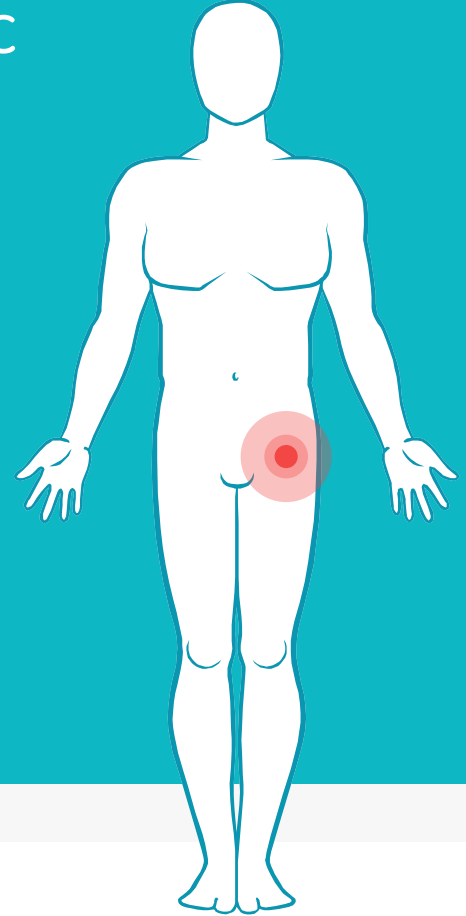


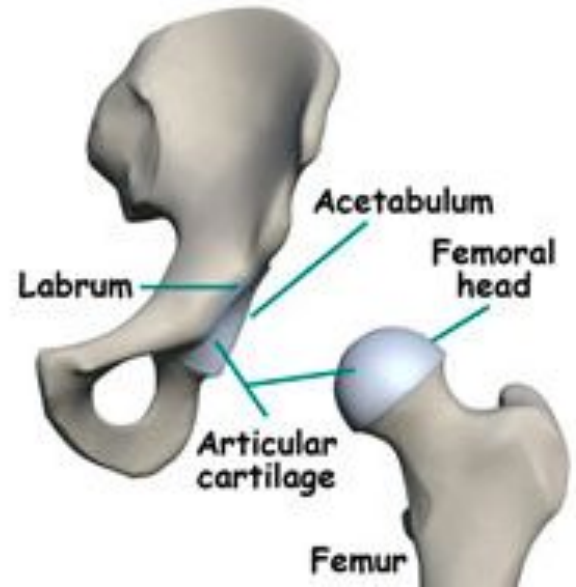
Investigating open surgical and arthroscopic surgical treatments and non-surgical alternatives for femoral acetabular impingement and torn acetabular labrum

Thousand Oaks High School
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Acetabular Labrum

- ▶ Cartilage that lines the rim of the acetabulum
- ▶ Prevents bones from rubbing against each other
- ▶ Provides for proper joint lubrication
- ▶ Pressure distribution
- ▶ Increases stability of joint

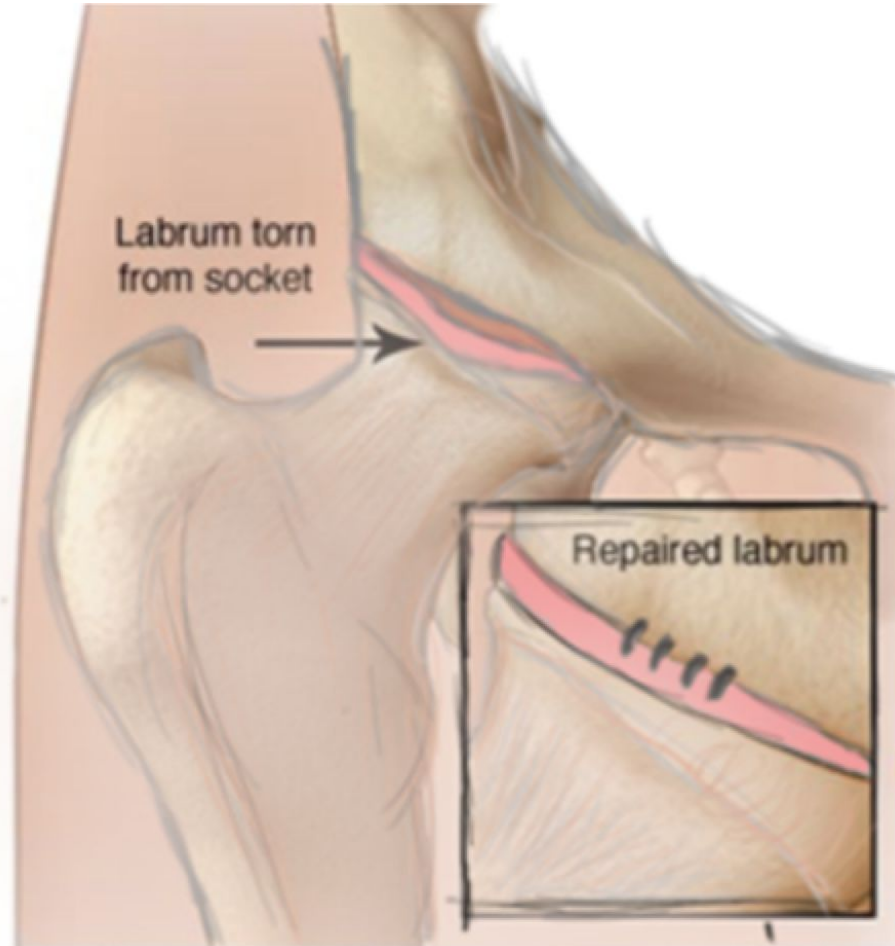


Acetabular Labral Tear

- ▶ Diagnosed with increased frequency
- ▶ Result of a fall, accident, or sport that requires regular rotation of hip
- ▶ Tears develop gradually
- ▶ May be asymptomatic
- ▶ Severe groin pain

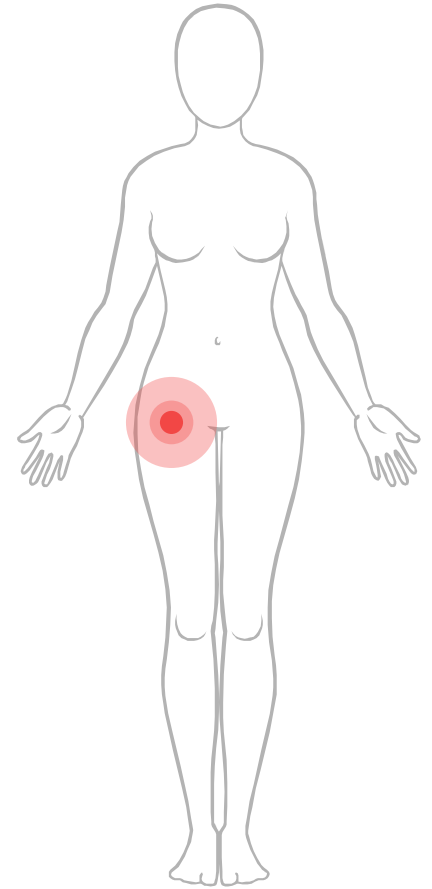
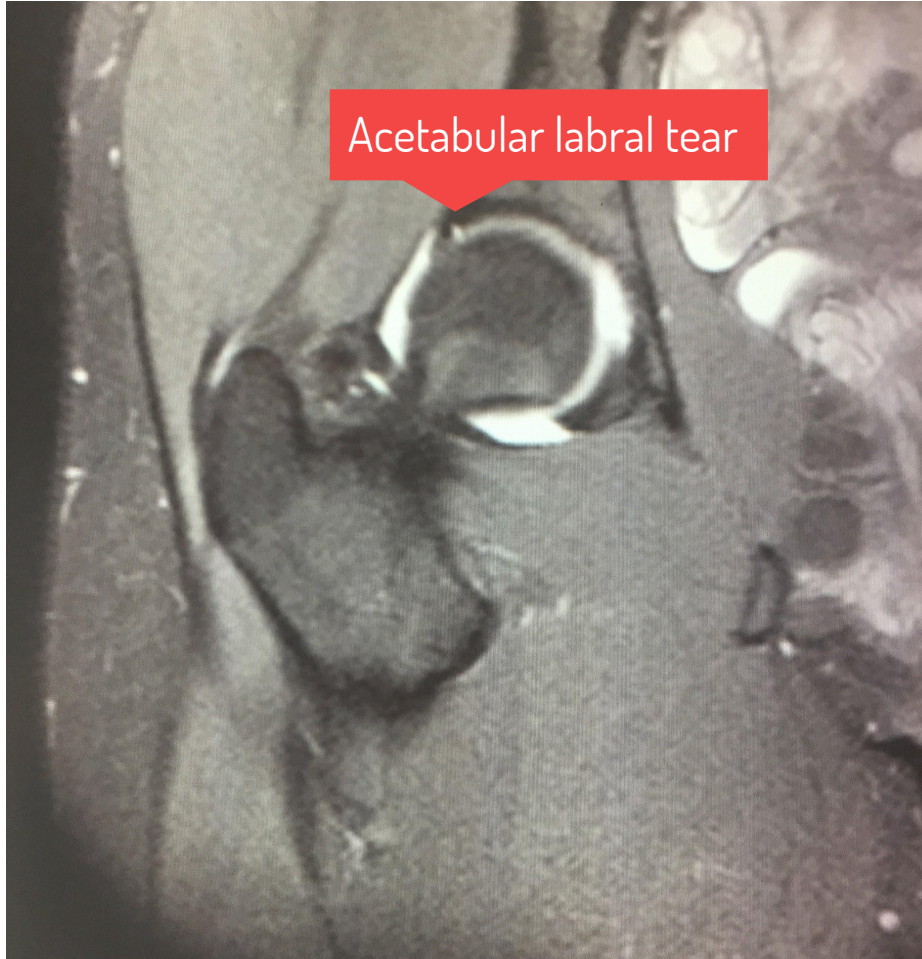
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Comparison
between a
torn and a
repaired
labrum.



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MRI Image of labral tear

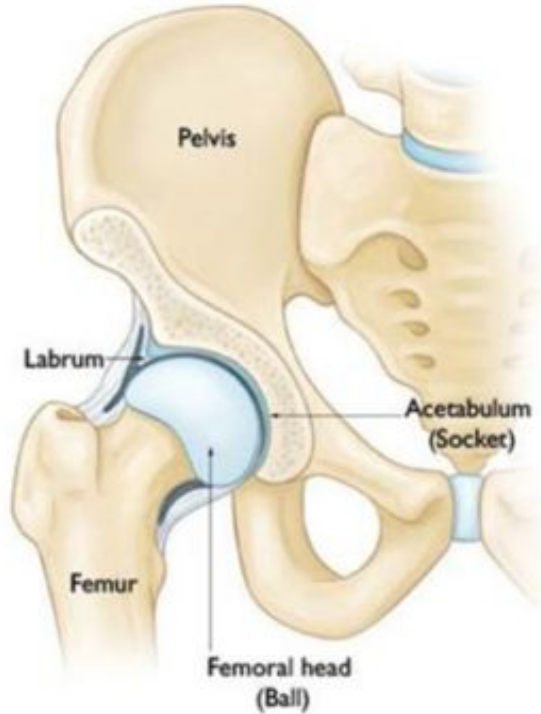


Femoral Acetabular Impingement (FAI)

- ▶ Found in the hip joint where the femur meets the pelvis
 - ▶ Cam Impingement:
 - Deformity of the femoral head
 - ▶ Pincer Impingement:
 - Deformity of the socket

Comparison between a normal hip and a hip with FAI.

Normal Hip

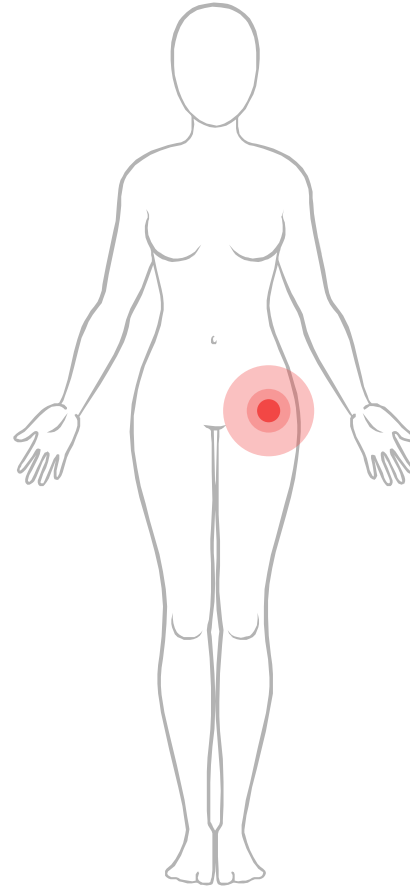


Hip with FAI



Treatment

- ▶ Non-surgical
- ▶ Open Surgery
- ▶ Arthroscopic Surgery



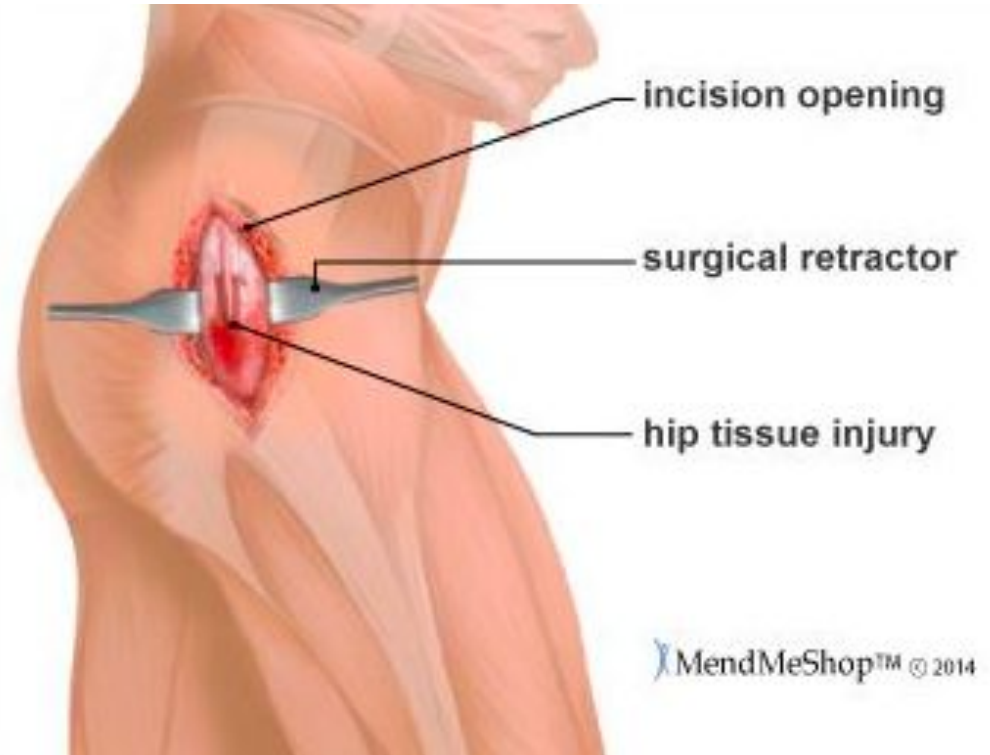
Treatment: Non-surgical

- ▷ Physical Therapy
- ▷ Activity Modification
- ▷ Medication
 - ▶ Anti-inflammatory
 - ▶ Narcotics
 - ▶ Steroid Injections



Treatment: Open Surgery

- ▶ Dislocating the ball and socket
- ▶ 7 to 10 inch incision
- ▶ Complete visualization
- ▶ Inpatient surgery



Treatment: Arthroscopic

- ▷ ¼ inch incisions
 - ▶ 2 to 5
- ▷ Minimal invasion
- ▷ Outpatient surgery



Question 1

What is the best treatment for torn acetabular labrum and femoral acetabular impingement given varying needs of the patient?



Hypothesis 1:

Treatments vary in their desirability depending on varying patient needs (e.g., post-treatment activity levels).

- ▶ Arthroscopic surgery is most desirable for athletes.
- ▶ Non-surgical treatment is an option for patients with low anticipated levels of post-treatment activity.

Question 2

What is the process by which physicians help their patients choose among treatment options?



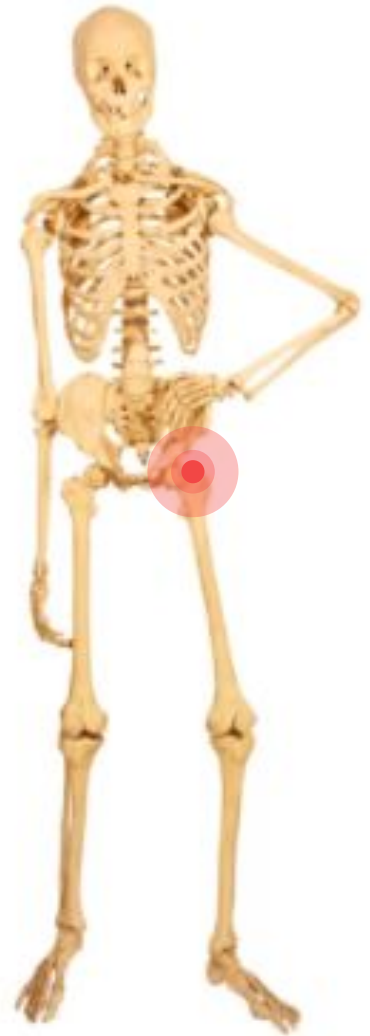
Hypothesis 2:

Decisions are informed by a number of things including:

- ▶ existing literature
- ▶ prior experience
- ▶ surgical expertise
- ▶ opinions of other medical specialists
- ▶ needs and desires of the patient

Participants: Orthopedic Surgeon

- ▶ 24 Orthopedic Surgeons were contacted
 - ▶ Thousand Oaks and Westlake Village
- ▶ 1 Male Participant Responded
 - ▶ 10 years in practice
 - ▶ 41 years old



Participants: Physical Therapists

- ▷ 75 Physical Therapists were contacted
 - ▶ Thousand Oaks and Westlake Village
- ▷ 6 Females, 5 Males, and 1 Preferred not to state his/her sex
- ▷ Average age was 45
 - ◆ (Mean = 45.16, SD = 13.19)
- ▷ Average of 18 years in practice
 - ◆ (Mean = 18.21, SD = 10.97)

Procedure: Orthopedic Surgeon

- ▶ Interview conducted with orthopedic surgeon
 - ▶ Consisted of the following questions:
 - i. How many patients have you seen with labral tear and FAI within the last year?
 - ii. What is your preferred course of treatment?
 - iii. Are you usually the person with the final say about whether surgery is necessary?
 - ▶ Clarification and follow-up questions as necessary

Procedure: Physical Therapists

- ▶ Survey consisted of nine questions that asked things such as:
 - i. History of work with patients with labral tear and FAI
 - ii. Frequency of different treatments
 - iii. Predictions regarding recovery time
 - iv. Benefits and drawbacks of each treatment

Results: Orthopedic Surgeon Interview

- ▶ Sees several hundred of patients per year
 - ▶ Patients respond well to non-surgical treatment
 - ▶ Operates on a small percentage

“It depends on the patient's activity level and how much change in the femoral head--the ball and socket or the socket side--they have.”

Results: Orthopedic Surgeon Interview

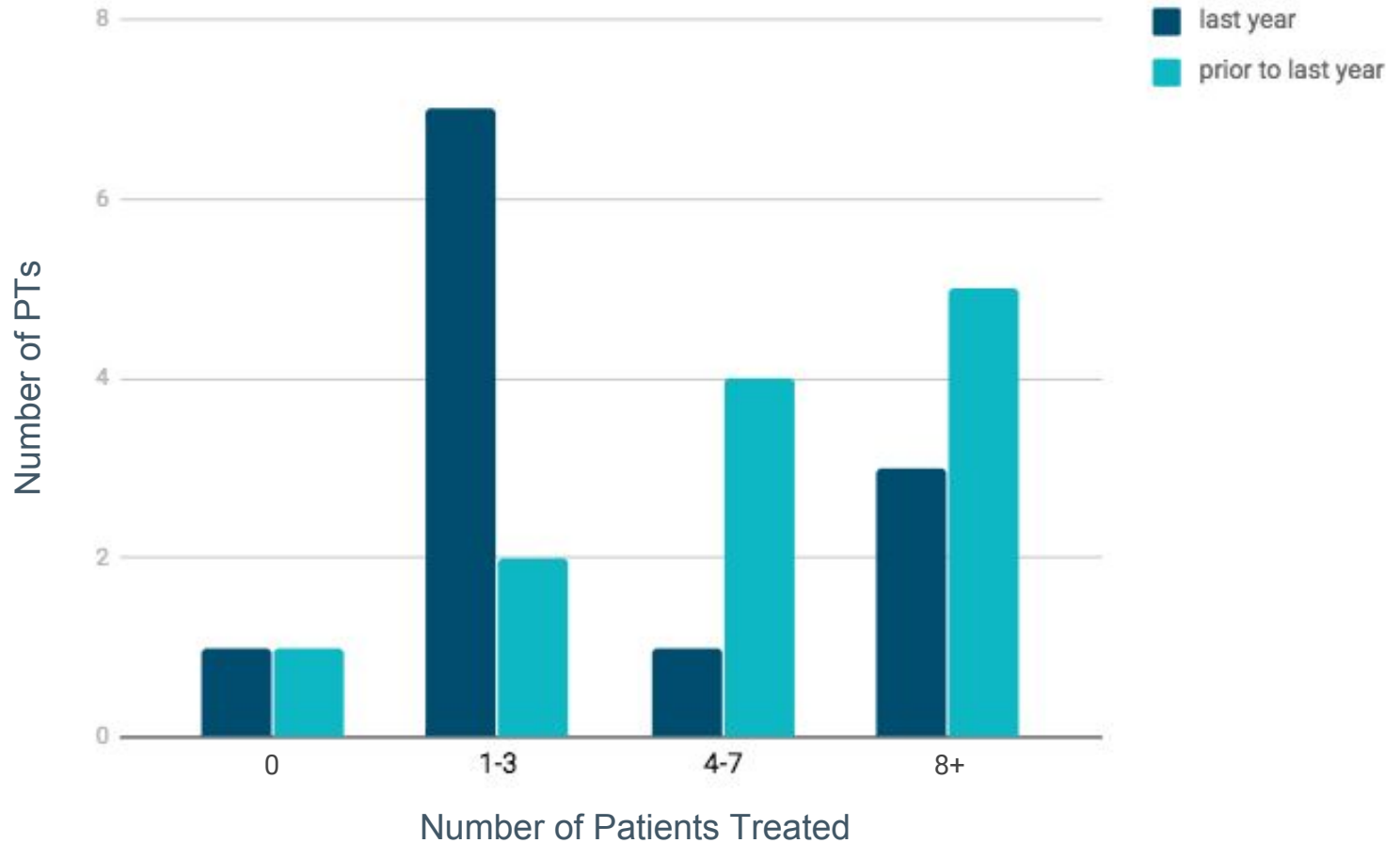
Preferred Course of Treatment:

1. Modify training
2. Physical therapy
3. Anti-inflammatory medication
4. Confirm labral tear and FAI
5. Injection:
 - a. Anesthetic
 - b. Steroid
 - c. Blood based cell therapy
6. Surgery

Results: Orthopedic Surgeon Interview

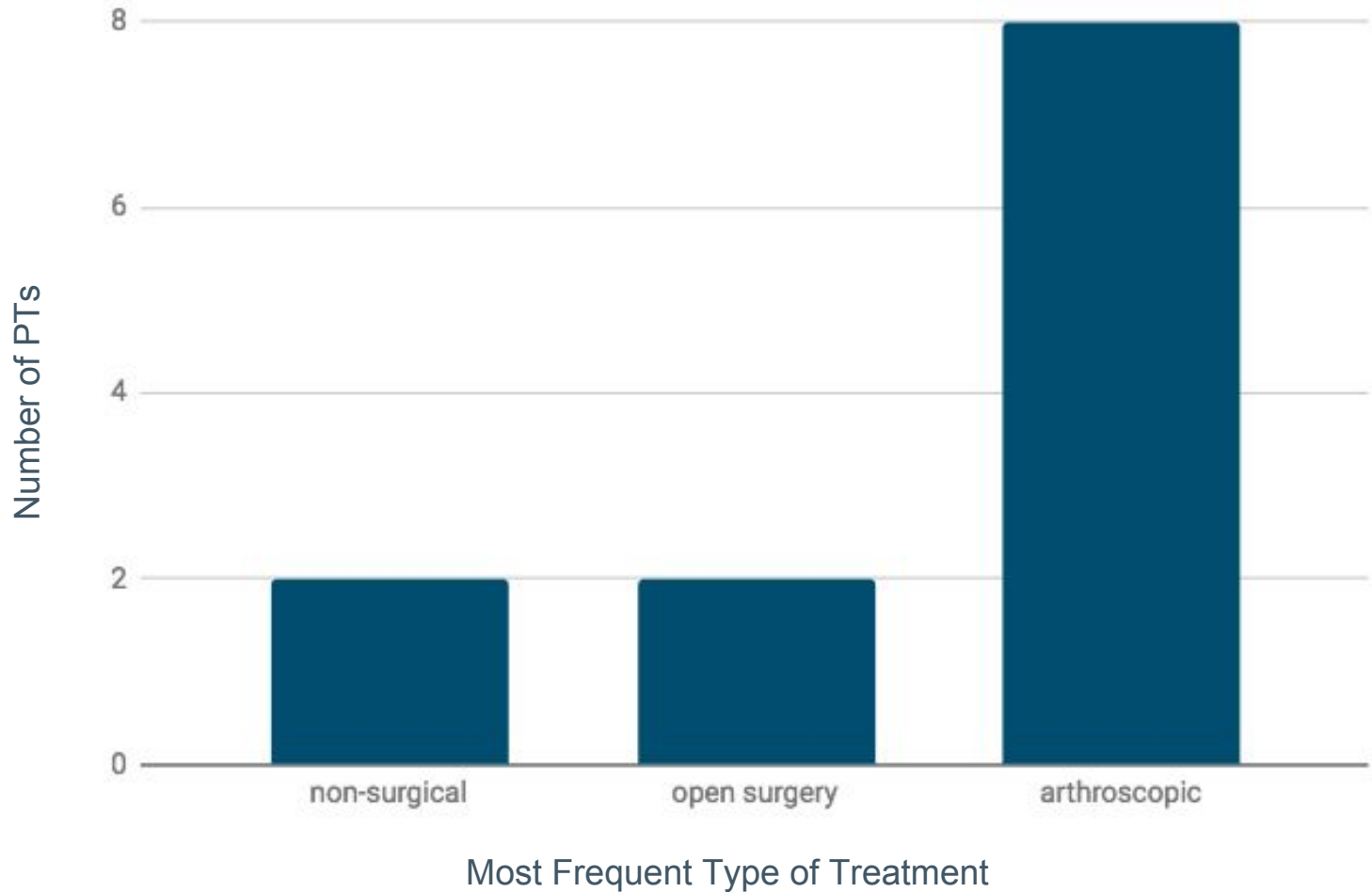
- ▷ Guidance from other medical professionals
 - ▶ Second opinions from other surgeons
 - ▶ Physical therapists
 - ▶ MRI and X-Ray technician
- ▷ Surgeons have the final say

Number of patients seen by Physical Therapists.

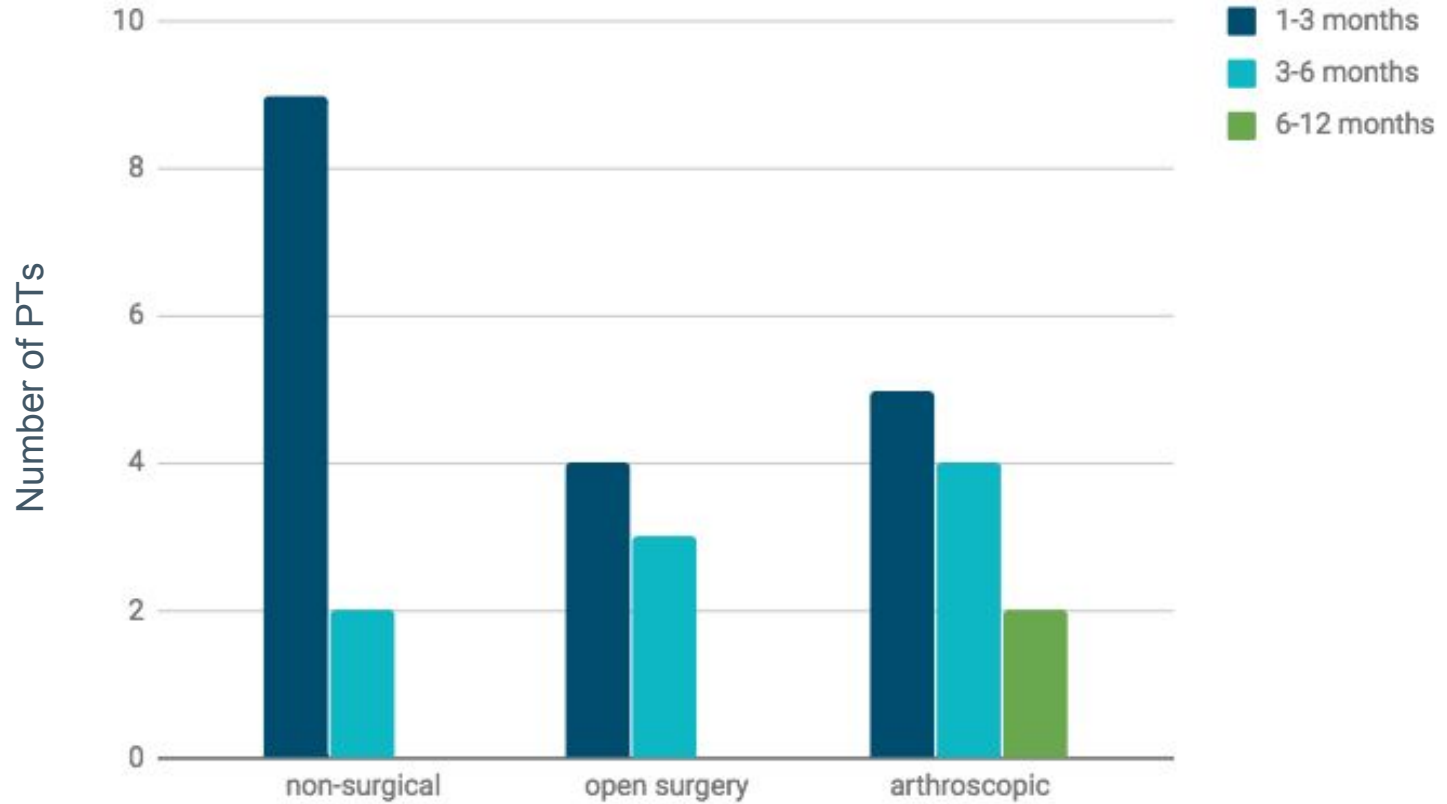


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Most common form of treatment.



Anticipated recovery times for each treatment.



Anticipated Recovery Time, By Treatment

Results: Physical Therapists Surveys

Non Surgical Treatment

Benefits

- ▶ Continue activities
- ▶ No postoperative healing
- ▶ Less invasive
- ▶ Eliminate risk of complications and infections

Drawbacks

- ▶ Continued pain
- ▶ Problems with functionality
- ▶ Risk of developing osteoarthritis
- ▶ Potential need for future surgery

Results: Physical Therapists Surveys

Open Surgery

Benefits

- ▶ Complete visualization

Drawbacks

- ▶ Long recovery
- ▶ High risk of surgical complications an infection
- ▶ Invasive
- ▶ Pain with larger incision

“Fixing’ an anatomical structure isn't necessarily going to change someone's pain.”

Results: Physical Therapists Surveys

Arthroscopic Surgery

Benefits

- ▶ Quick recovery
- ▶ Addresses the pain
- ▶ Minimal soft tissue damage
- ▶ Less risk of infection
- ▶ Less likely to develop osteoarthritis

Drawbacks

- ▶ Post operative recovery time
- ▶ Risk of damaging hip nerves or musculature
- ▶ Risk of infection
- ▶ Doesn't have full visualization
- ▶ Non-weight bearing for several weeks

Discussion & Conclusion

- ▶ Sample representing Thousand Oaks and Westlake Village
- ▶ Medical Professionals have different opinions on:
 - ▶ Benefits
 - ▶ Drawbacks
 - ▶ Expected Recovery Time

Further Work

- ▶ More Orthopedic Surgeons interviewed
- ▶ Interview with X-Ray and MRI Technicians

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