

Your Guide to Joint Replacement: Options, Recovery, and Results

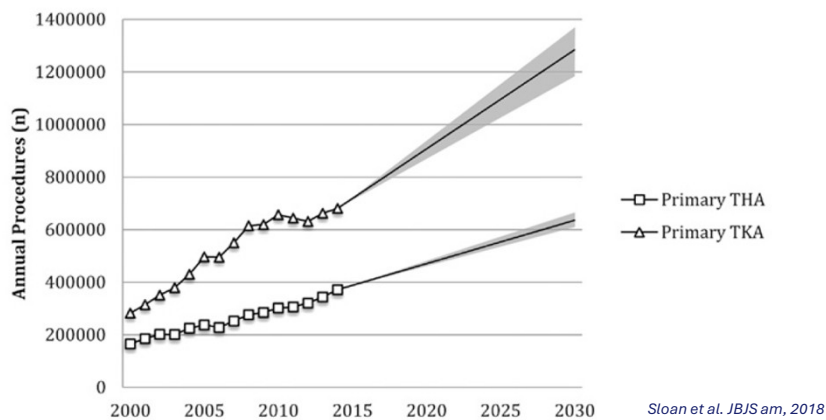
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Dec 3rd, 2025

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Incidence of Total Joint Replacement (Arthroplasty)



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Incidence of Total Joint Replacement (Arthroplasty)

Between 2000 - 2014

Total hips increased by

132%

159,856 to 370,770

Total knees increased by

148%

274,025 to 680,150

Sloan et al. JBJS am, 2018

Common Reasons (Indications) for Joint Replacement

Indications

Osteoarthritis

Inflammatory Arthritis

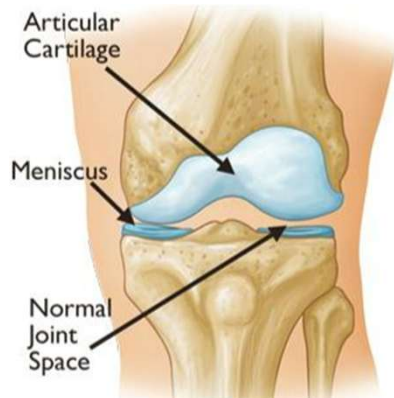
Post-Traumatic Arthritis

Avascular Necrosis (AVN)

Hip Dysplasia

Hip Fractures

Knee Osteoarthritis (Wear and Tear)



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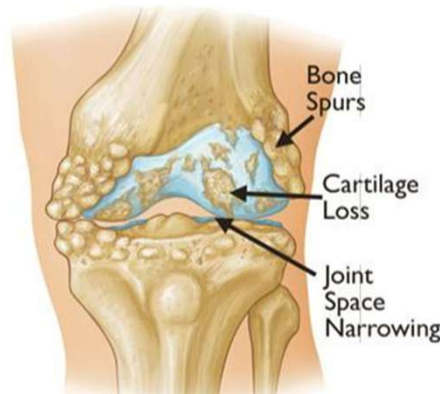
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"BONE ON BONE"

Cartilage is "Radiolucent"
Joint Space (Gap)

MRI = Not a premium test,
in fact, waste of resources

Meniscus is Irrelevant

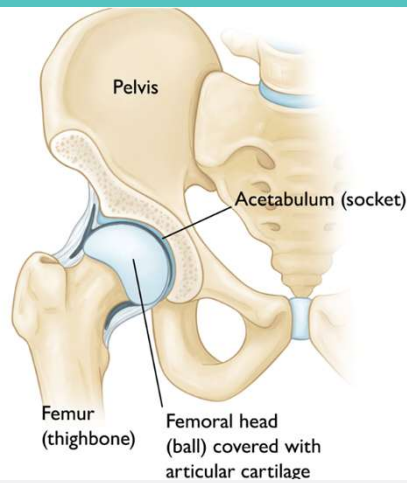


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Hip Osteoarthritis (Wear and Tear)



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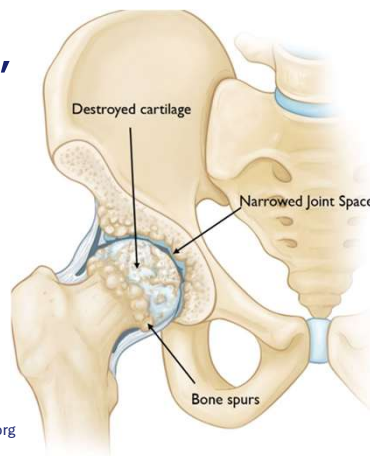
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"BONE ON BONE"

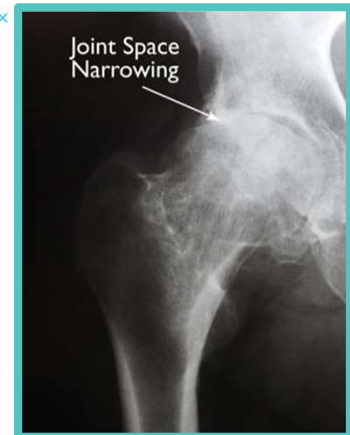
Cartilage is "Radiolucent"
Joint Space (Gap)

MRI = Not a premium

Labrum is Irrelevant



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Why me? What caused this?

Large Body Mass

- Trauma to Joint Surface
- Occupation, repetitive loading
- Muscle weakness
- Inflammatory (auto-immune)
- Steroids Injections?
- Dysplasia
- Genetic



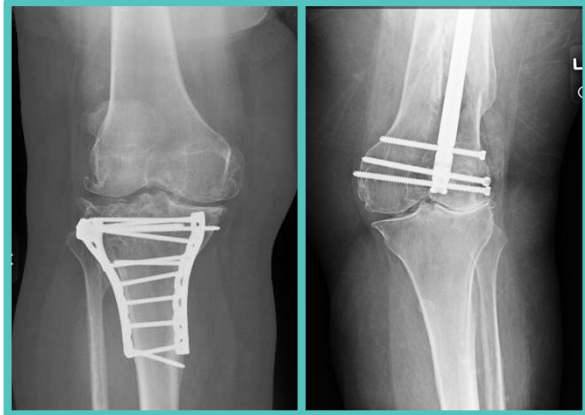
Common Reasons (Indications) for Joint Replacement

Indications

- Osteoarthritis
- Inflammatory Arthritis
- Post-Traumatic Arthritis
- Avascular Necrosis (AVN)
- Hip Dysplasia
- Hip Fractures

Post-Traumatic Arthritis

Joint surface disruption or incongruity can lead to rapid progression



Common Reasons (Indications) for Joint Replacement

Indications

Osteoarthritis
Inflammatory Arthritis
Post-Traumatic Arthritis
Avascular Necrosis (AVN)
Hip Dysplasia
Hip Fractures

Avascular Necrosis (AVN)

Break down of bone cells related to blood flow disruption

Alcohol, chronic steroid use, smoking, unknown



Decision Making Process

Objective Findings

Is the arthritis severe enough?

Subjective Findings

How bad is your pain?
Limitations?
Quality of life

Clinical and Social Factors

BMI
Diabetes
Immunosuppression
Smoking, alcohol, drug abuse
Mental illness
Home /family support

Patient Choice (Elective)

Non-surgical
Surgical

Decision Making Process

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Patient Choice (Elective)

Non-surgical
Surgical

Am I a Candidate for Surgery? (Clinical and Social Factors)

Factor

BMI (Body Mass Index: Kg/m2)
Diabetes (HgA1c)
Immunosuppression
Smoking, alcohol, rec. drugs
Mental illness
Home, family support

Recommendation

<35, max 40
≤ 7
Hold vs. Continue
Stop!
Caution
Necessary, highly encouraged

Decision Making Process

Objective Findings

Is the arthritis severe enough?

Subjective Findings

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Patient Choice (Elective)

Non-surgical
Surgical

Non-Surgical Treatment First-Line

Lifestyle Modification

Physical Therapy

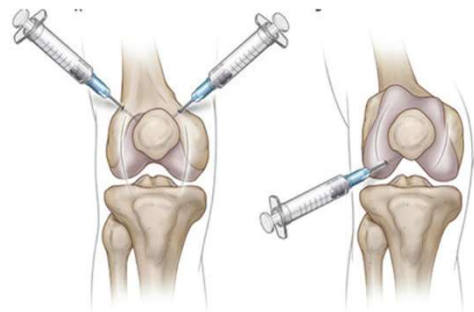
Assistive devices

Medications:

Oral – NSAIDS (diclofenac, Mobic)

Topical – Lidocaine Gel, Voltaren

Injections: Steroid, Gel Injection



Surgical Treatment

Joint preservation

Non-Replacement Options

Osteotomies (alignment correction)
Arthroscopic



Arthroplasty

Joint replacement

Partial
Total



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Before Surgery

Infection Prevention Medical Optimization

Weight loss
Smoking cessation
Diabetic control
Medical clearance
(cardiac, pulmonary, etc.)

Setting Expectations

Patient and surgeon
expectations should be
aligned.
50% of patients'
expectations are not aligned
Can lead to disappointment
and poor satisfaction

Anesthesia Options

General
Regional – spinal / epidural
Peripheral nerve blocks

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Day of Surgery (Anesthesia)

General

IV medications and inhaled agents

Asleep (unconscious)

Requires breathing tube and use of ventilator

Regional

Spinal – needle into the back around spinal cord and nerves.

Legs are numb, and cannot move

Epidural – similar but with a catheter

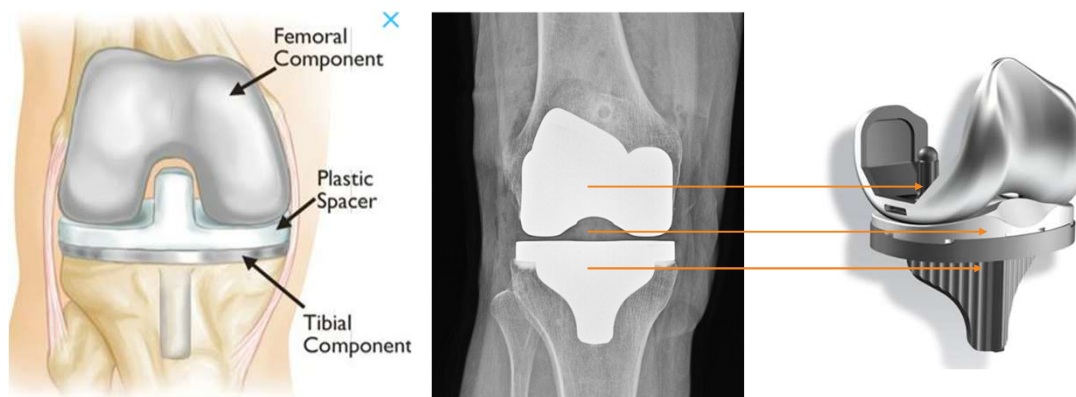
Complete pain relief, may reduce opioid use, and pulmonary complications

Peripheral Nerve Block

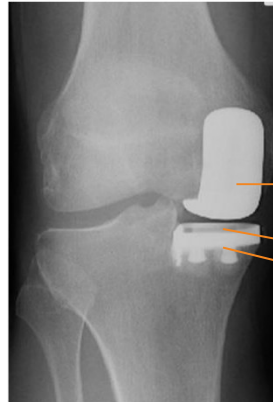
Injecting medication around the nerve to block “signaling pain”

Helps reduce post-surgical pain while maintaining function

Total Knee Replacement



Partial Knee Replacement



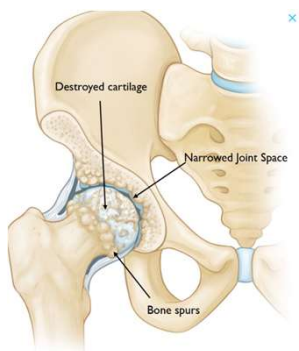
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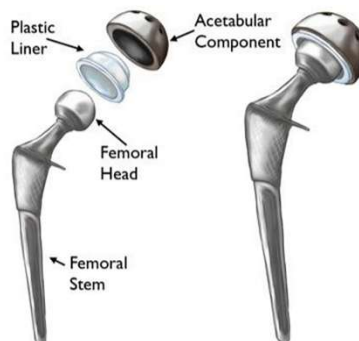
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Total Hip Replacement



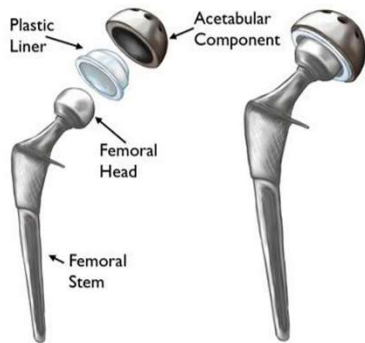
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Total Hip Replacement



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Robotic-Assisted Surgery

- Cutting tool in a robotic arm.
- Patient-specific 3D model
- Allows surgeon to adjust bony cuts to best fit implants
- Same implants
- Studies suggest better x-rays/accuracy, but not translated into outcomes or longevity
- No effect on hospital stay, pain levels, or speed of recovery



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After Surgery (Post-op)

Going Home

Faster recovery and better results

Get your home ready!



Physical Therapy

Motion!!

More important for knees than Hips

Expectations and Preop baseline



Pain Control

RICE – rest, ice, compression, elevation

Non-Opioid: NSAIDs, Tylenol, nerve meds

Opioid Medications

Tramadol, hydrocodone (Vicodin/ Norco), Oxycodone

Difficulty sleeping – Most common (knee)

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Dental Work After Surgery

Not enough research or evidence

Consider type of procedure

Surgeon's recommendations

2grams of amoxicillin 1 hour prior to procedure
600mg of clindamycin if allergic



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Resuming Sports

Recommend	Recommend with Experience	Do Not Recommend
Walking/speed walking Golf Swimming Hiking Doubles Tennis Bowling Treadmill Road cycling/stationary bike Elliptical Dancing Skiing Pickleball	Skiing Ice Skating Rollerblading	Singles tennis Racquetball Squash Jogging* Snowboarding Contact sports Baseball Softball High-impact aerobics Martial arts

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Risks and Complications (Rare \approx 0.5%)

Device/Surgery Related

Infection
 Hardware Failure
 (loosening/wear)
 Stiffness (knee), Dislocation
 (hip)
 Limb length discrepancy (hip)
 Blood loss
 Nerve damage
 Residual pain (expectations)

Medical

Heart attack
 Blood clots
 Pneumonia
 Urinary tract infection
 Death

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Managing Expectations

Satisfaction Rates Anecdotes



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Myth: Outpatient Surgery has better patient Satisfaction compared to inpatient (selection bias)

Fact: No significant difference if comparing matched-cohorts

Myth: Anterior approach for total hip replacement is better, and leads to faster recovery (selection bias)

Fact: No difference between approaches. Anterior approach carries increased risk of infection, Fracture, and nerve injury. Each approach has unique risk profile.

Myth: Minimally invasive surgery is best. Spares muscles, ligaments, and tendons

Fact: Invasiveness not well defined, and has not correlated with recovery or outcomes.



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