Arthritis Diagnosis and Treatment

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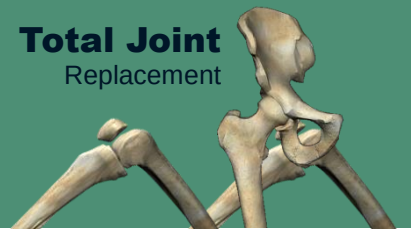


Background

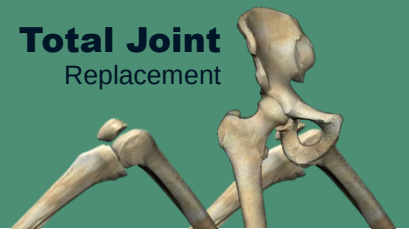
Hometown
Remington, IN

Undergraduate Degree
Biomedical Engineering, Purdue University

Medical Degree
Kirksville College of Osteopathic Medicine, Kirksville, MO

Residency
Orthopaedic Surgery, Botsford Hospital, Farmington Hills, MI

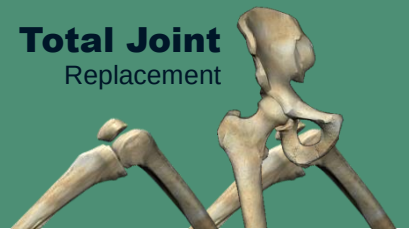
Fellowship
Joint Replacements and Sports Medicine
Triangle Orthopaedic Associates, P.A, Durham, NC



About My Practice

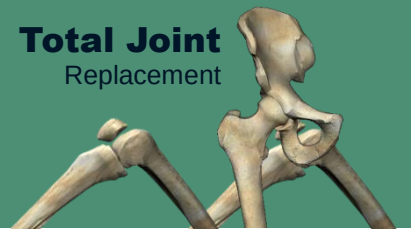
Fellowship Trained in Arthritis Treatment and Joint Replacements

- Medications, bracing, injections, physical therapy, supplements
- Arthroscopic surgery
- Minimally invasive surgery
- Partial knee replacements
- Anterior approach total hip replacement
- Partial, total, and reverse shoulder replacements
- Revision surgery



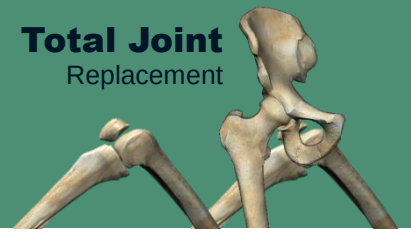
This program will discuss the following topics:

- Understanding the Causes of Joint Pain
- Treatment Options
- What Joint Replacement Surgery Involves
- Realistic Expectations After Joint Replacement



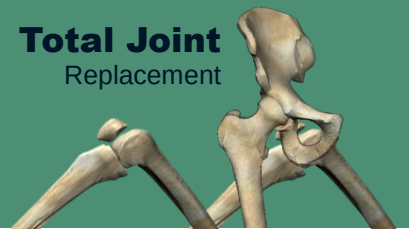
What is arthritis?

- It is the loss of joint surface that covers the bone. This special surface allows the bones to glide effortlessly, smoothly and pain-free.
- It is not to be confused with osteoporosis which is the loss of bone density.
- The loss of this surface, whether partial or complete, results in variable pain, instability, stiffness, swelling, weakness and loss of motion.
- With progression over time it results in the destruction of the underlying bone and adjacent ligaments.



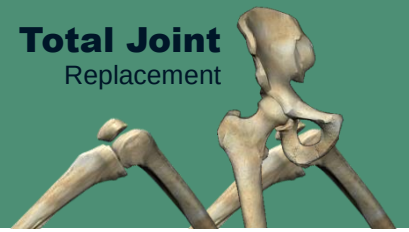
More than 43 million people have some form of arthritis. It is estimated that the number of people affected by arthritis will increase to 60 million by 2020.

Nearly 21 million Americans suffer from osteoarthritis, a degenerative joint disease that is a leading cause of joint replacement surgery.



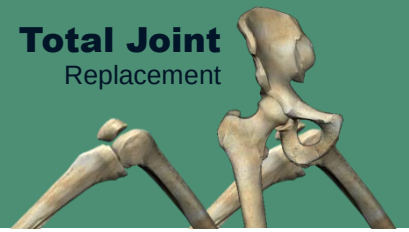
Types of Arthritis

- Osteoarthritis
  Genetically related wear of cartilage and decreased joint fluid viscocity
- Rheumatoid Arthritis
  Membranes or tissues lining the joint become inflamed
- Post-traumatic Arthritis
  Irregularities lead to more wear on the joint
- Avascular Necrosis
  Dead bone may collapse and damage the cartilage



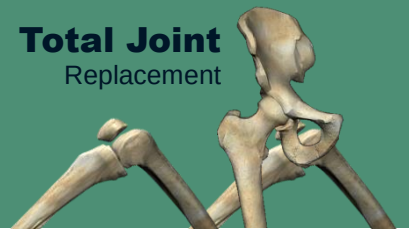
Arthritis Symptoms

- It can either present in a slow gradual fashion or have a sudden appearance after a minor injury.
- You can have “good and bad” days. Pain will be low level aching to intense pain that won’t allow walking on the leg.
- You can be stiff and achy in the morning, comfortable during the day, then painful at the days end.
- Often the pain will lessen with mild to moderate activities.
- You may experience popping, locking, catching, or “giving out”



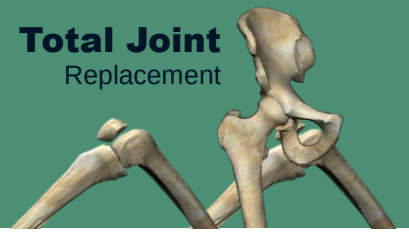
Arthritis Symptoms

- Prolonged positions will cause increase symptoms, ie. Standing in line, long car rides or sitting for a movie.
- You avoid, or have difficulty doing, activities like kneeling, squatting, stair climbing, getting out of cars/chairs or even tying your shoes.
- You have trouble finding a comfortable position while resting at home with a book or watching television
- You have trouble with waking up at night due to joint pain.



Rheumatoid arthritis is the most crippling form of arthritis:

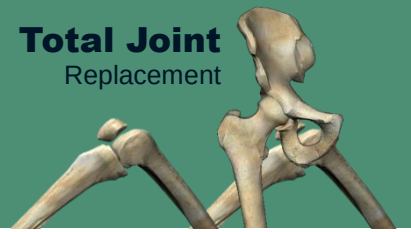
- affects approximately 2.1 million Americans
- two to three times more women than men
- average onset for rheumatoid arthritis is between the ages of 20 and 45 years old



Preparing for your Doctor's Visit

The Orthopaedic Evaluation

- A thorough medical history
- A physical examination
- X-rays
- Additional tests, as needed

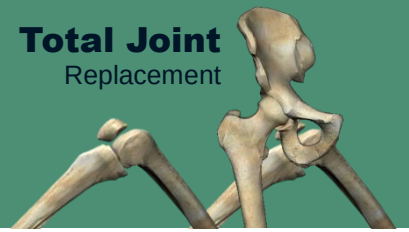


Nonsurgical Treatment Options

- Diet and Exercise
- Rest and Joint Care
- Cane / Walker
- Medications
- Nutritional Supplements
- Cortisone injections
- Visco-supplementation injections
- Braces

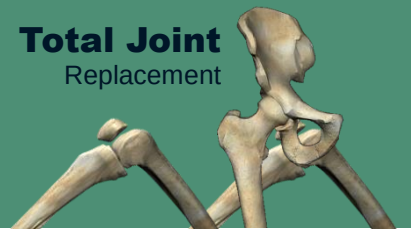
Aerobic Exercise

- Walking, biking, pool therapy
- Improve cardiovascular fitness
- Helps control weight
- May help reduce inflammation in joints
- For those worried about advancement of arthritis, a Swedish study showed no progression of arthritis with moderate exercise.



Medications

- Aspirin-free pain relievers (Tylenol)
- Topical pain relievers (Aspercreme)
- Nonsteroidal anti-inflammatories (NSAIDs)
  - Mobic/Meloxicam
  - Alieve/Naproxen
  - Celebrex
- Corticosteroids injections
  - Quick, effective pain relief
  - Only use a few times a year; they can weaken bone and cartilage

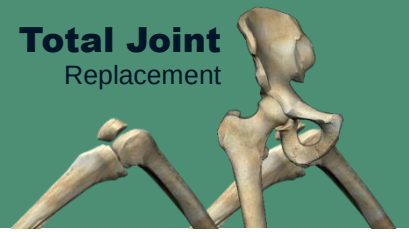


Nutritional Supplements

- Glucosamine and Chondroitin may relieve joint pain.
  - Occur in the body naturally; vital to normal cartilage function
  - Not FDA Approved
  - Warrant further in-depth studies on their safety and effectiveness, according to the Arthritis Foundation.
  - May help osteoarthritis pain and improve function.[1, 2]
  - Some studies indicate that glucosamine may help as much as ibuprofen in relieving symptoms of osteoarthritis, particularly in the knee, with fewer side effects
  - Most common side effects are Nausea, Diarrhea or constipation, Heartburn, and Increased intestinal gas
  - Consult with your doctor, particularly if diabetic or allergic to shellfish

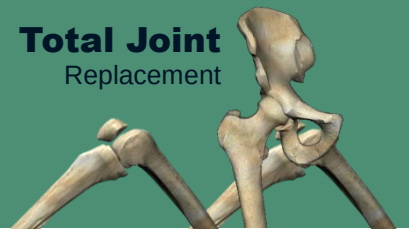
1. Dieppe P, et al. (2002). Osteoarthritis. Clinical Evidence (7): 1071–1090.

2. McAlindon TE, et al. (2000). Glucosamine and chondroitin for treatment of osteoarthritis. A systematic quality assessment and meta-analysis. JAMA, 283(11): 1469–1475.



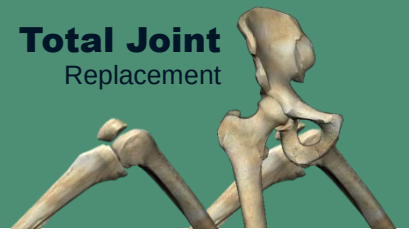
Hyaluronic Acid

- Natural substance that lubricates the joint
- Injection
  - Lubricates the joint
  - Provides temporary relief of pain and movement
  - 80 to 85% of individuals who are treated with this series of injections have some amount of pain relief which lasts anywhere from nine to 12 months.*
  - Approved for knee osteoarthritis



Joint Fluid Supplements

- Hyaluronic Acid
  - Natural substance that lubricates the joint
- Injection
  - Lubricates the joint
  - Provides temporary relief of pain and movement
  - 70% of individuals who are treated with this series of injections have some amount of pain relief which lasts anywhere from nine to 12 months.*
  - Approved for knee osteoarthritis



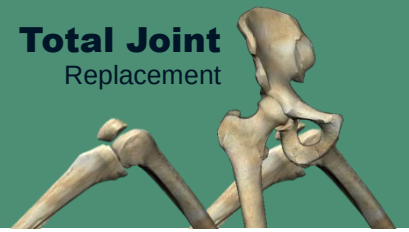
Physical Therapy

- Passive range-of-motion exercises may help:
  - Reduce stiffness
  - Keep joints flexible
- Isometric (“pushing”) exercises help build muscle strength
- Isotonic exercises (“pulling”) further increase muscle strength and preserve function
- Daily walking, using a cane or other assistive device

Knee Braces

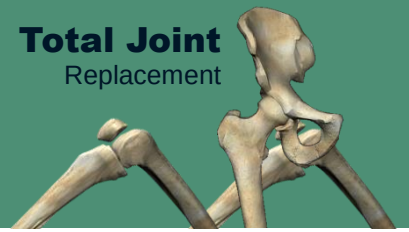
Simple Braces

“Unloader” Braces



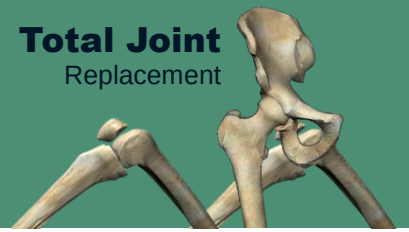
Surgical Treatment

- Knee Arthroscopy
- Partial Knee replacement
- Total Joint Replacement



Knee Arthroscopy

- A “same day” surgical procedure
- Visualize, diagnose, and treat inside a joint
- Particularly useful in early stages of arthritis to improve “mechanical” symptoms of catching and instability when a meniscal tear is involved

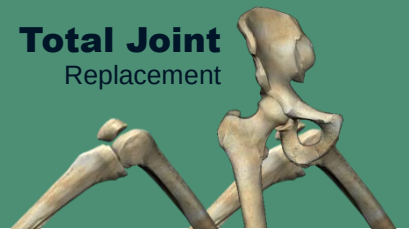


Partial Joint Replacement

Partial joint replacement is a surgical procedure in which only the damaged or diseased surfaces of the joint are replaced, leaving much of the natural bone and soft tissue in place.

- Post-operative pain may be reduced*
- Recovery period may be shorter than total knee replacement*

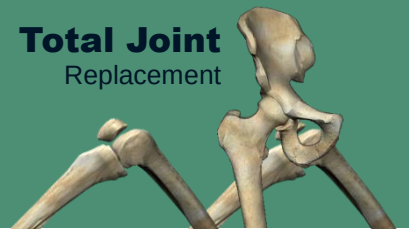
* Newman, John H., Unicompartmental Knee Replacement, The Knee, 7 (2000), pp. 63-70.



Total Joint Replacement

Total joint replacement is a surgical procedure in which certain parts of an arthritic or damaged joint are removed and replaced with a plastic or metal device or an artificial joint.

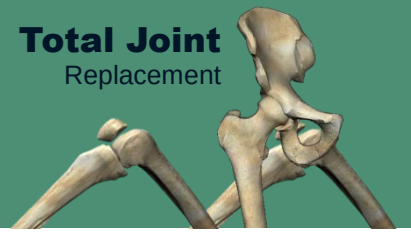
The artificial joint is designed to move just like a healthy joint.



Joint Replacement

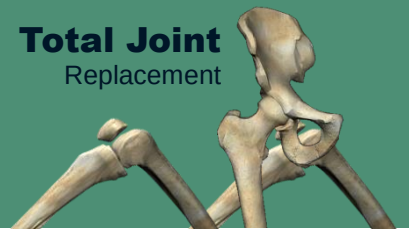
Joint replacement is a treatment option when:

- Pain is severe, chronic or more recent and disabling
- Pain interferes with desired activities i.e. golf
- Pain interferes with daily or work activities
- Significant loss of motion occurs (this will become permanent)



When to consider Joint Replacement

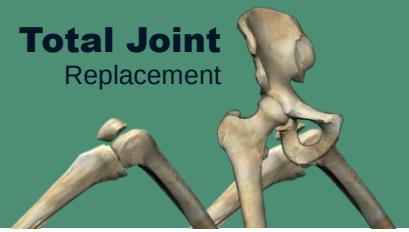
- When rest pain becomes prominent.
- When you have joint pain that wakes you up at night.
- When there has been a failure of medical treatment to relieve pain.
- When there is severe bony deformity on x-ray.



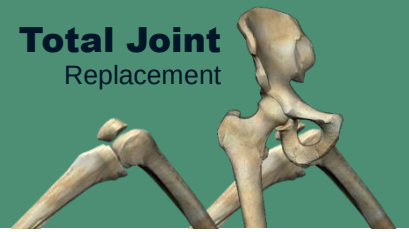
Joint Replacement

Joint replacement is a decision that should include:

- You
- Your primary care provider
- Your orthopaedic surgeon



Total joint replacements of the hip and knee have been performed since the 1960s. Today, these procedures have been found to result in **significant restoration of function and reduction of pain in 90% to 95% of patients.**



Joint Replacement Outcomes

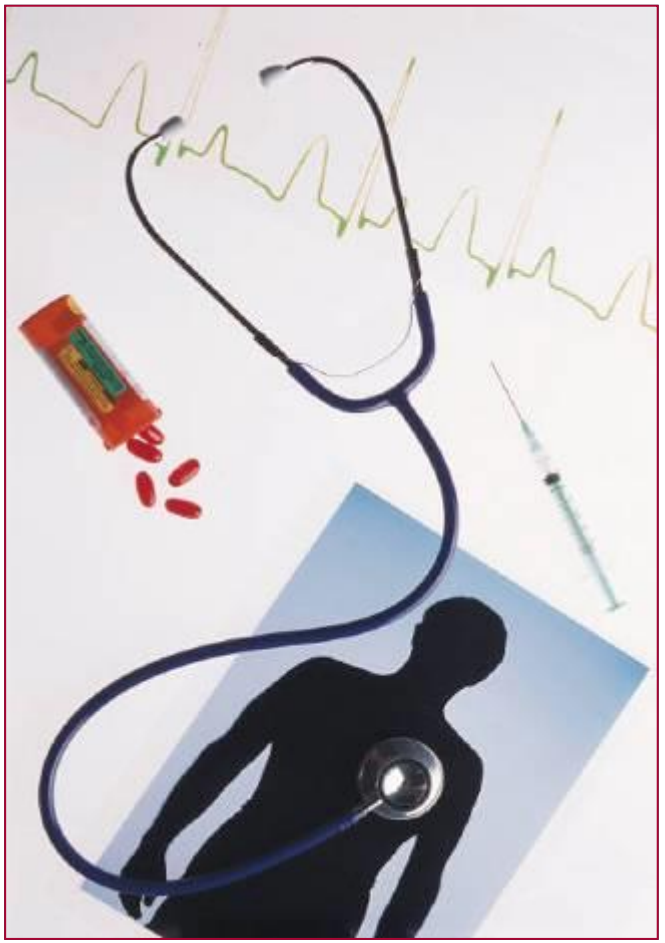
- In the 50 year old and greater age group 95% of the replaced joints are functioning well at over 20 years.
- In the younger than 50 year old group 70% are functioning well at 10-15 years after placement.
- This data does not include the data on the new ceramic hip replacements.
- Finally, all joint replacements are now modular. Should a singular part wear out, it can be replaced with a simpler, less involved surgery.

Joint Replacement

Preparing for a joint replacement procedure begins weeks before the actual day of surgery.

In general, patients may need:

- Routine blood tests
- Urinalysis
- Physical examination
- Exercise/Physical Therapy
- Stop certain medications
- **Quit smoking**
- **Weight Loss**



Total Joint Replacement

- Goals of total joint replacement are to help:
  - Relieve pain
  - Restore motion
  - Improve function
  - Improve fitness and health
  - Restore quality of life

Numbers

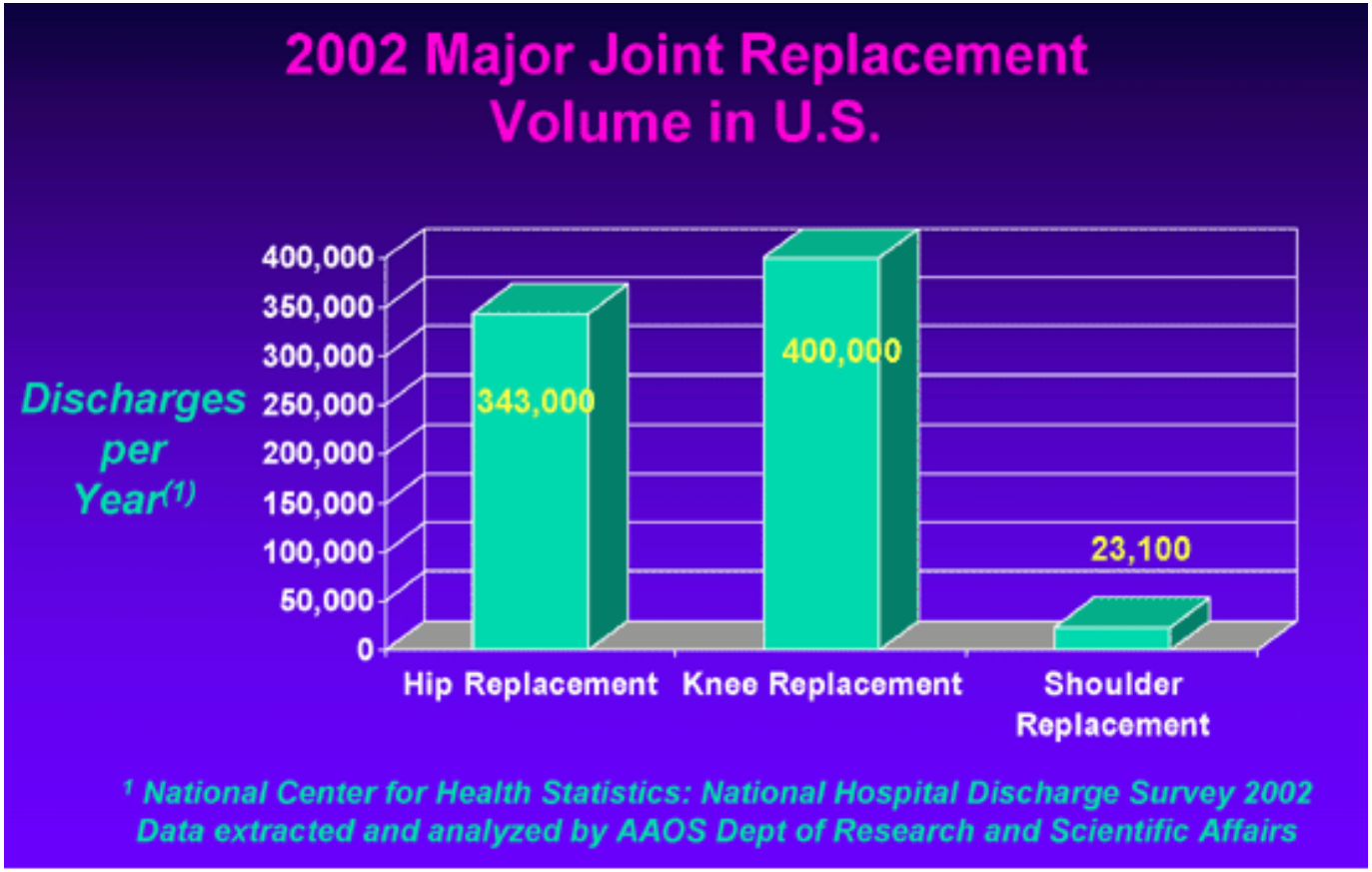
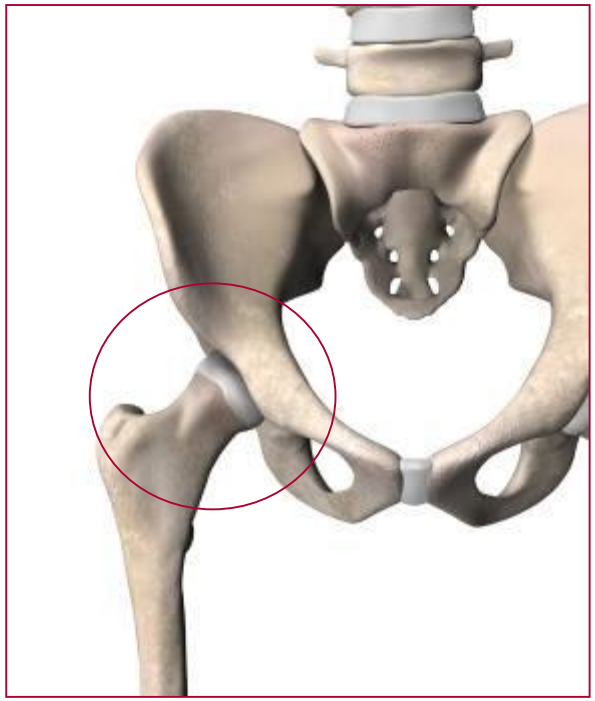
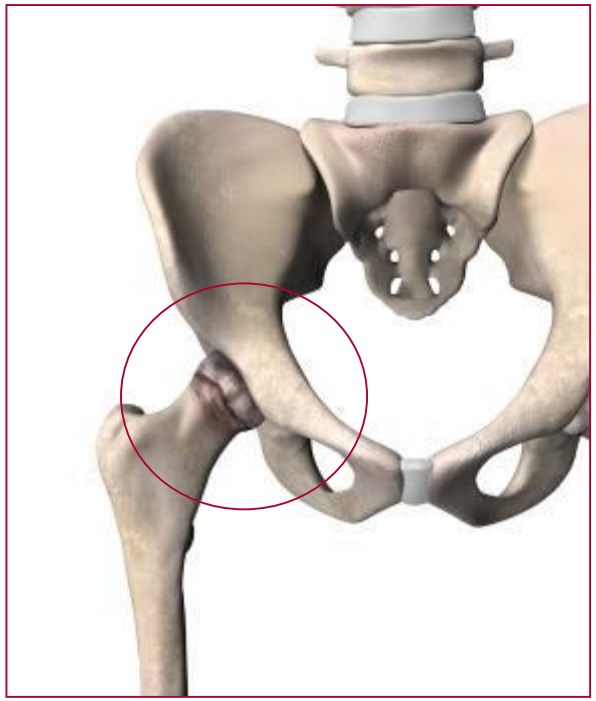
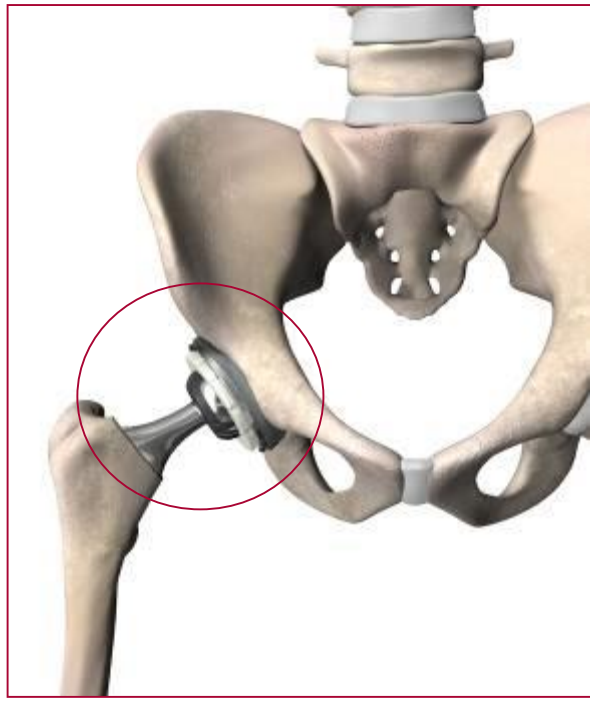


Figure 1.

Total Hip Replacement







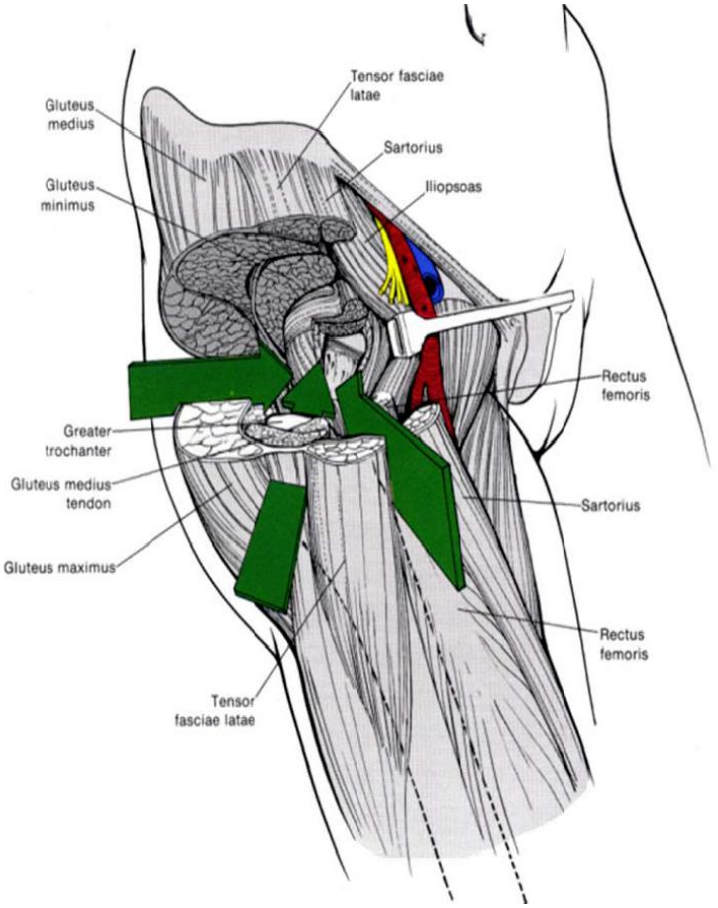
Normal Hip X-ray

Arthritic Hip X-ray

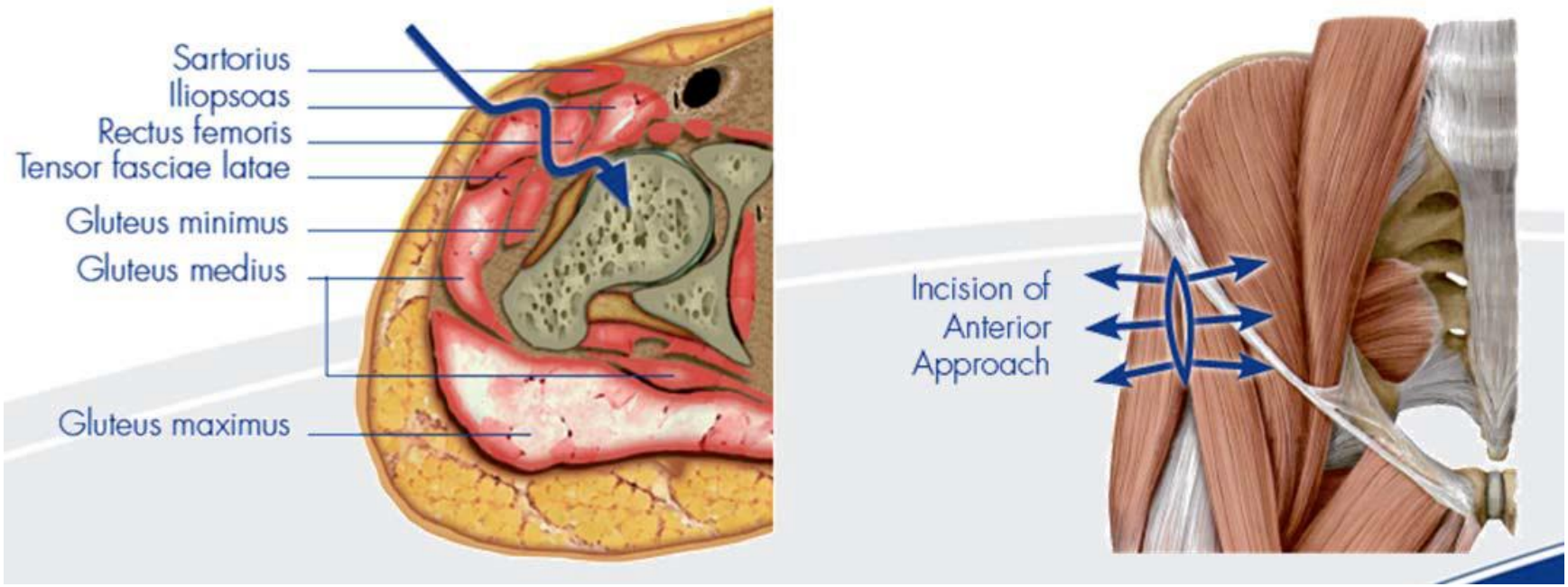
Replaced Hip X-ray

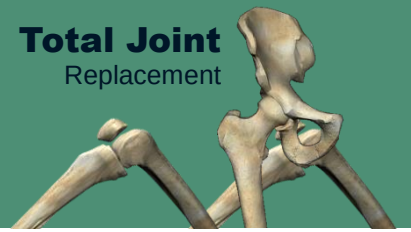
Anterior Approach

- The anterior approach is true Minimally Invasive Surgery.
- The approach does not cut muscles and respects nerves.
- Intended to improve the quality of your life and help to hasten your recovery after a Total Hip Replacement.



Anterior Approach





Benefits of Anterior Approach

- Decreased post-operative pain
- Shorter hospital stay
- **No hip precautions after surgery**
- **Shorter rehabilitation**
- **Faster return to daily activities**
- Reduced risk of **dislocation**
- **Reduced risk of limping**
- Less blood loss

Your Knee Joint

Femur – thigh bone

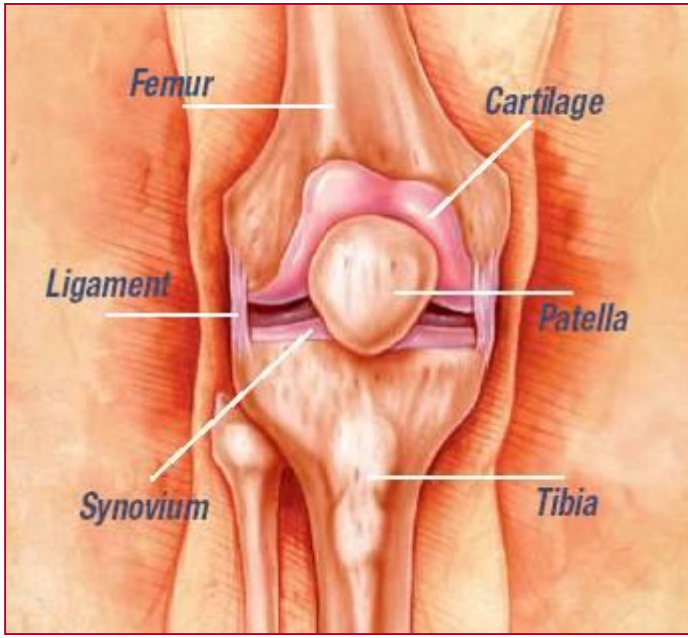
Cartilage – tissue between bones that provides cushioning

Patella – knee cap

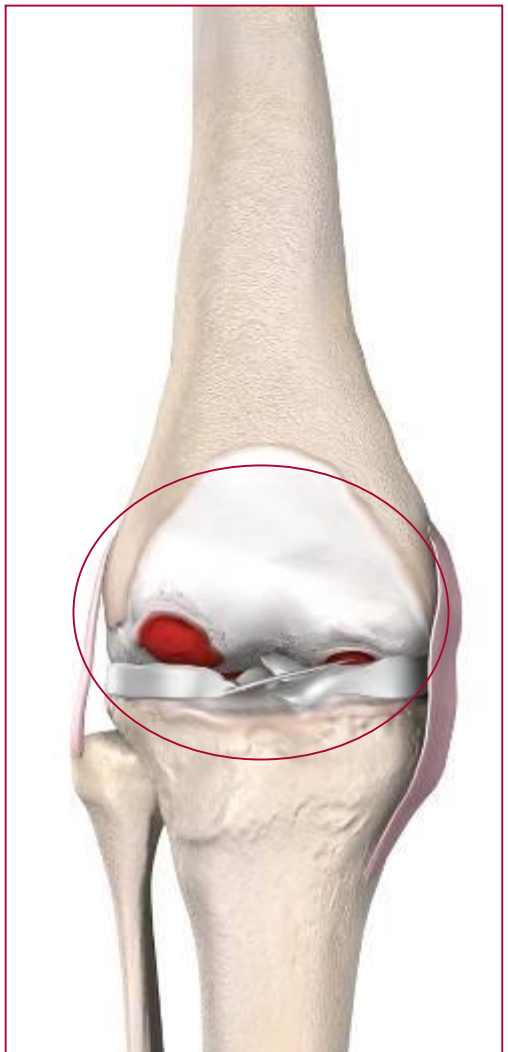
Tibia – shin bone

Synovium – tissue that provides lubricating fluid to joint

Ligament – flexible tissue that holds knee joint together



Total Knee Replacement



Normal Knee X-ray

Arthritic Knee X-ray

Replaced Knee X-ray

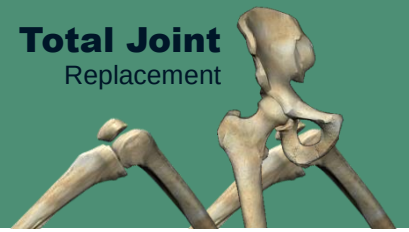
Anterior (front) View

Lateral (side) View

Your Shoulder Joint

- Greatest ROM
- No inherent bony stability
- Relies on soft tissues for stability
- Many injuries involve the soft tissues (rotator cuff, labrum)
- Little bone on socket

Shoulder Replacement Options



Joint Surgery Recovery

Every individual is different and every treatment plan is different. Estimated Recovery Schedule:

- In-hospital Recovery: 1 day
- Significant Functional Improvement: 6 weeks – 3 months
- Maximal Improvement: 6 – 12 months

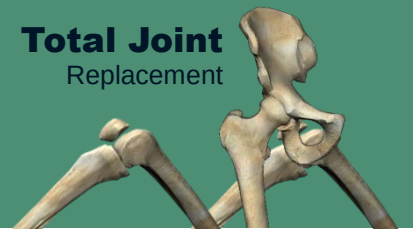
The length of hospital stay after joint replacement varies and depends on many factors including age and physical ability.

Recovery

Exercise program to be performed in bed and in the therapy department.

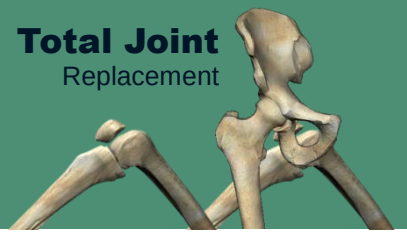
The physical therapist or another member of the staff works with the patient to help you:

- Regain muscle strength
- Increase range of motion



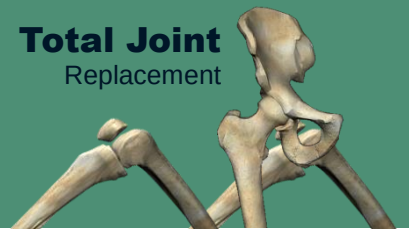
When will I be able to go back to a normal daily routine?

This is a decision only you and your surgeon can make. Every patient's experience is different.



General Guidelines to get back to your Routine

- You'll practice stair-climbing in the hospital and should be able to do this by the time you leave
- You should have no restrictions on leaving your home as long as your safety and comfort are assured. A good balance of exercise, rest, and relaxation is best for helping your body heal and gain strength
- When to resume driving a car, going to work, and/or participating in sports activities are all highly individualized decisions.
- Be sure to follow your doctor's or orthopaedic surgeon's advice and recommendations



After Surgery

For approximately 12 weeks after surgery certain limitations are placed on your activities. When fully recovered, most patients can return to work.

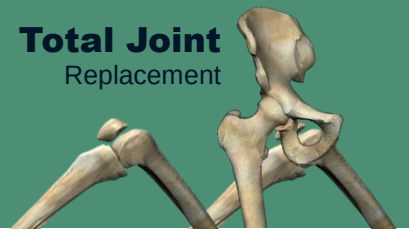
Some types of work may not be advisable for individuals with a joint replacement:

- Construction work
- Occupations that involve repeated high climbing

Limitations After Surgery

Athletic activities that place excessive stress on the joint replacement will need to be avoided. Examples include:

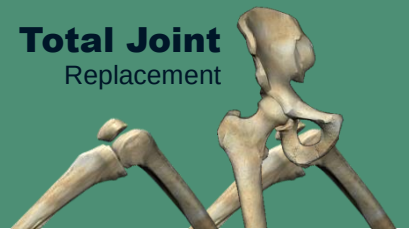
- Skiing (snow or water)
- Basketball
- Baseball
- Contact sports
- Running
- Frequent jumping



Realistic Expectations

After joint replacement, acceptable physical activities should:

- Not cause pain – including pain felt later
- Not jar the joint – running and jumping should be avoided
- Not place the joint in the extremes of its range of motion
- Be pleasurable

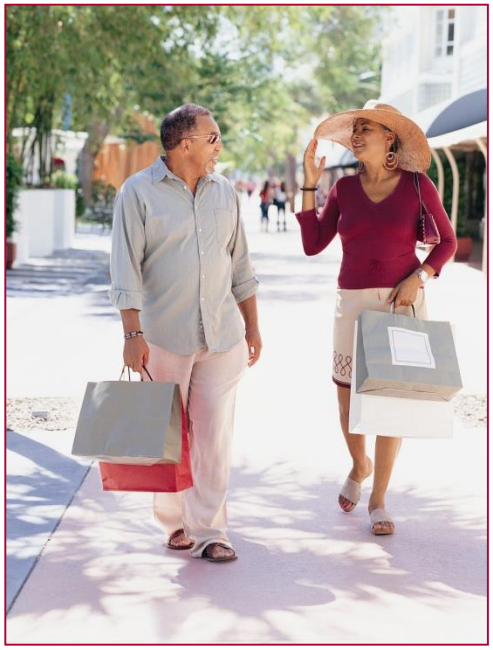


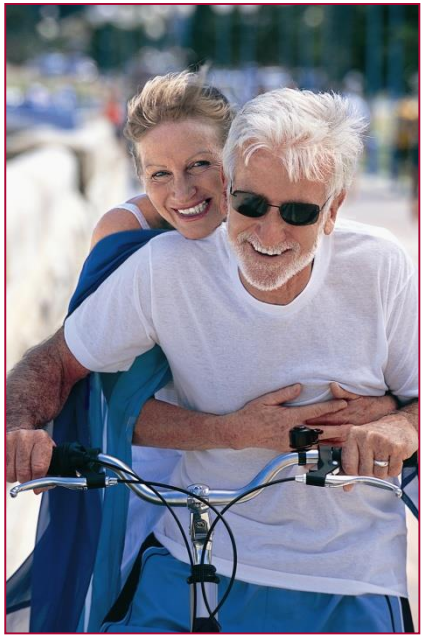
Realistic Expectations

It is impossible to predict in individual cases how long a joint replacement will last. Many factors determine the outcome including:

- Age
- Weight
- Activity level
- Bone strength

Realistic Expectations





Thank you.

Questions?