

Understanding Total Hip Replacement

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Introduction

- This is designed to provide you with a better understanding of:
 - Anatomy of the Hip
 - Risks and Benefits of Total Hip Replacement
 - Expectations of the procedure

My Training

- Washington and Lee University
 - BA Chemistry
- Georgetown University School of Medicine
 - Medical Degree
- NYU/Hospital for Joint Diseases
 - Orthopaedic Surgical Residency
- Steadman-Philippon Research Institute: Vail, CO
 - Sports Medicine Fellowship in Knee, Shoulder and Hip
 - Mentors: Dr. Steadman and Dr. Philippon

Hip Anatomy

- The hip is a true ball and socket joint formed by two bony structures
 - The Femoral Head (Ball)
 - The Acetabulum (Cup)
- Cartilage is the cushion between the ball and the cup
 - It allows for smooth, full motion of the joint.



The Arthritic Hip

- The cartilage or cushion between the ball and the cup wears away
- The hip joint becomes “bone on bone” with no cushion between
- The joint becomes stiff and painful



Common Symptoms with an Arthritic Hip

- Pain with:
 - Walking, twisting, pivoting and bending over
- Difficulty with:
 - Putting on shoes and socks, shaving legs, getting out of a low chair
- Loss of function and fun activities
- Pain worsens with time and more use

Non-operative strategies for an arthritic hip

- NSAIDS as needed for pain
- Modification of activity to avoid pain
- Physical Therapy
- Hip injections- typically not as helpful as they are in the shoulder or the knee, so I will rarely recommend them. They can be helpful though sometimes to try and get back to a more functional baseline if there has been an acute decline.
 - They can not be given within 3 months of your total hip replacement because they can increase your risk of infection.

When is it time to have your hip replaced?

- Your pain is experienced daily and getting worse
- You have already modified your activity and lifestyle and are not happy with the restrictions that you have
- You are getting upset because the pain and restrictions are getting to be too excessive
- This is an elective procedure – YOU decide when it is time to move forward this

What type of hip replacement do I perform?

- Posterior approach

- There has been no clinically proven benefit to other approaches. I believe this is the best approach.
- This allows me to get your total hip in the most perfect position (this has been proven to affect the longevity and durability of your total hip replacement)
- The anterior approach can create unfixable problems with tendons and nerves and is more often associated with incomplete incorporation of your femoral component and fracture of the femur

- NO METAL ON METAL components

Total Hip Components:

- Biomet G7 OsseoTi Cup
- Smith and Nephew Synergy HA/Porous Stem or the Depuy Summit
- Oxinium or Biolox Ceramic Head
- Zimmer Vivacit-E ultra high molecular polyethylene liner
- Screws to hold the cup in place while it incorporates



Dual Mobility Total Hip

- Occasionally, I need to use this in patients with a higher risk for dislocation:
 - EDS, Extensive spinal fusion to pelvis, very flexible hip before surgery
- I use the same stem, cup and ball
- The bearing is different: The ball is within the liner that moves inside of the cup giving a larger arc of motion
- This may wear out faster than a standard total hip
- Metal Liner
 - I don't use this in people who are highly sensitive or allergic to metals



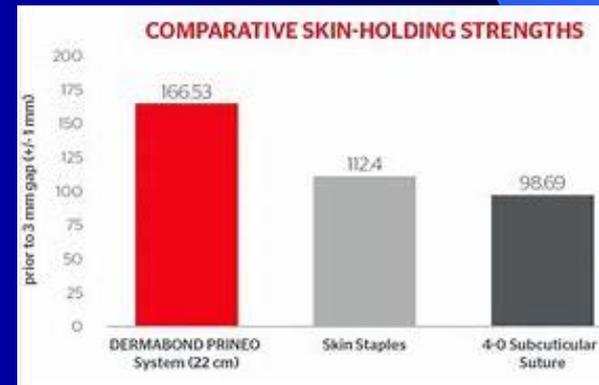
Standard Total Hip Replacement: The plastic liner locks into the cup.



Dual Mobility: The plastic liner pops onto the ball and both the ball and the liner move within the cup.

Cosmetic Wound Closure

- I use the Prineo wound closure system.
- It is a mesh covered with a glue that gives strength to the closure and also makes your wound waterproof to reduce your infection risk.
- I do not use this in people who are sensitive to adhesives or tapes as they can have a blister type reaction to this.



Wound VAC

- PICO wound vacuum system from Smith and Nephew is used to cover the wound
- It maintains negative pressure and increases the oxygen to the surgical incision to help it heal.
- It also keeps the surgical site sterile while it is in place.
- It stays on for approximately 1 week and when the battery dies then you remove the dressing



Durability of a total hip replacement

- 80-90% should last 15-25 years if used responsibly
 - Simulator studies may suggest 25-30 years but they have been implanted in humans for only 15 years.
- All of my chosen components have an excellent track record
- Total hip replacement remains the best procedure we have in Orthopaedics
- It very reliably takes away pain and improves function

What activity can you do after a total hip replacement?

- Walking, elliptical, hiking
- Aerobics, Yoga and Pilates
- Cycling
- Skiing
- Golf, doubles tennis
- I recommend against running

Complications of Total Hip Replacement

- Infection
- Leg length discrepancy
- Dislocation
- Blood Clots
- Fracture

Infection

- Rare, occurs in <1% of cases
- Risk is increased with Diabetes, Smoking and Obesity
- If it occurs, additional surgery is required combined with several months of IV antibiotics to try and retain your total hip replacement
- Risk is reduced by:
 - Antibiotics before and after surgery and oral antibiotics after
 - Sterile technique and clean hospital
 - Antibiotic solution used during surgery
 - Antibiotic powder placed behind your components
 - Cosmetic water-tight closure and VAC dressing (Prineo and PICO)
- After surgery:
 - Take antibiotics before any medical, dental or surgical procedure to protect your hip (I recommend this for life)
 - 2 grams of Amoxicillin 1 hour before your procedure
 - Aggressively treat any infections in your body if they occur (ie: urinary tract, skin infections, mouth infections) so that your hip does not get infected secondarily

Leg Length Discrepancy

- An arthritic hip typically shortens that leg because of the loss of cartilage thickness and deformity to the femoral head
- A total hip will typically lengthen the hip to its original length
- I use a computer program to plan your procedure to minimize the potential of over lengthening your leg
- My goal is symmetry when this is possible

Dislocation

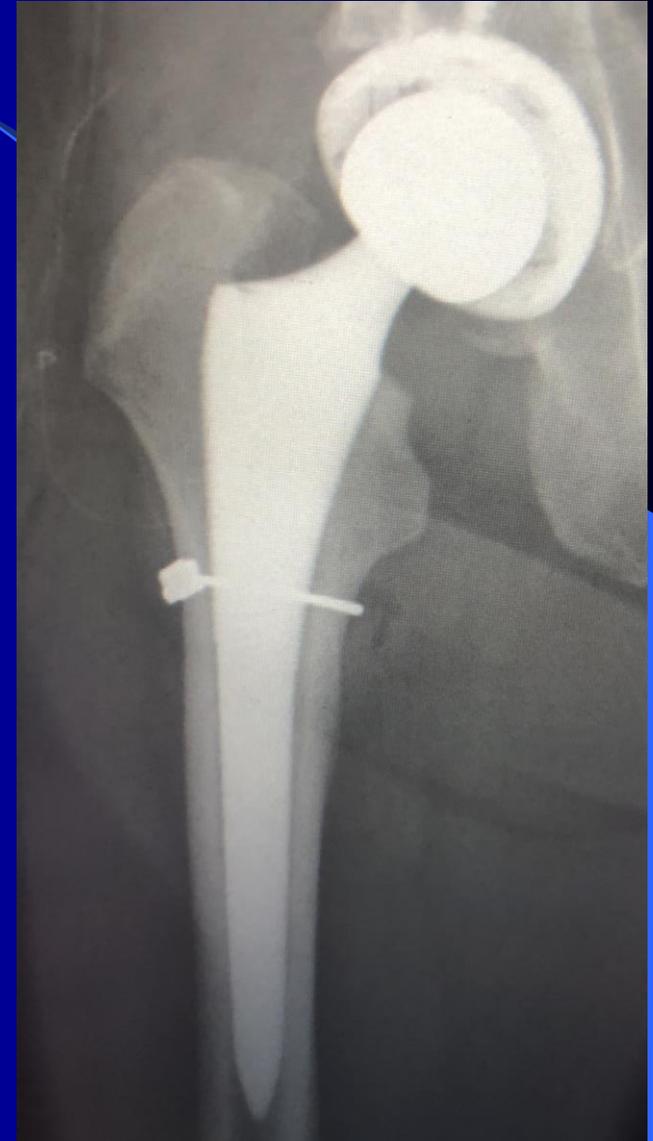
- This can occur because with a total hip replacement the ball is smaller than your original ball (femoral head)
 - Occurs in 2% of total hip replacements, this can be higher if you are not fully arthritic preoperatively as you have more baseline motion
- The following positions are avoided for 6-8 weeks after your hip is replaced to ensure stability:
 - Hip Flexion more than 90 degrees
 - Crossing your hip across the midline
 - Internally rotating your hip
- After 6-8 weeks, 1 or 2 of these positions can be combined but all 3 at once should be avoided

Blood Clots

- 1-2% of total hip replacements
- I use Aspirin 325 mg 2 times per day for 4 weeks and leg pumps for 4 weeks after surgery to minimize this risk
- If you have a predisposition to blood clots or have had one in the past, please let me know as I may make some changes to your postoperative medications and use more aggressive blood thinning medications.
 - There is a balance-if the blood is too thin you can get a hematoma, which is a collection of blood around your hip that can increase your risk of infection.

Fracture

- This occurs rarely when the stem is placed.
- The components, especially the femoral stem are pressed into the bone and it needs to be a tight, wedge fit.
- Rarely, the wedge fit of the stem can cause a small crack in the top of the femur. If this occurs, a wire is placed around the top of the femur to prevent the crack from extending.
- I then have you limit the amount of weight you put through your hip for 6 weeks so the stem can incorporate properly.



Hospitalization

- I perform my surgeries at Porter Adventist Hospital
- I do not like surgery centers for this operation. I do not believe total hip replacements should be sent home the same day. It can be too overwhelming for you and your family.
- All are performed on Monday or Tuesday
- Patients go home or to a skilled nursing facility between Wednesday and Friday
 - This determination is made in the hospital based on how you do and what you have for your support at home. I am flexible. You will not feel rushed to go home-I truly want you to feel safe and comfortable before you leave the hospital.

Things to do before your total hip

- Raised toilet seat
- Shower chair or bench
- Get your body weight to an ideal position
 - 4-5 times your body weight is put through your hip with use
 - Losing weight will improve the longevity of your hip and allow you to get around better immediately after surgery
 - It will also allow for a smaller incision and reduce your risk of infection
- Take care of any dental procedures before
 - If you have any loose or diseased teeth, these must be pulled or treated before your total hip – this represents a significant risk factor for infection

What to expect

- Full weight bearing as you tolerate
- Crutches, cane or walker for 2-4 weeks as you need for balance and support
- Return to work in 3-6 weeks depending on you and your work (more manual or heavy work will take longer)
- Normal daily function by 2 months
- Full recovery by 4-6 months

Physical Therapy

- Physical therapy after your total hip replacement is critical to get the full benefit of this procedure
- At home therapy is arranged in the hospital for 1-2 weeks until you are mobile enough for outpatient physical therapy (if you need it)
- Outpatient PT- my office can make recommendations for you if you do not already have a therapist
 - This can last for 2-6 months depending on individual needs and goals

Post-operative Followup

- 2 weeks
- 8 weeks
- 6 months
- 1 year and then every year after to check your x-ray and prosthesis

My Commitment

- When a patient decides to have surgery with me, I take that responsibility very seriously. I put everything I have into every surgery that I perform to ensure that my patients have the best possible outcome.

Thank you

- I hope this has allowed you to better understand your diagnosis and what total hip replacement could do for you.
- Total hip replacement remains the best and most predictable surgery we have in Orthopaedics
- Please feel free to call us if you have any further questions. 303-321-1333

