

Gregory H. Tchejeyan, M.D.
Orthopaedic Surgery of the Knee, Hip and Shoulder
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Patient Information For
Total Hip Replacement Surgery

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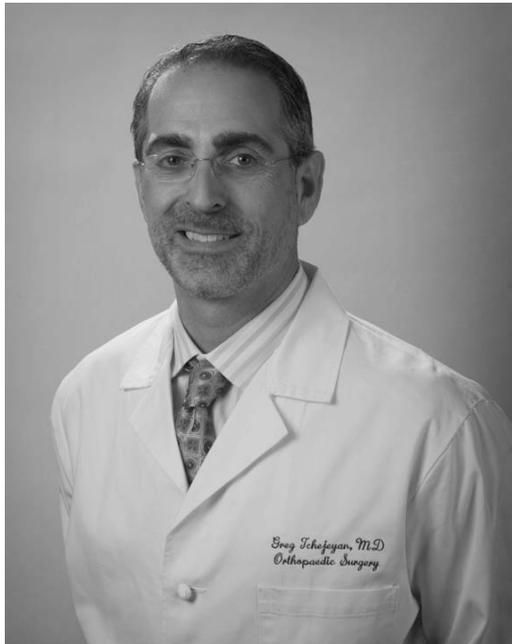
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BRING THIS BOOKLET TO THE
HOSPITAL WITH YOU WHEN YOU
ATTEND THE PRE-ADMISSION
EDUCATION SESSION, WHEN YOU
COME IN FOR PRE-ADMISSION
TESTING AND WHEN YOU ARE
ADMITTED FOR SURGERY. IT WILL
SERVE AS A CHECKLIST AND
REFERENCE FOR YOU.

Gregory H. Tchejeyan, M.D.



Dr. Tchejeyan is Board Certified in Orthopedic Surgery. He restricts his practice to Knee, Hip and Shoulder Problems.

Dr. Tchejeyan was born in the Midwest and grew up in Southern California. He graduated from University of Southern California Medical School. He completed his training in General Surgery in Los Angeles County/USC in 1995. His orthopedic residency training was taken at Los Angeles County/USC from 1995 to 1999.

Dr. Tchejeyan completed fellowship training in Joint Replacement and Sports Medicine in New York City. While in New York he trained at the world-renowned Insall Scott Kelly Institute where he assisted the

team doctors for the Knicks and Yankees.

He currently practices in Southern California specializing in Orthopaedic Surgery, Hip and Knee Replacement, Sports Medicine, Computer Assisted Surgery (CAS) / Navigation, and Minimally Invasive Surgery (MIS).

Dr. Tchejeyan is committed to excellence by pledging to provide the highest quality of Orthopaedic care possible, while utilizing the latest technological and cutting edge advancements.

Along with a solid base in general orthopaedics covering a broad range of musculoskeletal conditions, Dr. Tchejeyan offers expertise and fellowship training in sports medicine, joint replacement and fracture care. Performing over 3,500 surgeries during the last eight years, Dr. Tchejeyan strives to provide effective and personalized health care and a dedication to restore your active lifestyle.

Dr. Tchejeyan does all his own surgery. He is usually assisted by another physician or a highly trained surgical assistant. Night and weekend call is usually taken by Dr. Tchejeyan or one his associates in rotation. However, Dr. Tchejeyan can be reached by the on-call physician at any time if necessary.

The Initial Doctor's Visit

While information about joint replacement treatment may be readily available in print or on-line, only your doctor can answer specific questions about your diagnosis, treatment options and future outlook.

Your initial consultation with Dr. Tchejyan may up to one hour, depending on the complexity of your problem.

At your first visit we will take a comprehensive medical history, with special emphasis on your hip problem. You will have a complete orthopedic examination to rule out other conditions which may be causing your symptoms. We will need to take x-rays of the involved joint(s) if you have not had any taken recently (and brought them with you).

PLEASE BRING THE FOLLOWING WITH YOU ON THE FIRST VISIT:

1. Any family members or friends you may want to have present to help in the discussion and decision making process.
2. A written list of questions you may have.
3. Any X-rays, MRI studies, bone scans or other studies of your hip taken by previous physicians (that you can readily obtain).
4. A list of your current medications (with dosages).
5. A list of physicians you have seen in the past 2 years (with addresses and phone numbers, if possible). We normally send a full report to the doctor who referred you to us. Please let us know if you want a report sent to any other physician.

QUESTIONS YOU SHOULD BE PREPARED TO ANSWER:

1. Do you have a specific injury? If so,
 - a. What occurred?
 - b. Where did injury occur (work, home, MVA, etc.)?
 - c. If this was work related, did you file a work comp form?
2. If not an injury, was the onset sudden or gradual?
3. Date problem began?
4. Do you have a limp?
5. In the past 3 months, how would you classify your pain?
6. What makes your pain worse?

7. How long can you perform certain activities without pain?
8. Do you need an assistive device when you walk outside?
9. How far are you able to walk?
10. Can you climb stairs?
11. Can you put on your shoes and socks independently?
12. Do you have difficulty crossing your legs?
13. Can you use public transportation?
14. If this is a knee problem, have you noticed bowing or knocking in the leg (s)?
15. Have you previously seen an M.D. for this problem? If so, who and when?
16. Do you use inserts in your shoes or braces? If yes, do they help?
17. Did you try any medicines? If yes, did it help?
18. Have you ever had an injection?
19. Have you ever had hip or knee surgery? If yes, what, where and when was this done?
20. What are your goals that you hope will be accomplished?
21. What are your expectations after surgery?

THE HIP

The hip is the largest and one of the most complex joints in the body. Your hip joint is like a ball and socket formed by the “ball,” or femoral head, at the upper end of your thighbone and a rounded “socket,” or acetabulum, in the pelvis. The ends of the bone are covered with smooth cartilage for frictionless movement. It should glide smoothly while remaining well aligned and stable, allowing you to walk and perform normal activity.

NORMAL HIP STRUCTURE

A thin, smooth tissue lining called the synovium surrounds the joint space. The synovium produces fluid that acts as a lubricant to reduce friction and wear in the joint. When all parts of the joint work together, your hip moves easily without pain. But when your joint becomes diseased or injured, the cartilage can break down and cause escalating pain that severely limits your ability to move and work.

PROBLEM HIP

The smooth surface of the bones, the articular cartilage, can be worn away allowing the bones to rub together. This results in an irregular joint with rough surfaces that cause pain and swelling. When there is significant wear of the joint and uneven loss of the supporting bone, the hip may become stiff, shortened and painful with movement.

The most prominent symptom of hip arthritis is pain. Hip arthritis pain most commonly manifests in the groin. However, the pain can and may be present in the thigh, buttock or occasionally the knee (“referred pain” due to overlapping nerve supply in the hip and knee).

Back pain is even more frequently confused with hip pain. Pain in the buttocks, across the low back and down the back of the thigh usually comes from the spine. It usually indicates a pinched nerve in the lower spine. Patients with a pinched nerve will also often have numbness or tingling in the leg. To complicate matters, some patients with an arthritic hip may also have a pinched nerve from a back disorder. It is important in such cases to determine which problem is cause most of the pain: the hip or the back. If

your problem is mainly in your back, you may still be left with most of your pain after going through a hip replacement, and you will not be very happy with the result! If most of your pain is from the hip, a hip replacement may have the added benefit of improving your back condition as well, since the stiffness of an arthritic hip can aggravate a back problem.

Most patients with significant hip disease have a limp and one leg may feel shorter than the other. Bone-on-bone contact occasionally causes patients to feel or hear the hip creaking during walking. As the disease progresses, the hip becomes stiff and less movement is possible. This may make it difficult for you to clip your toe nails or to tie your shoe laces, and may also limit your ability to spread your legs. Quite often the first step or two after prolonged sitting may be especially painful. Eventually you may have to “take a break” to ease the pain after walking only short distances. The distance you can walk will gradually decrease until you can only take one or two steps at a time.

The term "arthritis" literally means inflammation of a joint, but is generally used to describe any condition in which there is damage to the cartilage. Inflammation, if present, is in the synovium. The proportion of cartilage damage and synovial inflammation varies with the type and stage of arthritis. Usually the pain early on is due to inflammation. In the later stages, when the cartilage is worn away, most of the pain comes from the mechanical friction of raw bones rubbing on each other.

Destruction of articular cartilage can occur as a result of

1. Aging or wear and tear (osteoarthritis)
2. Inflamed or thickened synovium (rheumatoid arthritis)
3. Loss of blood supply (osteonecrosis)
4. Injury (traumatic arthritis)

When the destruction is advanced, and combination of rest, medication, heat or cold and other therapies fail to relieve the pain, surgery may be indicated.

HIP REPLACEMENT

A Total Hip Replacement involves removing diseased or destroyed portion of the bone and replacing it with an artificial surface.

The femoral component resurfaces the top of the thigh bone. The acetabular “cup” component resurfaces the pelvic socket. These components, or prostheses, are made of metal (Titanium and Cobalt Chrome). The Bearing surface, the material that produces a smooth gliding surface, can be made of metal, plastic or ceramic. The components are usually “press-fit” (wedged) into place. Currently, there are numerous total hip designs available. Dr. Tchejeyan will select the design that best fits your needs.

The operation takes 1 to 1 ½ hours for a single hip. You will be in the hospital approximately 2 to 4 days.

The main results that you may expect from your Total Hip Replacement are relief of pain and improved function. While it may be some months before all of the soreness goes away, the disabling pain that prevented you from performing many activities will be gone after the normal postoperative period.

NON-OPERATIVE TREATMENT OF HIP ARTHRITIS

1. Activity Modification

- If you have hip arthritis, the more you walk the more the hip will hurt. In time, running, tennis, golf and eventually even walking may become impossible. You can minimize the pain by simply cutting back on activities which seem to aggravate the hip. Whenever possible, use an elevator (or an escalator) instead of stairs, and avoid long walks that leave you in pain. However, "saving the joint" by becoming totally sedentary will not slow down the arthritis. Therefore it is recommended that you remain as active as your pain will comfortably allow. A recent study (Annals of Internal Medicine, 1992) suggests that people with hip arthritis who force themselves to remain active may do better in the long run than those who "baby" themselves. Also, being totally sedentary leads to a loss of muscle and bone strength. If you feel that you need it, ask Dr. Tchejeyan can arrange for physical therapy to assist you in maintaining muscle strength and flexibility
- Walking on a treadmill or jogging will usually aggravate hip pain. The best all-around exercise for you is swimming. The water relieves the stress on your hip as you "walk" about in the shallow end of the pool. Lap swimming is excellent: it involves the use of most of your body muscles. Dr. Tchejeyan can prescribe a program of "pool therapy" for you if it is available in your area. Bicycling (stationary or mobile) is also well tolerated. If you do not have access to an exercise bike or pool, then walk as much as you can or make arrangements to join an exercise center that does have these facilities.

2. Assisted Devices (cane, walker, crutches)

- A cane has been known since pre-biblical times to be an effective pain-reliever for hip arthritis. Unfortunately most people today are too vain to use one! Two important facts about canes: (1) Hold the cane in the opposite hand (yes, the opposite hand) from the side with the hip problem and (2) The cane should be the correct height. Any medical supply company that

sells you a cane will adjust it to the correct length. A physical therapist can also adjust the length for you if needed.

3. Weight loss

- Weight loss will probably decrease your pain if you are greatly overweight. Up to seven times your body weight goes through you major joints (hip, knee, back). Therefore, one pound of weight loss equals 3 pounds in stress reduction on the hip during normal gait! But weight reduction alone is unlikely to completely relieve the pain. Obesity also makes the hip operation more difficult, and complications can occur more frequently in overweight people. Dr. Tchejeyan realizes that it can be very difficult to lose weight when you are not very active because of your hip pain. Do the best you can!

4. Injections

- Gold and methotrexate may be useful in rheumatoid arthritis. The treatment is complex and usually only given under the supervision of a rheumatologist. Cortisone injections given into the hip joint are occasionally useful. However, the hip is such a deep joint that it is almost impossible to inject without x-ray control of the needle, and therefore cannot be done as an office procedure. On the other hand, bursitis of the hip (another common cause of "hip pain") is easily (and effectively) treated with cortisone injections.

5. Non-Steroidal Anti-Inflammatory Agents, NSAIDs

- A group of drugs which decrease the inflammation (pain and swelling) in arthritic joints. The pain relief from NSAIDs can be quite amazing. Although they are commonly referred to as "arthritis pills", none of them will in any way influence the outcome of the arthritis. There are many NSAIDs available, and newer ones are constantly being brought onto the market. The "newest" one is not necessarily the most effective. Most people respond better to one NSAID than to another, and you may have to try several before the "right" one can be found for you. They all have potentially serious side effects and should only be taken under medical supervision. Most can only be obtained by

prescription and are expensive. Aspirin (which is also an NSAID is cheap, and is often just as effective as any of the other NSAIDs). Always take NSAIDs with food or antacids, or with a full glass of water. These medications have potentially serious side effects, and should only be taken under close medical supervision.

- Side Effects of NSAIDs: About 30% of patients on NSAIDs can expect some side effects. Most side effects are mild and may go away without treatment. Others are more serious and should be treated right away. Most NSAIDs can affect the liver, bone marrow or kidneys. Although Dr. Tchejeyan may give you the initial prescription for NSAIDs, and help you find the most effective one for you, we prefer your family doctor or internist to continue prescribing the medication, since blood tests are needed at least every three months to determine if you are having harmful side effects. The damage is reversible if the medication is stopped in time.

- Potential Side Effects of NSAIDs:
 - i. Stomach Problems: Stop the medication immediately if you get stomach pain cramping or burning. Check with your doctor if you get nausea, constipation or diarrhea which lasts for more than five days.
 - ii. Fluid Retention: This may happen if the NSAIDs affect your kidney function. You may notice swelling of the ankles, feet, or lower legs, or an unusual weight gain. If this continues for more than two weeks, check with your doctor.
 - iii. Bruising Tendency: NSAIDs interfere with the clotting of blood and may cause you to bruise easily. If you have any bleeding problems or take blood thinners, check with your doctor before taking NSAIDs.
 - iv. Dizziness, Lightheadedness, or Drowsiness: These are rare. If they do occur they usually go away when your body adjusts to the medicine.
 - v. Stomach Ulcers: Some people taking NSAIDs develop stomach ulcers, and occasionally these may bleed. The bleeding can come with very little warning, and can even be severe enough to cause death. This is why stomach

symptoms should be taken very seriously in patients on NSAIDs. If you have severe heartburn, or if your stools turn pitch black (altered blood), or if you vomit blood or material that looks like coffee grounds, stop the medicine and call your doctor immediately. Note that iron pills (taken for anemia or during the period you are giving blood for auto transfusion) will also turn your stools pitch black. Most people can take NSAIDs without having stomach problems. However, you may have a higher risk if you have had previous ulcers, or are over the age of 60, use cortisone (such as Prednisone), smoke or drink alcohol. If you are in any of these high risk categories it is recommended that you take Cytotec (which helps to protect the stomach) in addition to the NSAID. Cytotec is not routinely prescribed as it is expensive and has side effects of its own

- Drugs that may interact with NSAIDs:
 - Some drugs may interact adversely with NSAIDs. In some cases the combination should be avoided completely; in others, the dosage of either drug may need compensatory adjustment. Never take Aspirin-containing medication at the same time as taking NSAIDs.
 - Consult your internist before commencing treatment with NSAIDs if you are taking any of the following drugs: Aspirin, lithium, phenytoin, methotrexate, digoxin, probenecid, barbiturates, anticoagulants, high blood pressure medications, antacids, oral diabetes medications or diuretics.

- Allergy to the NSAIDs:
 - Allergies may be manifested as rapid breathing, gasping, wheezing, fainting, hives, itching, skin rash, rapid heart beat, or sudden puffiness of the eyelids. Allergy is exceedingly rare. It occurs sometimes in people who are truly allergic to aspirin. If you have these symptoms and you don't have someone to drive you to the hospital, call an ambulance and get to the hospital as soon as you can, since the allergic reaction could be severe and need urgent medical treatment.

- Remember to discontinue the use of any aspirin or aspirin-containing drugs 7 days prior to your surgery. All non-steroidal anti-inflammatory medications should also be discontinued 7 days prior to your surgery. The reason for discontinuing these medications is that they can increase bleeding at the time of surgery. Tylenol, Darvocet, and Tylenol with Codeine can be taken by mouth up to the night before the operation. If you have an un-cemented implant, you should not use Indomethacin after surgery unless approved by Dr. Tchejeyan, since it may interfere with bone-ingrowth into the implant surface.

- RULES FOR PATIENTS TAKING NSAIDs
 1. Tell your doctor if you are taking any other prescription or over-the-counter medications. Also if you have any other medical problems, especially stomach ulcers, bleeding tendency, Colitis, diverticulitis (or other stomach or bowel disease), kidney disease, asthma or liver disease.
 2. Always take NSAIDs with a meal and plenty of liquids.
 3. Don't exceed the dose prescribed by your doctor if it doesn't seem to be working to your satisfaction. There is a maximum effective dose for each NSAID and it could be very harmful to exceed that dose.
 4. Don't take NSAIDs only when you have pain or only when you expect to have pain (such as before a game of golf). NSAIDs may take up to two weeks to reach their full effect.

5. Don't take NSAIDs with alcohol or caffeine-containing beverages. These beverages make stomach problems worse.
6. Don't simultaneously take other medications containing aspirin compounds or Ibuprofen. Taking the prescribed NSAID in addition may cause side-effects from too much NSAID in your body. You can take Tylenol together with any of the NSAIDs.
7. Don't drive or operate machinery if your NSAID makes you feel drowsy or dizzy.

EXAMPLES OF PRESCRIPTION AND OVER THE COUNTER NSAIDS		
Generic Name	Some Brand Names	
Aspirin compounds (acetylsalicylates)	Anacin, Bayer, BC Powder, Bufferin, Excedrin, Ecotrin, Zorprin	
Celecoxib	Celebrex	*
Meloxicam	Mobic	*
Non-aspirin salicylates	Arthropan, Disalcid, Magan, Trilisate	
Diclofenac	Voltaren	*
Fenoprofen	Nalfon	*
Flurbiprofen	Ansaid	*
Ibuprofen	Advil, Medipren, Motrin, Nuprin, Rufen~ren, Motrin	*
Indomethacin	Indocin	*
Ketoprofen	Orudis	*
Meclofenamate	Meclomen	*
Mefenamic acid	Ponstel	
Naproxen	Naprosyn	*
Naproxen sodium	Anaprox	*
Phenylbutazone	Butazolidin	*
Prioxicam	Feldene	*
Sulindac	Clinoril	*
Tolmetin	Tolectin	*

*Can affect liver or kidneys. Need to have blood tests every 3 months (CBC, Liver Function tests, serum creatinine)

7. Pain Medications:

- Eventually NSAIDs will not give you adequate relief. If for some reason you are not able to undergo hip surgery by that time, then your only recourse is to take pain medications, starting with over-the-counter medications such as Tylenol, and progressing to stronger prescription medications from your doctor as necessary.

The following are some commonly prescribed pain medications:		
Pain Medicine	Generic or Other Names	Comments
Aspirin compounds	Anacin, Bayer, Bufferin, Easprin, Ecotrin, Exedrin, Zoprin	ASA, **
Codeine		A, Rx, ***
Darvocet	Propoxyphene with Tylenol	H, Rx, ***
Darvon	Propoxyphene	H, Rx, ***
Emprin (with) Codeine	Aspirin and Codeine	A, Rx, ASA, ***
Fioricet	Butalbital with Tylenol	H, Rx, ***
Fiorinal	Butalbital with Aspirin	H, Rx, ASA, ***
Oxycontin	Oxycodone (time released)	A, Rx, ASA, ****
Percodan	Oxycodone, Oxycodan	A, Rx, ASA, ****
Percocet	Oxycodone with Tylenol	A, Rx, ****
Talacen	Pentazocine + Aspirin	H, Rx, ASA, ***
Tylenol	Acetaminophen, Phenaphen	*
Vicodin	Hydrocodone	H, Rx, ***
<i>Legend to Comments</i>		
ASA = contains aspirin		
A = addictive		
* = degree of pain relief		
Rx = needs prescription		
H = habit forming		

Glucosamine and Chondroitin:

- Glucosamine and Chondroitin are found naturally in the body. These supplements stimulate the formation and repair of articular cartilage and prevent body enzymes from degrading the building blocks of joint cartilage. Recent evidence seems to support the claim that the supplements relieve the pain of osteoarthritis, both have some anti-inflammatory effects that may account for the pain relief. However, there is no proof that either substance, taken singly or in combination, will actually slow the degenerative process or restore cartilage in arthritic joints.
- Dietary supplements like glucosamine and chondroitin sulfate are not tested or analyzed by the Food and Drug Administration before they are sold to consumers. That means consumers can't be sure they're getting what they are buying. Do your research before purchasing and using any of these dietary supplements. Find out about side effects, find out if it will interact with your current medication? Write to the manufacturer and ask for documentation that supports their claims.

WHEN TO CONSIDER HAVING HIP SURGERY

If your symptoms are mainly from an arthritic hip, and you are physically fit enough to undergo surgery, when should you consider having your hip replaced? Hip arthritis is not a life-threatening condition: the procedure is "elective". There are possible complications associated with hip replacement surgery and Dr. Tchejyan will only offer it as an option for you to consider. The decision to have the operation is a highly personal matter, and only you can make that decision. If you are confined to a wheelchair and in constant pain, it is a decision that will be quite easy for you to make, even though the operation (any operation) involves taking a certain amount of risk. If your disability is great enough, the potential benefits are worth the risk. If your arthritis is responding to conservative measures, and you can still walk long distances without a cane, you don't need a hip replacement.

Here are some facts to help you make your decision:

1. Once you have hip arthritis it will never get better. It won't even stay the same. It will generally progress as time goes by. There are no exercises, diets, vitamins, or minerals (including calcium) which will make any difference. Copper bracelets will definitely not make any difference!
2. The rate of further deterioration varies greatly from person to person. The pain may become unbearable within six months for one person, yet drag on at a tolerable level for several years in another person who has the same degree of arthritis.
3. You will never need a hip replacement if you are willing to live with the pain.
4. You may believe that it is better to delay having the operation in hope that the technology of hip replacement will improve with time. However, the rate of progress in this area is extremely slow, so this is something to consider only if you are very young, or your arthritis is mild and you can easily live with your symptoms.
5. More than 96% of patients who have a hip replacement operation have no major complications.

6. There is nothing you can do that will physically make your hip arthritis worse. It may hurt you but you can't hurt it!
7. The main arguments against waiting too long are:
 - a. The longer your arthritis forces you "sit around" the softer your bones become and the weaker your muscles become.
 - b. If your pain and disability are not responding to conservative measures, and you realize that you are going to have to have the operation sooner or later anyhow, you may reasonably conclude that there is no point in waiting. Why put it off for another year or two when you could have spent that time enjoying your life free of pain!

If you are in doubt about whether or not you should have the surgery then a second opinion may give you the reassurance you need. You may also discuss your hip problem with your family physician or a rheumatologist, and other people who have had hip replacements. The nice thing to know is that you need never be crippled because of your hip arthritis, because of the option of hip replacement available to you.

CONTROLLING RISK FACTORS

With any major surgery there are certain risks. It is important that you understand the risks involved in having Total Hip Replacement, as well as what be done to minimize those risks and prevent the incidence of post surgical complications. Conditions that may increase your risk of having postoperative complication include obesity, heart and lung disease, smoking, diabetes, tooth diseases, or any sign of infection such as a recent cold, flu, or sore throat. By having potential problems identified before surgery, you can work with the health care team to prevent post surgical complications.

Prior to your admission for surgery, you will be examined by an internal medicine specialist and have routine laboratory tests, either at the hospital or by your own primary physician. After reviewing the results of your tests, physical exam and medical history, the physician will be able to identify any particular health risk factors that you may have. If high risks are identified, your doctor may recommend additional tests or may discuss with you the need to delay surgery until these risks can be brought under reasonable control. Even now, before you have your pre-admission testing, there are things that you can begin doing to reduce the risk of post operative complications.

1. SMOKING

- As per Federal Laws smoking is prohibited in all medical facilities. If you are a smoker, you should join a program to stop smoking now. Smoking increases you chances of lung complications and can delay wound healing.

2. NUTRITION

- Both poor nutrition and obesity can increase your risk for infection and/or delay wound healing. While excessive weight can make you recovery period more difficult, a crash diet is not the answer. If you are obese and would seriously like to lose weight before or after surgery, we recommend that you join a physician-supervised weight-loss program. As you lose weight, you see some improvement in your hip function and a decrease in hip pain. When your weight is under control and you are

preparing for hip replacement surgery, it is important that your diet be nutritionally sound.

3. INFECTION

- Bacteria travel through the bloodstream and are attracted to an artificial prosthesis. Therefore, an infection anywhere in the body presents a problem to a patient with a Total Joint Replacement. It is important that you be free of infection before you have your hip replaced, and that you obtain immediate treatment for any infection that may occur after you hip replacement surgery- and for the rest of you life. The most common areas that may be sources of bacteria in the body are the teeth and genitourinary tract. Any problems should be corrected before pre-admission testing.
 - i. If you have not had a dental check- up with-in the last 6 months, you should do so now.
 - ii. If you have any problems with your urine – frequency, burning or difficulty passing urine – you should see your urologist or family doctor.
 - iii. Let your surgeon know if you have a cold, sores, cuts, or inflamed areas anywhere on your body.
 - iv. Making sure that you are free of infection may avoid having to delay your surgery.
 - v. Tell the doctor if you are taking antibiotics for any reason.

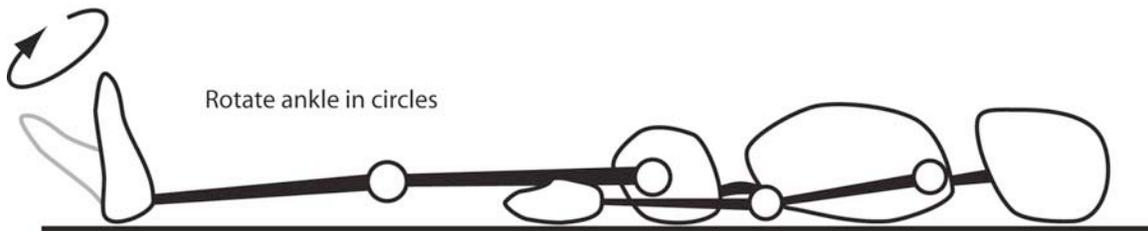
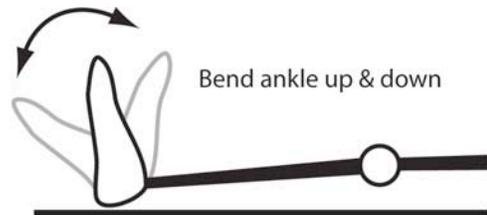
4. EXERCISE

- While pain may limit your physical activity before surgery, there are some exercises that you should begin doing now to strengthen your muscles and prepare yourself for surgery.

- Do each of the following exercises 10 times with both legs, at least twice a day.
- Do not hold your breath while exercising.
- Lie on your back with your legs straight.

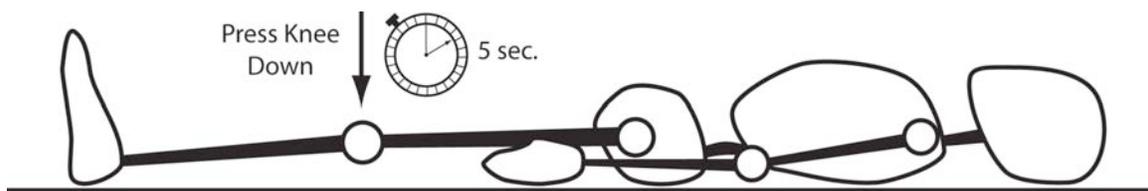
Ankle pumps – strengthen your knee and ankle muscles and help circulation in your legs.

1. Bend ankles up and down.
2. Make circles with your ankles.



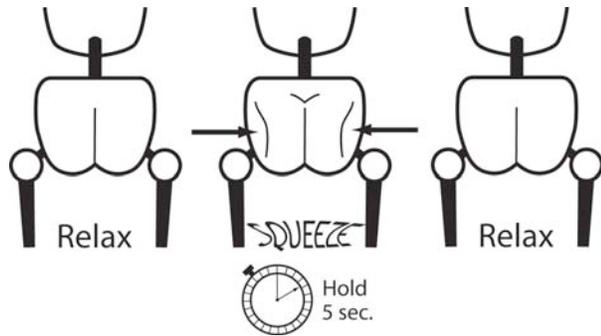
Quad sets – strengthen the quadriceps muscle in your thigh, which assist you in walking and straightening your hip.

1. Tighten your thigh muscle by pushing the back of your hip into the bed.
2. Hold, count to five slowly, and relax.

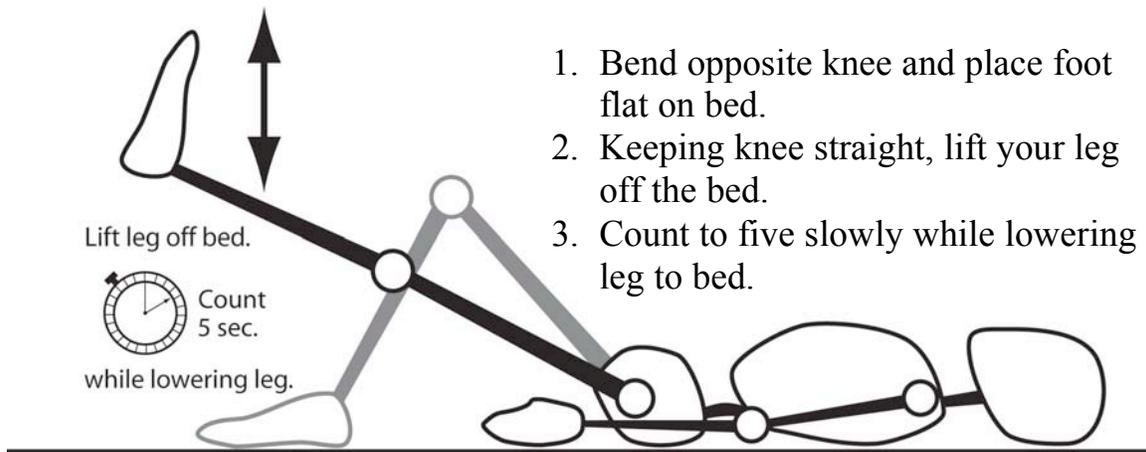


Gluteal Sets – strengthen your buttock muscles, which help hold your body erect.

1. Squeeze your buttocks together.
2. Hold, count to five slowly, and relax.

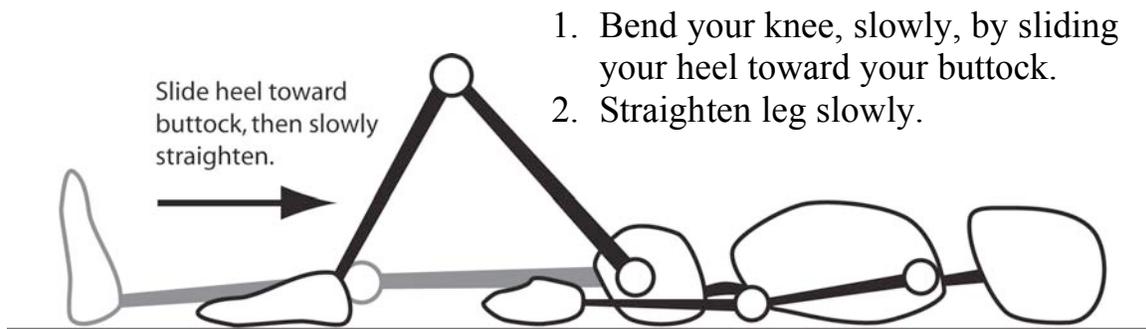


Straight Leg Raises – strengthen muscles that are important when walking.



1. Bend opposite knee and place foot flat on bed.
2. Keeping knee straight, lift your leg off the bed.
3. Count to five slowly while lowering leg to bed.

Heel Slides – strengthen muscles that help your knee to bend.



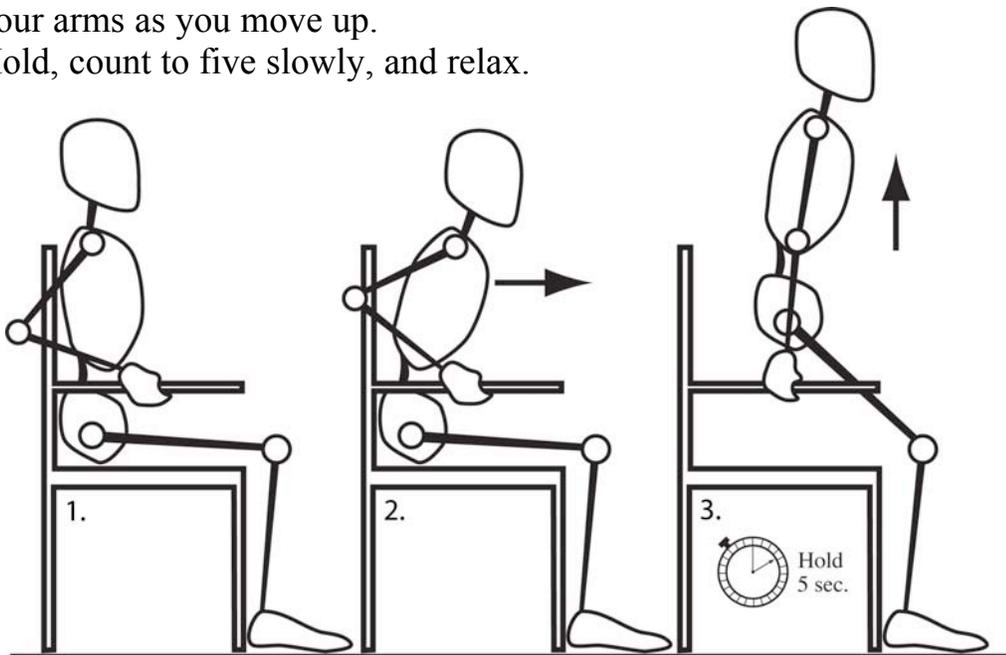
1. Bend your knee, slowly, by sliding your heel toward your buttock.
2. Straighten leg slowly.

These are the same exercises that you will be expected to do postoperatively, so practice now will make them easier after surgery. Upper extremity exercises are also important, as you will be using your arms to move yourself around in bed and to help support your weight when walking after surgery. All patients should do these exercises, but they are especially important for women, who generally do not have as much upper body strength as men.

- Do each of these exercises 10 times, at least twice a day.
- Sit in a sturdy chair that has arms.

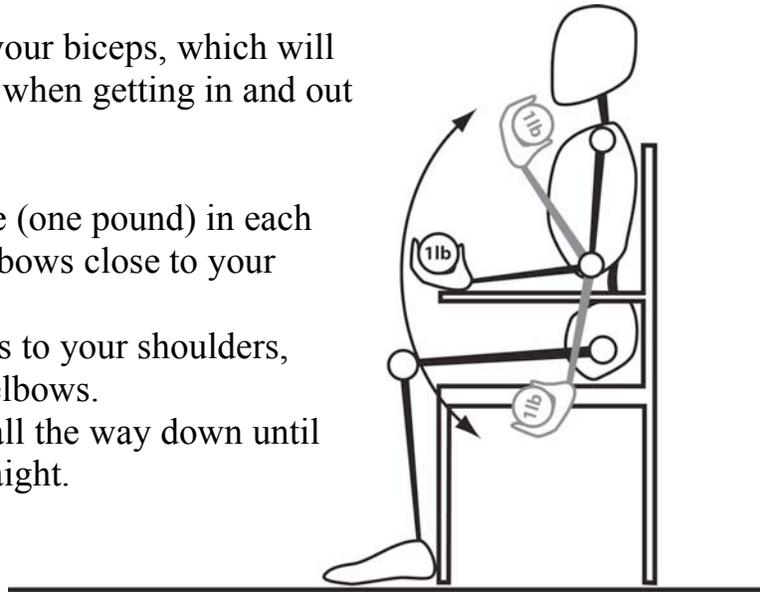
Press-ups – strengthen your triceps muscles, which will help you when getting in and out of bed.

1. Grab arms of chair at the level of your hips. Keep elbows bent and in toward your body.
2. Lean body forward and push up out of chair; straighten your arms as you move up.
3. Hold, count to five slowly, and relax.



Bicep curls – strengthen your biceps, which will help you move in bed and when getting in and out of bed.

1. Hold a can of coffee (one pound) in each hand. Keep your elbows close to your body.
2. Slowly lift both cans to your shoulders, bending only your elbows.
3. Slowly lower cans all the way down until your elbows are straight.



FINANCIAL INFORMATION

As you make your decision to have surgery, finances are always a concern. This section will give you some indication of what you can expect to be billed for when having a Total Hip Replacement. You can then look over your insurance coverage and have a better idea of your financial responsibility.

Charges are divided into those for technical services, which will appear on your hospital bill, and those for professional services, which are billed individually by the specific doctor. An example of this is an x-ray: The charge for the x-ray itself will appear on your hospital bill. In addition, you will receive a bill from the radiologist for reading the x-ray.

Even if these bills are to be paid by your insurance, you should know what each bill covers. If it is not clear, you should call or write THE PERSON SENDING THE BILL and ask for clarification. In addition to your surgeon and the anesthesiologist, other doctors who may send you a bill are the following:

1. Assistant Surgeon
2. Internist
3. Physiatrist - a medical doctor who specializes in physical medicine, rehabilitation, and pain medicine whom may direct your care if you spend any time in a rehabilitation facility.
4. Radiologist
5. Pathologist – required by law to examine specimen of the bone from your hip.
6. Intensivist – a medical doctor whom directs your care if you spend any time in the intensive or cardiac care unit.
7. Consultants – specialists called by your doctor for a specific program, e.g. urinary, cardiac or stomach problems or persistent confusion.

CONSENTS

There are several consent forms you will be required to sign before your operation. In addition, some surgeons require a consent form to be signed for their office records. It is important that you read all of these carefully and ask questions about any area you do not understand before you sign. Samples of some of the forms are included on the website (www.tjnortho.com), along with information on your rights as a patient.

1. Consent for General Medical Treatment
2. Request and Authorization for Operation and/or Procedure
3. Blood Transfusion Informed Consent
4. Personal Valuables
5. Health Care Proxy
6. Financial Agreements
7. Admitting Department Patient Notification Notice
8. Permission for taking photographs or video recordings for educational purposes (if applicable).

SCHEDULING YOUR SURGERY

Once you have decided to proceed with surgery, there are a number of things that need to be taken care of before the day of the operation:

1. SELECT THE DATE AND HOSPITAL FOR THE SURGERY

- Dr. Tchejeyan's surgery scheduler will arrange scheduling at either Los Robles Hospital or Thousand Oaks Surgical Hospital. Dr. Tchejeyan is usually scheduled ahead for about four weeks. The surgery scheduler will also assist you with getting your blood storage program started, and with selecting an internist if you do not have one on staff at the hospital where you will have your surgery.

2. START BLOOD STORAGE PROGRAM.

- While some total joint procedures do not require blood transfusion, you may need blood before or after surgery. You may use donor blood or plan ahead to make an autologous donation of your own. You may also have a family member or friend with the same blood type as you designate a donation specifically for you. In preparation for donating blood and having surgery it is advisable to start taking iron supplements.

3. MAKE AN APPOINTMENT TO SEE THE INTERNIST

- This is major surgery so medical evaluation by an internist is needed before we proceed with the operation. The internist will also see you daily while you are in the hospital to make sure that any medical complications which may develop are promptly recognized and treated. It is best when your own internist is on staff at one of the two hospitals. If not, we will select an internist for you who is familiar with joint replacement patients, and works with Dr. Tchejeyan on a regular basis. An appointment with the internist is usually made 5 to 7 days before surgery, unless you have some serious medical problems that needs more time to correct. If you have any infection (teeth, bladder, prostate, kidney, uterus, etc.), it should be treated and cleared up before undergoing joint replacement surgery.

- Diseases such as diabetes and heart disease do not disqualify you from surgery, as long as they are under control. Some conditions may make the risk of joint replacement too great (chronic infection or a recent heart attack or stroke). The internist will help you weigh the risks of surgery against your age and general health
- If your own internist (or an associate) is not able to see you everyday while you are in hospital, then we recommend that you allow us to assign an internist to carry out the appropriate duties while you are in the hospital. The internist we assign will consult with your own doctor both before and after the surgery, and will hand your care back after the operation. Please discuss this very important matter with your doctor well ahead of time.

4. HAVE A DENTAL EXAMINATION

- Although infections after joint replacement are not common, an infection can occur if bacteria enter the bloodstream. Therefore, dental procedures such as extractions and periodontal work should be completed before joint replacement surgery.

5. PLAN FOR POST-SURGERY REHABILITATIVE CARE (HOME HEALTH AGENCY)

- Total joint replacement recipients may need help at home for the first few weeks, including assistance bathing, dressing, preparing meals and with transportation. If you can't arrange for someone to help you at home, you may need to stay in a rehabilitation or skilled nursing facility. A medical social worker can assist with arrangements. Home therapy visits should end when you can safely leave the house and outpatient physical therapy should begin.
- Additionally you and your spouse/significant other/care giver should plan on attending a pre-admission Patient/Family Education seminar given by the Home Health agency so that you will be well prepared for your surgery.

6. HAVE THE NECESSARY LAB WORK DONE.

- Dr. Tchejeyan will prescribe blood tests, urine tests, an EKG or cardiogram, and chest x-ray to confirm you are fit for surgery. The blood and urine tests should be performed within 7 days of the scheduled surgery in order to be acceptable. The EKG and chest x-ray are acceptable within 6 months provide the studies were normal.

7. STOP TAKING CERTAIN MEDICATIONS IN THE DAYS BEFORE SURGERY

- NSAIDs should be stopped three days prior to your hip surgery. These medications are listed in this booklet. If you are taking aspirin or aspirin-containing drugs such as Percodan, Excedrin, or Anacin, these should be stopped 7 days prior to your surgery. If you are on Coumadin it will have to be stopped, under the supervision of your internist, several days prior to your surgery.
- The reason that these medications are discontinued is because they can increase bleeding at surgery. Tylenol, Darvocet, Percocet and Tylenol with Codeine may be taken by mouth up to the night before your operation. Your internist may want you to take certain of your regular medicines on the morning of surgery, even though you are not supposed to eat or drink anything after midnight; you may do so with a sip of water.

8. STOP TAKING HERBAL MEDICINES AND DIETARY SUPPLEMENTS 10 DAYS BEFORE SURGERY

- Many of the popular herbal products on the market can cause harmful side effects or interact with your other medicines including Anesthesia. Certain herbal medicines may prolong the effects of anesthesia. Others may increase the risks of bleeding or raise blood pressure. Some effects may be subtle and less critical, but for anesthesiologists, anticipating a possible reaction is better than reacting to an unexpected condition. So it is very important to **DISCONTINUE ALL HERBAL MEDICINES AND DIETARY SUPPLEMENTS TEN (10) DAYS PRIOR TO YOUR SURGERY**. Listed are examples of some common herbal and dietary products:

- i. Echinacea
- ii. Ephedra (also called Ma-Huang)
- iii. Feverfew
- iv. GBL, BD and GHB
- v. Garlic
- vi. Ginger
- vii. Ginkgo (also called ginkgo biloba)
- viii. Ginseng
- ix. Goldenseal
- x. Kava-kava
- xi. Licorice
- xii. Saw palmetto
- xiii. St. John's wort
- xiv. Valerian
- xv. Vitamin E

9. SEE DR. TCHEJEYAN FOR A FINAL VISIT TO MAKE SURE EVERYTHING IS IN ORDER

- A day or two prior to your surgery you will come to our office for a final preoperative visit to make sure everything is in order. Your vital signs will be checked, allergies and current medications will be reviewed, and the nurse will give you papers to take with you to the hospital. You will also have a chance to ask Dr. Tchejeyan any unanswered questions you may have. If your internist has not done all the necessary blood tests, we will send you to the hospital to do additional tests.

GETTING YOUR HOUSE READY

Some common things in your home may now be dangerous. To prevent falls, you should remove or watch out for:

1. Long phone or electrical cords that lie across the floor
2. Loose rugs or carpet
3. Furniture you might trip over in stairs and hallways
4. Stacks of books, piles of magazines, mail, etc.
5. Pets that run in your path
6. Water spills on bare floors
7. Bare bathroom tile or slippery floors
8. Ice or mildew on outdoor steps

It would also help to:

1. Arrange the most frequently used kitchen utensils and food on shelves and counters that can be reached easily.
2. Prepare meals in advance and freeze them so they're ready when you return.
3. Consider having non-slip mats and or/grab bars installed in you tub or shower (these are useful to the whole family).
4. Have a chair or stool handy in the kitchen to sit in while preparing and cooking food.
5. Leave most frequently used dishes in the dish rack, and most frequently used foods in the most accessible cabinets.
6. Have a rolling cart to take food from the refrigerator to the counter and from the counter to the table.
7. Have a walker bag, apron with pockets or sport sac around your waist to carry small items such as glasses, books, silverware, etc.
8. Attach a cup holder to your walker to carry drinks in covered cups.
9. Arrange an area where you can stretch out to rest and do your exercise at least twice a day. (Remember, low couches are difficult to rise from.).
10. Place phone numbers you may need near the phone. Consider a cordless telephone.
11. Arrange for someone to care for or feed your pets.

WHAT TO BRING TO THE HOSPITAL

1. Bring this booklet
2. The forms given and papers given to you in the office to take to the hospital. In addition to any education materials you received in preadmission classes
3. Exercise shoes with closed-in heel and non-slip soles
4. Short gowns, pajamas, underwear, socks/stockings and one set of street clothes to wear home
5. Glasses, hearing aid, and any other items you use every day
6. Sturdy bedroom slippers with non-skid soles
7. Knee length robe or cover-up for walking in the halls
8. Favorite pillow (if you desire)
9. Reading material
10. Grooming items such as shampoo, toothpaste, deodorant, etc.
11. A list of medications you are currently taking at home, including the name, strength and how often you take each medication
12. Papers from the blood bank if you have donated your own blood
13. A list of allergies (to food, clothing, medicine, etc.) and how you react to each one
14. A copy of your Living Will and Health Care Power-of-Attorney, if you have either one. Hospital personnel are required by law to ask for these when you are admitted. They will make a copy for your medical record and return the original.
15. A copy of your insurance card
16. A walker or crutches if you already have one, and a list of other adaptive equipment you may have at home with your name on all equipment you take to the hospital
17. Leave jewelry, credit cards, keys and checkbooks home. Bring only enough money for items such as a newspaper, magazine, coffee, etc.

PRE-ADMISSION TESTING (PAT) DAY

Pre-admission testing, including lab work and medical clearance, is required 2 to 7 days before your joint replacement surgery. It is important that Dr. Tchejyan receives the results of your physical exam and lab tests at least 2 business days before your scheduled surgery. If your pre-admission testing is to be done in the hospital, the appointment will be made for you by the surgeon's office staff.

This may be long day so you should:

1. Eat breakfast or lunch before arriving.
2. Take your regular medicines (you may want to bring your pain medicine with you).
3. Wear comfortable, easy to remove clothing.
4. You will need to bring:
 - i. Your health history
 - ii. Results of any test you may have had outside this hospital and/ or copies of any chest x-rays or EKGs done within the last year.
 - iii. Your insurance card or forms.
 - iv. This booklet and your list of questions.
5. Report to the admitting office on the first floor of the hospital at the assigned time and check in with the receptionist.
6. You will have:
 - i. A nurse will review your health history with you and provide preoperative instruction.
 - ii. Review of all lab work, blood and urine tests, Chest x-ray and EKGs. If your internist has not done all the necessary blood tests, it is at this time additional tests will be performed

THE NIGHT BEFORE SURGERY

- You can spend the night before surgery at home or in a local hotel. A list of local hotels and motels can be provided upon request.
- Please be sure to arrive at the hospital on time. Usually 1 ½ hours prior to the scheduled start time of the operation.
- The night before surgery, or in the morning if you prefer take a shower; do not use lotion or powder.
- Use the antibacterial shampoo over the hip area provided to you by Dr. Tchejyan when you bathe the evening before the surgery. Also use the shampoo a second time when you bathe the morning of the surgery.
- Food in the stomach can cause anesthetic complications. The night before the surgery you should not have anything to eat or drink after midnight, including water.
- Do not drink any alcohol for 48 hours before surgery, because it delays the emptying of the stomach.
- Try not to smoke (at least cut back) for 48 hours before surgery because smoking increases anesthetic risk.
- Often the admitting Office from the hospital will call you the evening before your admission date to confirm the time you should arrive at the hospital. You may wish to call the Admitting Office in the event you have not heard from them
- Make sure that you have a bowel movement the day before surgery. If you suffer from constipation you may want to take an enema in the early evening to clear your bowel.

THE DAY OF SURGERY

- DO NOT eat or drink anything: this includes water and coffee.
- Take only those medications approved by the pre-admission testing doctor, usually heart or blood pressure medication, with a very small sip of water.
- Wear loose, casual clothing that will be easy to get into when you leave the hospital and a low-heeled, closed walking shoe with a rubber sole. You will be wearing these shoes the day after surgery to walk. (Slip-on shoes are preferable to tie shoes, if you have them, as they allow you to be more independent).
- Arrive at the hospital at the appointed time
 - You will be admitted to the hospital the day of your surgery. It is important that you arrive at the hospital at least 1 1/2 hours before your operation
 - When you arrive at the hospital on the morning of surgery, go directly to the admitting office. From there you will be taken to the pre-anesthesia area where you will change into a hospital gown, and an intravenous line will be started.
- Complete the admission process
- Have final pre-surgery assessment of vital signs and general health
- Remove all personal belongings
 - Dentures (can be removed in the operating suite), hearing aids (can be removed in the operating suite), hairpins, wigs, jewelry, glasses, contact lenses, nail polish, piercing and all underwear
 - Leave these belongings with your family or friends during surgery. You will be dressed in a hospital gown and nothing else
- There will be several checks to make sure the correct joint is being replaced (i.e. RIGHT or LEFT). Dr. Tchejyan will initial the area to be operated on the correct limb. Additionally the nursing staff

will check the consent form you signed to make sure it agrees with the procedure on the operating room list. The nurse will also mark the operative limb with the word “YES”

- If necessary, your leg will be shaved. All surgical sites will also be scrubbed by the nursing staff in the pre-operative area.
- Meeting with anesthesiologist and operating room nurse
 - The anesthesiologist will see you in the pre-operative area. There the discussion of anesthetic options and risks will take place. She/He will discuss the advantages of general anesthesia, spinal or epidural anesthesia..
 - Dr. Tchejeyan prefers his patients to have spinal anesthesia coupled with heavy sedation or light general anesthetic. The recovery is smoother. The final choice of anesthetic is made by you and the anesthesiologist. You will be given sedatives before being taken to the operating.
 - Dr. Tchejeyan and the anesthesiologist will help you choose the best anesthesia for your situation. No matter what type of anesthesia you have, be assured you will not feel the surgery
- Start IV (intravenous) which is placed in your arm and used to replace fluids lost during surgery, administer pain medicine, and deliver antibiotics and other medications. The IV is usually discontinued the day of discharge.
- Transportation to the operating room will occur from here

ANESTHESIA

- Several factors must be considered when selecting anesthesia, including:
 - Your past experiences and preferences. Have you ever had anesthesia before? What kind? Did you have a reaction to the anesthesia? What happened? How do other members of your family react to anesthesia? Your current health and physical condition. Do you smoke? Are you overweight? Do you drink or use recreational drugs? Are you being treated for any condition other than your joint replacement? Your reactions to medications. Do you have any allergies? Have you ever experienced bad side effects from a drug? Which drug? What were the side effects? What medications, nutritional supplements, vitamins, or herbal remedies are you currently taking?
- There are three broad categories of anesthesia: local, general, and regional.
 - Local Anesthesia
 - You are probably familiar with local anesthesia. This is the kind of anesthesia your dentist uses when repairing your teeth. Local anesthesia numbs only the specific area being treated.
 - General Anesthesia
 - General anesthesia affects your entire body. It acts on the brain and nervous system, leaving you in a deep sleep. Usually, it is given by injection or inhalation. When general anesthesia is used, the anesthesiologist will also place a breathing tube down your throat and administer oxygen to assist your breathing.
 - Regional anesthesia
 - Regional anesthesia involves numbing a specific area of the body, without affecting your brain or breathing.

Because you remain conscious, you will be given sedatives to relax you and put you in a light sleep. The two types of regional anesthesia used most frequently in joint replacement surgery are spinal blocks and epidural blocks.

- The anesthesiologist will discuss the anesthetic options, risks and benefits of each type as discussed above. The final choice of anesthetic is made by you and the anesthesiologist. No matter what type of anesthesia you have, you can be assured you will not feel the surgery.
- Dr. Tchejyan prefers his patients to have spinal anesthesia coupled with sedation and light general anesthetic. The recovery is smoother and you will be able to get out of bed the same day of surgery without significant pain.

IN THE OPERATING ROOM

Many people will be with you in the operating room during the surgery; however only the surgeon, assistant surgeon and scrub nurse are actually “scrubbed in” during the procedure. All the people that are present in the operating room include:

1. Your Surgeon - Dr. Tchejeyan does all his own surgery. He is usually assisted by another physician or a highly trained surgical assistant.
2. Anesthesiologist – the doctor who gives you anesthesia
3. Scrub nurse – the nurse who hands the doctors the tools needed during surgery
4. Circulating nurse – a nurse who brings things to the surgical team
5. Surgical Device Sales Representative – the person that provides the implant used in the joint replacement

First-time hip replacements take 1 to 2 hours of operating time. You will be in the operating room for about another hour (for anesthetic induction and other necessary procedures before and after the operation). Revision operations can take up to 4 hours of operating time (or even more).

Once you have left the pre-operative area your family, family members should remain in the surgical waiting room where they will be kept informed of any delays and updates on your status. Your family will be told when you are in the Post Anesthesia Care Unit (PACU). When the operation is over Dr. Tchejeyan will meet with relatives or friends in the surgical waiting area to give them a progress report. Let the nurse and/or volunteer know if your family member(s) will not be waiting in the surgical waiting room. Dr. Tchejeyan will then need to know how your family member(s) can be reached.

POST ANESTHESIA CARE UNIT (PACU)

You will be awake as soon as your operation is over. You will be moved directly onto your bed and taken to the Post Anesthesia Care Unit (PACU). This is a large, brightly lit room with several other patients. Here you will be closely monitored by the nursing staff as your body adjusts to the stress of surgery. You will be in the PACU for about 2 hours.

In the PACU you will be connected to machines that continually record your blood pressure and heart rhythm. You will have intravenous lines (IVs) for fluids, blood and medication, and you'll be given oxygen through a nasal cannula. It is normal for you to experience a dry mouth and /or chills. The nurse will give you something to relieve these symptoms.

While you are in the PACU, blood tests and an x-ray of your new hip joint will be done. It is important for you to know that if you had epidural anesthesia you will not be able to feel or move your legs when you arrive in the PACU. You will be asked frequently by the nurse to move your toes to monitor the gradual return of sensations and movement.

You may have any of the following inserted and/or applied when you come out of surgery:

1. An Intravenous Tube (IV) – This is placed in your arm and used to replace fluids lost during surgery, administer pain medicine, or deliver antibiotics and other medications.
2. A Catheter Tube – This may be placed in your bladder to help your healthcare delivery team keep up with your fluid intake and output. It is most often removed the day after surgery.
3. A Drain Tube – This may be inserted in your bandage site to help reduce blood and fluid buildup at the incision.
4. Sterile scrub solution – your limb may have a betadine-tinged color (orange-like) due to the anti-septic scrub applied before the surgery

5. Elastic stockings - Support stockings will be put on your legs to help the blood flow. You may also have compression foot pumps wrapped around your feet and connected to a machine that blows them up with air to promote blood flow and decrease the possibility of blood clots.
6. Pneumatic pumps – calf or foot “pumps” that help circulate blood in your legs/feet to help prevent blood clots
7. Dressings - There will be a dressing on your operated hip covered with a bandage.
8. Abduction pillow – With replacement a V-shaped wedge pillow (abduction pillow) will be placed between your legs. This keeps your new hip in the best position while you are in bed.

You will remain in the PACU until you are alert, your vital signs are stable, you are able to move your legs, and your pain is under control. On the day of surgery, even when you are in your own room, you will feel sleepy and tired. This is a day to rest and recover. The nurses will be checking your condition and assisting you as needed.

Visitors are usually not allowed in the post anesthesia care unit. Any family members in the surgical waiting room will be notified when you leave the PACU and are being brought to your assigned room. They will be able to join you there. The room itself may not be available before that time due to patients discharge and bed/room cleaning. If the room is ready and family members choose to wait there, they must understand that no information will be available in the room. The nurses on the unit have no information about you, your condition or when you will be coming to the unit. For this reason we encourage family members to remain in the surgical waiting area until they are told you are on your way to your assigned room.

POSTOPERATIVE PAIN MANAGEMENT

Our goal is to reduce your anxiety and keep you safe and comfortable throughout your hospital stay. Dr. Tchejeyan's approach to pain management is multimodal; this is, using two or more analgesic agents with different modes of action. The belief is that it is easier to prevent pain and inflammation at the central and peripheral level than it is to reduce it once it is established.

Systemically, we use opiates, a spinal, and anti-inflammatory. Locally during the operation, we use injections into the surgical site that include a cocktail of pain medicine, anti-inflammatory and anesthetic agents. This is augmented peripherally (through the IV) with long acting narcotics. For knee surgery nerve blocks can also be performed.

There are common side effects from anesthesia, including nausea and dizziness. However, we have found that this multimodal protocol prevents the onset of pain for most of our patients, as well as the nausea, dizziness, and vomiting associated with intravenous narcotics. Our patients are able to ambulate the day of surgery without significant pain and tend to leave the hospital at a much faster rate.

Some patients experience back discomfort after surgery. This is caused by general soreness of the surgical area and the prolonged lack of movement before, during and after surgery. Periodic change of position helps relieve discomfort and prevents skin breakdown.

Occasionally the Patient Controlled Analgesic (PCA), AKA "pain button" is used to allow you to control your own pain medication without waiting for the nurse.

On the second or third day after surgery, as your need for pain medication decreases, you will be switched to oral pain medication. We encourage you to take your pain pills, regularly to prevent the pain from becoming severe, because pain will slow down the rehabilitation.

Adjustments can be made in the dose if any of the medicines cause unusual feelings or are not effective.

ORTHOPAEDIC NURSING UNIT

Once your condition is stabilized post-surgery, you will be transported to your own hospital room where you will continue to have your vital signs and surgical dressing monitored. Once you've settled in, several members of your care team may drop in to orient you to your hospital routine.

The health care team works together to help you return to an active, independent lifestyle. Total Hip Replacement surgery is a pro-active process. It requires hard work on your part as well as members of the health care team to offer help, encouragement and support. In addition to Dr. Tchejeyan other healthcare professionals involved in your care include:

1. Internist – The medical doctor who makes sure that you are medically fit for surgery and follows your medical progress after surgery.
2. Pain Specialist – Assists you in managing your pain after surgery.
3. Physiatrist – Prescribes your physical therapy regimen in accordance with Dr. Tchejeyan.
4. Clinical Coordinator/Case Manager – Provides patient education, is available to answer questions, and assists in coordinating your discharge planning.
5. Dietitian – Reviews dietary restrictions or special diets your condition may warrant.
6. Occupational Therapist – Available to teach you easier ways to perform daily activities if needed.
7. Physical Therapist - Teaches you how to walk and bend your hip again properly.
8. Social Worker – Works with other health team members to assure that you will be able to safely manage at home. Is also available to assist you in dealing with the stress of your hospitalization

9. Home Health Agency – Assists you when you return home. Provide in-home nursing, physical therapy and occasionally home aides.

In the days following surgery, your condition will be monitored by Dr. Tchejeyan, in addition to the nurses, therapists and the other healthcare providers. They will work with you to prevent complications and to assure that you are making the appropriate progress. You'll spend a great deal of time exercising your new joint and continuing deep breathing exercises to prevent lung congestion. Gradually, your pain medication will be reduced, the IV will be removed, your diet will progress to solids and you will become increasingly mobile. Commonly frequent post-operative assessments are made on the following issues:

1. Breathing

- To help keep your lungs clear, you will be instructed to cough and breathe deeply, as well as how to use an "incentive spirometer." You should do this 10 times every hour when you are in bed using it regularly can help keep your lungs clear. Deep breathing can help prevent pneumonia or other problems that can slow down your recovery and lengthen your hospital stay.

2. Fever

- If you run a fever you will be given extra-strength Tylenol. It is important to know that practically every patient runs a temperature up to 99.5° or even 100° in the first few days after hip replacement. It is so common as to be considered "normal". If your temperature goes over 101.5° it starts to be a source of concern.

3. Antibiotics

- All patients undergoing joint replacement receive intravenous antibiotics. Most often the first dose is given within one hour prior to the start of the surgery. Within the first 24 hours after the operation, two doses of antibiotics are given.

4. Nausea

- Common side effects from anesthesia and pain medicine are nausea, dizziness and sometimes vomiting. In the event that these events occur the nurses are instructed to provide anti-nausea and anti-emetic medication.

5. Sleep

- Often due to the stress of the surgery and medicines sleeping patterns are often disrupted. If you would like a sleeping pill you will need to ask the nurse for a pill, they will not automatically give them to you.

6. Diet

- Immediately after surgery, you can have a diet of clear liquids and/or soft foods as tolerated. Your diet will progress for there depending how you feel.

7. Bowels

- Your bowel activity may be slow to return as a result of the epidural anesthesia and the pain medication. To prevent distension in your abdomen, you will be started on liquids and slowly progressed to solid food. If you have not moved your bowels by the second day after surgery, you should ask for a laxative or suppository, even if you have not been eating. It is important that you move your bowels no later then the third day after surgery.
- Even though patients get stool softeners, some still develop constipation and need a mild laxative. If constipation becomes a problem later on, try:
 - i. Eating 5-7 servings of fresh fruit and vegetables daily
 - ii. Eating a hot breakfast with a hot beverage daily
 - iii. Increasing fiber in your diet with whole grain cereals and breads
 - iv. Drinking at least 6-8 8oz. glasses of water daily
 - v. Increasing physical activity as much as you can tolerate

8. Wound

- The wound is over the side of the thigh. The dressings are usually changed on the second post-operative day. New dressings are then applied daily or as often as necessary after that.

9. Drainage Tubes

- Drainage tubes from the operative area as well as bladder catheters are usually removed the day following the surgery at your bedside. Prior to their removal, the nurse will be recording output every 8 hours or as often as necessary.

10. Blood transfusion

- It is accepted that after hip replacement surgery you may require a blood transfusion. Today, there are several ways to replace blood lost during surgery. Dr. Tchejyan surgeon will decide which method is best for you. Some methods available are:
 - i. Autotransfusion (blood salvaging)
 - Your own blood collected during and/or immediately after surgery from a drain in your hip is given back to you.
 - ii. Autologous donation
 - This requires that over a period of time before surgery, you donate your own blood to be stored in the event that it is needed during or after your operation.
 - iii. Directed donor
 - A donor that you specify, who has your blood type, may donate blood in your name for use by you if needed.
 - iv. Homologous blood (banked blood)
 - This is blood donated by someone else, screened and matched with your own blood by the blood center.
- If you are to receive auto transfusion or banked blood, no special preparation is required. If your surgeon decides that you should pre-donate your own blood (Autologous donation) or if you choose to use a directed donor, you will be given instructions on how to do so by the office staff.
- For any of the methods described you will be asked to sign a consent form, "Blood Transfusion Informed Consent".

- If you are to donate your own blood, you will be given a prescription for iron tablets to be taken three times a day until your surgery. Iron can cause constipation or diarrhea but it is important for building up your blood count. Most patients do not require iron after surgery. If you do require iron, you will be given a prescription before you leave the hospital.

11. Blood Clot Prevention

- Blood Thinners – Blood thinner injections will begin the day following the operation and continue for 14 days thereafter. Between the 2nd to 6th week post-operative, a daily 325 mg Aspirin is recommended. If you have been on Coumadin prior to the surgery, injectable blood thinners will be used initially as your Coumadin is restarted and your levels become therapeutic again. This may take 7 days.
- Anti-Embolism Stockings - You will be wearing elastic stockings while you are in the hospital to prevent excess swelling in your legs. They will be removed daily for bathing and reapplied. You are to wear the stockings day and night for 6 weeks after surgery. They fit snugly so you may need help getting them on and off.
- Intermittent Pneumatic Compression- A device designed to increase circulation and prevent blood clots will be applied to both legs in the PACU. These are to be worn at all times except when walking. If they are removed for care or therapy and not reapplied, you should call the nurse to put them back on for you. Once you are walking freely they will be discontinued.
- Exercise/Out of Bed – The more quickly you start moving again, the less the chance for developing a blood clot.

12. Neurovascular

- Sensations and motion in your foot will be checked frequently. You should report any numbness, tingling or difficulty moving your toes, or any burning or discomfort in your heels, immediately.

13. Positioning

- After Hip Replacement the head of your hospital bed should not be elevated more than 70 degrees during the first few days after surgery.

Sitting up too high might allow the artificial ball to dislocate from the hip socket.

- A staff member will help you turn and change your position in bed. Make sure you avoid twisting your leg when turning in bed. When turning in bed you should have a pillow between your legs. Avoid resting with a pillow under your knee.

14. Exercising

- You will be evaluated by a physical therapist, who will go over exercises and precautions for avoiding dangerous movements. You may be surprised at how soon after surgery joint replacement patients are encouraged to get up and start moving usually the day of surgery. The more quickly you start moving again, the sooner you will be able to regain independence. Mild exercises of ankle pumping and gluteal sets are usually recommended by your physical therapist as soon as you are awake from surgery and able to perform them.

15. Physical therapy

- The goals of physical therapy are to increase the strength and range of motion in your walking. Physical therapy will begin the afternoon after surgery. Thereafter, you will have therapy twice a day during your hospital stay. Physical therapy will take place at your bedsides and in the halls of the hospital.
- Beyond your physical therapy sessions, exercising several times a day and walking with assistance (when your therapist tell you it is safe to do so) will help to maximize the benefits of your surgery. Your physical therapist will also go over exercises to help improve mobility and to start exercising the thigh and hip muscles. Ankle movements help pump swelling out of the leg and prevent the possibility of a blood clot. When you are stabilized, your physical therapist will help you up for a short outing using your crutches or walker.
- Hip patients begin physical therapy soon after waking up from surgery, with your physical therapist helping you move from your hospital bed to a chair. By the second day, you'll begin walking longer distances using your crutches or walker. Most patients are safe to put comfortable weight down when standing or walking. Hip patients will also do exercises to tone and strengthen the thigh and hip muscles, as well as ankle and knee movements to pump swelling out of the leg.

- Discharge home is the usual procedure. The case manager will make your arrangements for further home physical therapy. Most patients can go directly home if it is deemed safe by Dr. Tchejeyan and physical therapists.

16. Social Work/Case Manager

- Depending on your needs, a social worker may visit you while you are in the hospital to discuss your plans for managing at home after surgery. He or she will refer your case to an appropriate home care agency, which will provide nursing care, physical therapy or blood tests ordered by your doctor. **IT IS IMPORTANT TO REMEMBER THAT YOUR INSURANCE COMPANY DETERMINES THE AGENCY USED AND THE AMOUNT OF SERVICES YOU WILL RECEIVE.** You will be provided with a written plan of care with the name and phone number of the agency that will be responsible for your continued care at home. This plan of care will be provided to you by either the social worker or the nurse. A social worker can also provide emotional support during your stay. You may request a social service visit through your nurse at any time.
- If needed, the social worker is available to coordinate transition care such as:
 - i. Discharge to a skilled nursing facility
 - ii. Discharge to a long-term rehabilitation center
 - iii. Assistance with personal or family circumstances that require immediate attention
 - iv. Coping with your illness and/or hospitalization.

DAY-BY-DAY MILESTONES

PRE-OPERATIVE

1. Learn the hip precautions (Also refer to “Hip Precaution Protocol Following Hip Replacement” at www.tjnortho.com)
 - After hip replacement, you will need to observe some important safety rules to help prevent dislocation. Here are some of the most frequently advised precautions. Review them with your surgeon and discuss how many months you will need to follow these, or any other safety rules prescribed after surgery:
 - i. Don't bend your hip past 90°
 - ii. Don't cross your legs; keep knees 12-18 inches apart
 - iii. Don't lean forward while sitting in a chair
 - iv. Don't sit on a chair that does not have arms
 - v. Don't lean forward while sitting in bed
 - vi. Don't sit more than 60 minutes at a time; get up and walk frequently
 - vii. Don't sit on a toilet or commode that does not have handles or side arms
 - viii. Don't let your knee move inward past your navel
 - ix. Don't turn your feet in or out
 - x. Do use pillows between your legs at night to keep your hips properly aligned

DAY OF THE SURGERY

1. The floor nurse will confirm you are comfortable after the surgery and that your pain is under control. The nurse will take a set of vital signs.
2. Physical therapist will review total hip precautions with you
3. Review and perform all bedside exercises which include ankle pumps, quadriceps sets, gluteal sets, and heel slides
4. Sit at the edge of bed with necessary assistance
5. Ambulate with standard walker up to 100' with moderate assistance.
6. Sit in a chair for 15 minutes

FIRST DAY AFTER SURGERY

1. The drain in your hip (if present) will be pulled out
2. The bladder catheter will be removed. You may experience a slight burning the first time you urinate. If you are allowed fluids, you should drink as much as you can tolerate. You may need to use a bedpan or urinal. You should ask for help to the bathroom or for the bedpan or urinal as soon as you can you feel a need to empty your bladder, as at this stage you do move slowly.
3. The blood thinner shot will be started
4. Review hip precautions
5. Emphasis on increasing mobility, performing proper gait pattern and weight bearing status with an assistive device, decreasing pain and swelling, and promoting independence with functional activities while maintaining hip precautions
6. Perform bed exercises Independently 5 times per day. Perform bed mobility and transfers with minimum assistance.
7. Ambulate with standard walker 100 to 300 feet with contact guarding
8. Ambulate to the bathroom and review toilet transfers
9. Sit in a chair for 30 minutes twice per day, in addition to all meals

SECOND DAY AFTER SURGERY

1. You should request a laxative if you have not moved your bowels
2. USE YOUR PAIN MEDICINE BEFORE ACTIVITY!
3. Perform bed mobility and transfers with contact guarding
4. Ambulate with appropriate assistive device 300 feet with supervision
5. Negotiate 4 steps with necessary assistance
6. Begin standing hip flexion and knee flexion exercises
7. Sit in a chair for most of the day, including all meals (limit sitting to 45 minutes in a single session)
8. Use bathroom with assistance for all toileting needs
9. Demonstrate independence with hip precautions
10. Perform home exercise program (HEP) independently
11. Majority of patients will be discharged home on POD #2.

THIRD DAY AFTER SURGERY

1. You should move your bowels. If you have not moved your bowels since the surgery ask for a suppository or Fleet enema.
2. Perform bed mobility and transfers independently
3. Ambulate with appropriate assistive device >300' with distant supervision
4. Negotiate 4-8 steps with necessary assistance
5. Continue to sit in chair for all meals and most of the day (be sure to stand and stretch your operated leg every 45 minutes).
6. Demonstrate independence with hip precautions
7. Perform HEP independently

DISCHARGE GOALS

- Before you are discharged home, you should be able to safely get in and out of bed, walk up to 300 feet with crutches or walker, go up and down stairs safely, access the bathroom and consistently remember to use hip precautions to prevent dislocation before going home. These tasks should be able to be completed independently or with minimal assistance.
- After day 2 to 3 you will continue increasing your activity until you are independent in:
 1. Getting in and out of bed, on and off the toilet, and in and out of a chair.
 2. Walking with a cane or walker.
 3. Going up and down a few stairs.
 4. Actively bending your hip between 70 and 90 degrees.
 5. Performing the home exercise program.
 6. Managing your pain with oral medication.
- When you have reached these goals, you will be ready for discharge. This is usually 2 to 3 days. Since progress occurs quickly, your doctor will tell you the evening before that you may go home in the morning.
- Your family should be prepared to pick you up by mid-day the next day. If they visit you the evening before discharge, it will be helpful for them to take most of your things home at that time.

DAY OF DISCHARGE

- When you leave the hospital, your family will need to bring extra pillows for you to sit on in the car. It will be most comfortable to sit in the front seat. Your physical therapist will show you how best to get in and out.
- All of the tubes will be out. All that should remain is a bandage on your wound site. If you have been instructed to use an abduction wedge you will still need to use this at night when you are sleeping.
- You'll need to continue taking medications as prescribed by your doctor. You may be sent home with prescriptions for preventing blood clots

(some of which require monitoring through blood draws two times per week) and pain medicine. Make sure to take pain medication 30 minutes before exercises - it's easier to prevent pain than to chase it later.

- Upon discharge you should have the following:
 1. Prescriptions for a pain reliever, blood thinner and any other medication you require.
 2. A pair of elastic stockings.
 3. Cane or walker or arrangements for them
 4. Written home exercise program (visit www.tjnortho.com)
 5. Home care plan with name of contact person. If no one comes to your home to evaluate you with 2 days call this contact person.
- We recommend that you take pain medication before you leave the hospital to make your trip home as comfortable as possible.
- You will be able to go home in a regular sized car
- Preparing for discharge, getting dressed and traveling to your home can be very tiring. Even though you feel well and are excited to be home, you should rest for most of the day.

SPECIAL EQUIPMENT

- Ask your physical/occupational therapist about special equipment to help you do routine things for yourself without placing your hip in danger of dislocation. These tools include:
 1. Dressing sticks – to help you put on and take off your pants or underwear
 2. Long shoe horns – to help you put on your shoes
 3. Elastic shoe laces – to make your laced shoes into slip-ons
 4. Grabber – to help you pick up things without bending over, reach items from high and low shelves, get clothes in an out of front loading washers and dryers, etc.
 5. Long-handled sponge – to help reach without stretching inappropriately

6. Soap on a rope – to prevent bending to retrieve items in the shower
7. Extender for woman's razor – for shaving legs safely
8. Raised commode seat – to put your knees in proper position below hips
9. Bathtub benches and handrails – to improve bathroom safety
10. Shower stool
11. Handheld shower – for washing while seated
12. Long-handled feather duster – for dusting low and high items
13. Long handled Johnny Mop – for cleaning out the tub or shower

INPATIENT REHABILITATION FACILITIES

- In exceptional situations, it may be necessary for you to receive additional therapy before going home. Examples are if other physical or medical conditions complicate your recovery, or if you require additional time and therapy to achieve independence. In these cases, you may need to be transferred to a rehabilitation facility.
- If the health team feels you would benefit from extended rehabilitation, it will be discussed with you in further detail. If your needs are short term (1 to 2 weeks) and a bed is available, you may be transferred to one of the rehabilitation facilities. If your needs are longer term, you will be transferred to another longer term, facility. Either way, if it is determined that you will need further rehabilitation, your transfer will take place as soon as it can be arranged (usually 2 to 3 days after surgery). **PLEASE UNDERSTAND THAT THE DECISION FOR ACCEPTANCE TO ANY REHAB FACILITY IS NOT CONTROLLED BY DR. TCHEJEYAN.** If you meet the criteria set by both the rehabilitation facility and a bed is available, you will be discharged to the facility.

WHEN YOU GET HOME

- While we understand that the initial adjustment to being home after surgery is not easy, most patients manage very well, especially those who prepared in advanced. No matter how well you do after surgery, there is always a certain amount of fear at the idea of leaving the hospital. Unrealistic expectations is a major cause of stress before discharge. Advanced preparation will help alleviate that stress. Understanding your limitations and preplanning and preparing your home before you are admitted on your part can help alleviate these fears.
- You will be able to take care of yourself as soon as you get home however, you will need help with the following tasks:
 - Removing and reapplying elastic stockings
 - Grocery shopping
 - Major/family meal preparation
 - Laundry
 - House cleaning
 - Changing bed linen
 - Transportation

INITIAL ADJUSTMENT AT HOME

- WOUND
 - The day after you return home from the hospital you must make your post-operative appointment to have your staples removed and X-ray taken at 2 weeks post-operative. Keep your incision clean and dry and check it daily. You may cover it with plastic (Saran wrap) when you bathe. DO NOT sit in a bathtub or submerge your hip until Dr. Tchejeyan Okays this activity. You will notice that swelling and bruising persists along the incision, and thigh. It occasionally progresses below the knee. Your incision will heal, and the swelling and bruising will get better over the next few weeks.

- MEALS
 - You will be able to manage light preparation, e.g. coffee and cereal, sandwiches, or heating something in the microwave or oven, as soon as you return home. Do eat fresh fruit and vegetables to keep your bowels regular. You may not regain your normal appetite for a couple of weeks until your activity increases.

- PAIN
 - You will continue to have pain in your hip for some time after surgery, but will gradually decrease. In addition to your pain medicine, you should use an ice pack on your hip. This is usually most helpful after walking or doing exercises. Pain is often worse at night. This can interfere with your sleep. Take your pain medicine before you go to bed and keep it near the bed in case you need more during the night.

- SWELLING
 - It is normal to have swelling in your hip, leg and even your foot. As you are more active at home, your leg may swell more. Plan to lie down with your legs elevated above the level of your heart after activity. Also, be sure to wear your elastic stocking at all times except when bathing.

- BATHING
 - It is recommended that for the first few days at home, you sponge bathe. You may wash your incision with plain water. It is all right to get your incision wet with plain water. It is all right to get your staples wet, but do not rub them; pat them dry. The therapist that comes to your home will evaluate your balance and ability to manage safely in your home environment. He/ She will assist you with tub/shower transfers and make recommendations if any assistive equipment (e.g. Tub seat or grab bar) is needed. **DO NOT** shower when you are home alone until the therapist tells you that it is safe to do so. Remember, tubs are slippery when wet, and even with a grab bar, getting in and out of the tub can be dangerous. **DO NOT** sit in the bathtub. Tubs are very low and you will not be able to get up.

- ACTIVITY
 - Sitting
 - Sit on a firm, straight-backed chair with arms. This will help you when getting up and down. DO NOT sit on soft, low couches, chairs or on recliners. Your legs should be bent at 90 degrees or more. DO NOT sit for longer than 45 minutes without standing, walking and stretching.
 - Walking
 - Increase the number of times you walk each day. This is more important than distance, although you should also gradually increase the distance walked. Use your cane or walker to protect your new hip. If you live in a two story house, you will be able to go upstairs to sleep and shower. If there is a bathroom on the first floor and a place you can stretch out to rest and do your exercises, you may want to spend most of the day downstairs and go up to the second floor in the evening to sleep.
 - Exercise
 - Continue the exercises you were doing in the hospital as well as the home exercise program given to you by your therapist. You may use a stationary bike to increase the motion in your hip. DO NOT DO EXERCISES WHILE LYING ON YOUR STOMACH AND DO NOT USE WEIGHTS UNTIL YOU ARE TOLD TO, USUALLY AFTER YOUR 6 WEEK VISIT WITH THE DOCTOR.
- SLEEPING
 - Patients report difficulty sleeping for a few weeks after surgery. Short rest periods during the day may prevent fatigue and allow you time to stretch out and do your exercises. Lie on a firm surface. Remember that low, soft couches will make it difficult to get up. We prefer that you do not attempt to sleep on your side because the pillows will dislodge once you are asleep, and you may then dislocate your hip.

- HOME HEALTH CARE & PHYSICAL THERPAY
 - We will request that a physical therapist come to your home after you leave the hospital. If you require blood tests, we will make agreements for those to be done at home. These services are requested for everyone undergoing Total Hip Replacement but IT IS YOUR INSURANCE CARRIER THAT DETERMINES IF YOU ARE COVERED FOR THESE SERVICES. Each insurance carrier has rules and makes decisions based on its own criteria regardless of what the surgeon requests. FOR THIS REASON WE CANNOT GUARANTEE ANY PATIENT SERVICE. However, most carriers do provide at least some of these services.
 - The Home Health services typically begin within a day or two of discharge, a nurse will arrive at your home to evaluate your condition and discuss what services will be provided. This means that vital signs such as temperature and blood pressure, and your general physical condition are checked.
 - Physical therapy will begin in your home within a day or two of discharge from the hospital. The therapist who comes to your home is there to supervise you exercises and assure that you are making progress. The exercise itself must be done by you to get the most benefit from the surgery.
 - Both the nurse and the therapist will call to let you know approximately when they will arrive. Some patients are seen in the morning and others in the late afternoon. IF YOU DO NOT HEAR FROM THEM, CALL THE NUMBER OF THE AGENCY GIVEN YO YOU ON THE DISCHARGE PLAN.
 - Once you have graduated from in-home physical therapy Dr. Tchejeyan will recommend an out-patient physical therapist. Typically, transition from in-home to out-patient physical therapy occurs around the 2nd to 3rd week. Dr. Tchejeyan will discuss this with you at your 2-weel post-operative visit and recommend a therapist close to your home.
 - Refer to “Total Hip Replacement Protocol” at www.tjortho.com)

- DRIVING/TRAVELING

- While you may feel well and your hip may be bending well, you should not drive until Dr. Tchejyan gives you permission. This normally occurs around the 3-week post-operative time. While driving is not harmful to your hip, your driving response time is decreased and you may not be able to stop quickly enough to avoid an accident. A sudden pain or spasm could cause you to lose control of the car. In addition, there are considerations when getting in and out of a car:
 - Have the front seat moved as far back as possible.
 - Enter from the street level and not from the curb.
 - Back up toward the seat until you feel the seat behind your hips, then sit.
 - Turn forward; have someone help lift your legs if you are unable to do so, or use your good leg to assist your operated leg.
 - Reverse this procedure for getting out.
 - DO NOT ride in a car for longer than 45minutes without getting out, walking around and stretching.
 - If you are traveling home by air or by train during the first few weeks after the surgery, special arrangements should be made with the airline or railroad: Reserve a bulkhead seat, which has more room, so that you can stretch your leg out. Get up and walk short distances with help if it is a long flight/ride.
 - Use a wheelchair to get from the curb to the departure area, but walk to stretch your leg out before getting on the plane/train.
 - Move slowly when leaving the plane/train as you will be stiff after a long period of sitting. Give yourself time to work the stiffness out of the hip.

- SOCIAL ACTIVITY

- After your first week home, we encourage you to go out. Between the second and the third week after your surgery, you'll go to the doctor's office to have your staples removed. This is the perfect opportunity to go out for lunch and begin resuming your social activities. Do not resume strenuous activities such as dancing or sports (except swimming) until Dr. Tchejyan doctor says it is safe to do so.

- RETURNING TO WORK
 - Do not plan to return to work before your 2 to 4 week postoperative visit to the doctor. Even if your job does not require much physical work, it is usually at least 4 weeks before you are comfortable enough to concentrate on other things. All of your efforts during these first 4 weeks should be concentrated on your therapy and regaining normal hip strength and function. If your job requires manual labor, it may take longer.

- SEXUAL ACTIVITY
 - Pain, stress, and medication can all affect sexual function. As your hip heals and becomes less painful, you and your partner can look forward to resuming sexual relations. There should be no limitations to your sexual activity as a result of your Total Hip Replacement (refer to “Relations after Hip Surgery at www.tjnortho.com).

- DEPRESSION
 - It is not unusual for you to feel depressed when you first get home after surgery. You may be irritable and cry easily. This may last for 2 to 3 weeks. Having friends over for card and board games, reading or any sedentary hobby can help pass the time.

- OTHER CONCERNS
 - Stiffness and Clicking
 - It is normal after surgery for you to experience feeling of stiffness, tight “bands” around the hip, “Clicks” from the hip, numbness around the incision.

 - Leg Swelling
 - It is not uncommon to develop some swelling of the knee, foot and ankle in the weeks after surgery. If this occurs, you should elevate your leg on pillows when you are not up and about.

- Wound Drainage
 - Some wound drainage is normal however it should be decreasing daily. If there is increasing redness around the wound and/or increasing drainage you will need to let Dr. Tchejeyan know immediately.

- Fever
 - A low fever of less than 100° is usually normal after Hip Replacement. However, high fever of > 101.5° could also be a sign of impending infection. You need to take your temperature twice a day for a month after surgery. Take it three times a day if it is elevated over 100°. If you get two readings, at least three hours apart, of over 101° degrees, you need to notify Dr. Tchejeyan.

- Hip & Thigh Pain
 - Pain in the hip (groin) should be decreasing from day to day. If it seems to be steadily increasing, please call us. Thigh pain however, may occur in patients with cementless hip replacements for up to 18 to 24 months after surgery, usually by this time the implant is securely locked in place by bone in-growth. This pain can be expected to be minimal and in most case will ultimately disappear.

- The Operated Leg Feels Too Long
 - After hip replacement many patients complain that the operated leg feels too long. Quite commonly leg length inequality is suggested by the physical therapist and the patient is unaware of it. This is usually a false sensation and goes away after a month or two but it may last for six months. The sensation has a lot to do with tight muscles on the operative side giving an “apparent” leg length difference. A great deal of effort is put into trying to get the leg lengths correct at the time of surgery. If at six months post-operative there is a true difference you may benefit from a shoe lift. However, until that time a shoe lift should not be used.

REASONS TO CALL YOUR DOCTOR

- Call your doctor if you notice any of these symptoms:
 1. Fever over 101°
 - This could signify an impending infection. Our office should be notified, and in most instances you will need to come in and let Dr. Tchejeyan take a look at it. However there are many other causes of fever post-operative (urinary tract infection, chest congestion).
 2. Chest pain
 - Chest pain with a cough or shortness of breath may be signs of embolism. Please do not ignore these symptoms. Call us right away.
 3. Drainage from incision
 - This could signify an impending infection. Our office should be notified, and in most instances you will need to come in and let Dr. Tchejeyan take a look at it.
 4. Chest congestion
 - Chest pain with a cough or shortness of breath may be signs of embolism. Please do not ignore these symptoms. Call us right away
 5. Redness around incision
 - This could signify an impending infection. Our office should be notified, and in most instances you will need to come in and let Dr. Tchejeyan take a look at it.

6. Problems with breathing
 - Shortness of breath may be signs of embolism. Please do not ignore these symptoms. Call us right away.
7. Increased swelling around incision
 - This could signify an impending infection. Our office should be notified, and in most instances you will need to come in and let Dr. Tchejeyan take a look at it.
8. Calf pain or swelling in your legs with calf pain
 - Calf pain with or without leg swelling may be signs of blood clot (AKA DVT – deep vein thrombosis) Please do not ignore these symptoms. Call us right away.
9. Incision is hot to touch
 - This could signify an impending infection. Our office should be notified, and in most instances you will need to come in and let Dr. Tchejeyan take a look at it.
10. Dislocation of your hip
 - If a dislocation occurs, call Dr. Tchejeyan immediately and he will meet you in the emergency room of the hospital and relocate the hip. Do not eat or drink anything, since you may need an anesthetic to get the hip back in place. You may be brought to the hospital by car, but, if you have too much pain, an ambulance may be necessary. Rarely, it takes an open operation to get the hip back in place.

POTENTIAL RISKS: BEFORE, DURING AND AFTER SURGERY

The overall success rate for Total Hip Replacement is 95 percent at 15 years. Serious complications occur in less than 2 % of patients. Most of these can be avoided or treated when addressed early on. When there is a problem concerning your new hip, you should contact your surgeon's office. Be prepared to tell the office staff the date of your surgery, type of the surgery and when the problem started. Important information your surgeon needs to know about includes: What to watch for:

1. ANESTHESIA COMPLICATIONS

- A very small number of patients have problems with anesthesia. These problems ARE TYPICALLY MINOR can be reactions to the drugs used, problems related to other medical complications, and problems due to the anesthesia. Be sure to discuss the risks and concerns with your anesthesiologist.

2. INFECTION

- This may occur in the hospital, after you return home or years later. While many steps are taken to minimize the risk of infection, it can't be avoided altogether.
 - i. In the hospital, you will receive antibiotics for 24 hours during and after surgery to help prevent infection. The operating room is a filtered, clean air environment, and the limb is washed, prepared with antiseptic solution and covered with sterilized drapes.
 - ii. Your surgeon and surgical assistants wear masks, sterilized gowns and two pairs each of sterilized gloves that are frequently changed. Some operating rooms have special air conditioning and filters. Your surgical team may also wear special space-suit like gowns.
 - iii. For years to come, you will need to tell doctors about your joint replacement and take antibiotics before undergoing even minor procedures to reduce the chance of infection in another part of your body spreading to the artificial joint. If an

infection does occur, your surgeon will have a protocol to manage it.

- Although infection may occur in less than 1 percent of patients, infection in a Total Joint Replacement is one of our greatest concerns. It often necessitates removal of the prosthesis. In addition to considerable expense, this can cause additional suffering, increased disability and prolong recovery.

3. BLOOD CLOTS

- These may result from several factors, including decreased mobility following surgery, which slows the movement of the blood. Blood clots that in the leg can break loose and move to the lungs (pulmonary embolism) resulting in breathing problems, these are rare but extremely serious. Symptoms include a red, swollen leg, especially in the calf area, and shortness of breath. You can prevent blood clots with:
 - i. Blood thinning medications (anticoagulants)
 - ii. Elastic support stockings to improve blood circulation
 - iii. Use a sequential compression device (SCD), plastic boots applied to you calf or foot that inflate and deflate, to increase circulation and promote blood flow in the legs
 - iv. Elevating the feet and legs to keep blood from pooling
 - v. Moving toes, ankles and legs immediately after surgery
 - vi. Walking within 24 hours of surgery, and then hourly
 - vii. Limiting sitting to no longer than 45 minutes at a time without walking.

4. PNEUMONIA

- This is always a risk following major surgery. You will be assigned a series of deep breathing exercises to keep your lungs clear. We will recommend that you use an incentive spirometer to aid in your deep breathing

5. DISLOCATIONS AND INSTABILITY

- Your own hip is held in place with very strong ligaments and will only come out of joint (dislocate) with major violence such as in a car accident. An artificial hip is held in place by your own muscles. Stability also depends on hip position.
- Although uncommon (less than $< 1\%$), hip dislocation generally occurs with extremes in motion. This is most likely to occur within the first 6-12 weeks after the surgery. Therefore, you must take precautions while sleeping, washing, bending and toileting. As time goes on, the risks are reduced; however, some precautions remain.
- If your hip comes out of joint it must be put back into place. This usually requires a very brief general anesthetic while the leg is firmly pulled until the artificial hip drops back into place. You may be able to avoid further problems by avoiding at risk positions.

6. HEMATOMA

- A brownish red fluid may drain out of your hip incision around two weeks after surgery. This is a common occurrence and you should not be alarmed by this drainage. Clean the incision with hydrogen peroxide, replace the dressing and notify your doctor.
- Occasionally, bleeding into the hip joint from anticoagulation therapy can occur. Usually, physical therapy will allow re-absorption. Very rarely, surgical evacuation is needed.

7. NERVE AND VESSEL INJURY

- The sciatic nerve, located adjacent to the hip, is vulnerable to injury and on rare occasions may cause weakness or loss of feeling about the foot. Patients with certain severe hip deformities or shortened legs may be at increased risk for nerve injury due to stretching that occurs during correction of the deformity. In addition, postoperative swelling around the hip can cause increased pressure on the nerve, causing tingling, numbness or weakness in the foot.
- Members of the health team will check the motion and sensation in your foot frequently after surgery. Remind you to begin ankle pump exercises as soon as you can move you're your legs again. It is important that you tell the nurse immediately if you are unable to do the ankle pumps. If you feel any tingling, numbness or burning in your foot, as these may be signs of pressure on the nerve. The sooner we can relieve pressure on the nerve, the sooner it will function normally again. A nerve recovers very slowly, but with time usually returns to normal.

8. LEG LENGTH ALTERATION

- In general, leg length is maintained within 10mm of ideal. On some occasions, particularly when there is a hip deformity, significant leg length differences may arise and surgeons must compromise between leg length alteration and stability of the hip joint. You may not notice a minor leg length alteration however; it will take 6 months for your body to adjust to the hip prosthesis before the use of a shoe lift is advocated.

9. STIFFNESS

- In some cases, the ability to move the hip. Sometimes extra scar tissue or bone develops after surgery that can lead to an increasingly stiff hip. If this occurs, speak to Dr. Tchejeyan about resolving this issue.

10. MECHANICAL PROBLEMS

- Although rare, mechanical problems can occur. Some of these are:
 - i. Loosening of the Prosthesis – This is the major reason artificial joints eventually fail. Great advances have been made to extend the life of an artificial joint, with many patients reporting excellent function for many years. If the pain of a loose joint becomes unbearable, another operation may be required to revise it.
 - ii. Fractures – can occur during operation if bones are very brittle. A brace may be needed to stabilize the fracture, but activity can usually progress.
 - iii. “Wearing Out” of the Bearing surface – The bearing surface can wear out, necessitating another surgery to replace this part of the prosthesis.

LIFE AFTER HIP REPLACEMENT

1. PAIN

- From time to time, especially in the first year, you may have a twinge of pain. This you can ignore. If you have pain that doesn't go away, or seems to increase from day to day, you should come in to see Dr. Tchejeyan for x-rays and evaluation. It could signify a problem

2. LONGEVITY OF THE IMPLANT

- The survivor rate for modern day Total Hips is greater than 20 years. However with time and stress, fixation of the prosthesis to the bone can fail. Hip Replacements should therefore be treated with the some care. You should minimize activities which could contribute to loosening (see next section). If the implant comes loose, movement between it and bone can cause pain and require re-operation.
- Additionally it is important that you not become overweight, since excess weight increases the stresses on the hip replacement, and can cause loosening. Every pound of weight gained increases the forces on your hip by three pounds!

3. ACCEPTABLE ACTIVITES

- In the immediate postoperative period, limitations are aimed at allowing your hip to heal and may be directed by how well your hip bends. Early mobilization is encouraged and there are no restrictions.
- For 6 weeks after surgery avoid dancing and all sports except swimming (do not do the backstroke). You may swim if there are wide steps for getting in and out of the pool. Do not use a ladder. You may also use a stationary bicycle.
- Providing all is well at your check-ups, we encourage you to engage in those recreational activities that do not put unnecessary stress on your hip.
- Acceptable Activities include: Biking, Golf, Boating, Horseback Riding, Bowling, Hiking, Cross-Country Skiing, Downhill Skiing

(smooth, groomed slopes), Swimming, Dancing, Walking, Doubles Tennis, Cycling.

- If there is a specific activity you have concerns or questions about, please ask Dr. Tchejeyan before your surgery so that you can make an informed decision

4. ACTIVITIES TO BE AVOIDED

- Activities to AVOID are in general, impact activities and contact sports. ACTIVITIES TO AVOID include: Jogging, Singles Tennis, Jumping, and Running

5. WATCH FOR INFECTION

- The possibility of infection occurring around the replacement is another concern. For the rest of your life if you develop an infection elsewhere in your body (for example bladder infection, infected cuts, boils, dental abscesses) this infection can travel via your bloodstream to the replacement. Therefore, if you develop an infection you should consult your family physician and have him/her treat it promptly. Viral infections, such as colds and most sore throats are not a problem

6. ANTIBIOTIC PROPHYLAXIS BEFORE DENTAL CLEANING

- If you have had a total joint replacement, certain precautions must be taken to reduce the chance that infection develops in the bone or around the implant. These precautions should be followed for AT LEAST TWO YEARS after your joint replacement. If you have an increased risk for infection, you should use antibiotic prophylaxis for the rest of your lifetime. The conditions that require lifetime antibiotic prophylaxis include, but are not limited to:
 - i. Inflammatory type of arthritis (e.g. rheumatoid arthritis or lupus)
 - ii. Weakened immune system disease (e.g. Cancer, Diabetes, Hemophilia), drugs (e.g. steroids), or radiation.
 - iii. Previous infections in your artificial joint.
 - iv. Malnutrition or poor nutrition

- Dental work can push bacteria into your bloodstream and cause an infection in your joint replacement. We recommend that you take antibiotics if you are to have dental work. Additionally, if you are to have cystoscopy, bronchoscopy, or colonoscopy you should also be covered by an antibiotic.
- ALWAYS NOTIFY YOUR DENTIST OR ANY TREATING PHYSICIANS THAT YOU HAVE A JOINT REPLACEMENT.
- The following preventive antibiotics regimen is suggested:
 - i. If you can take oral medications and are not allergic to penicillin, 2 grams of Amoxicillin, Cephalexin, or Cephadrine should be taken one hour before the procedure.
 - ii. If you cannot take oral medications and are not allergic to penicillin, 2 grams of Ampicillin or 1 gram of Cefazolin should be administered by injection one hour before the procedure.
 - iii. If you are allergic to penicillin, 600 milligrams of Clindamycin should be taken orally or administered by injection one hour before the procedure.
- Also please refer to “Antibiotic Prophylaxis Recommendations Following Joint Replacement” and “AAOS Advisory Statement for Antibiotic Prophylaxis” at www.tjnortho.com.

7. LONG TERM FOLLOW UP

- The main long-term problem of joint replacements is loosening. Annual visits to have your hip examined and x-rayed are essential for monitoring the results of your surgery, and giving you periodic advice for the care of your hip replacement.
- The post-operative follow up schedule is as follows (note all periods of time are based on the date of the surgery): 2 weeks (with X-ray), 6 weeks, 4 months, 6 months, 1 year (with X-ray), 2 years (with X-ray), and every 2 years thereafter (with X-ray).

APPOINTMENTS

DATE

TIME

BLOOD DONATIONS

PRE-ADMISSION

EDUCATION SESSION

SURGERY

2-WEEK POST-OP, X-RAY
& STAPLE REMOVAL

6-WEEK VISIT

4-MONTH VISIT

6-MONTH VISIT

1-YEAR VISIT

2-YEAR VISIT

4-YEAR VISIT

6- YEAR VISIT

Record your questions or concerns here: