

OUTPATIENT TOTAL HIP REPLACEMENT

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Since you have progressed to the point of serious consideration of total hip replacement, there is a great deal of information that is important for you to understand. Prior to making your final decision and ultimately having your total hip replacement, it is important that you understand everything about the procedure and have realistic expectations about the results. You should understand why you are having problems with your hip and when you should make the decision to have hip replacement surgery. Outpatient total joint replacement is certainly not an option for every patient, so it is important that you understand the process and benefits of a 23 hour hospital stay and home recovery program.

It is important to know exactly what is done during the surgery and what to expect from the surgical procedure. These expectations along with the possible complications of the procedure will allow you to decide when to proceed with the operation. I also want you to understand clearly what is expected of you prior to your admission to the hospital, during your hospital stay, and in the rehabilitation period after your hospital discharge. I will try to summarize all this information for you. Certainly if you have any questions, please feel free to contact me.

RATIONALE AND INDICATION

Total hip replacement for disorders of the hip joint has been performed for over 50 years. A rapid evolution in prosthetic design and surgical technique has occurred in the last ten years. The great majority of the operations are done for arthritic conditions of the hip. There are many different causes of arthritis all of which cause a deterioration of the hip joint. There are several forms of arthritis including osteoarthritis, rheumatoid arthritis, ankylosing spondylitis, traumatic arthritis (related to injury), avascular necrosis or loss of blood supply to the hip joint, and arthritis secondary to congenital or developmental problems such as

congenital dislocation of the hip, Perthes disease or slipped capital epiphysis. The hip joint is a ball and socket joint which moves on a very smooth surface called the articular cartilage. The articular cartilage is worn away by the arthritis process to the point that the hip joint becomes painful. The process is usually gradual and may progress for months or even years before becoming severe. As it becomes more severe, you will experience more pain and more limited function. There are many types of arthritis that can cause this deterioration of the hip joint.

A second category of causes requiring total hip replacement are those of failed previous hip surgeries. The most common is a previous hip replacement that now has failed either through loosening of the components from bone or wear of the polyethylene liner. This is called a revision total hip replacement while the initial hip replacement is called a primary total hip replacement. The third common cause for total hip replacement is in cases of fracture of the hip. Many hip fractures are managed by pin or screw fixation; but in some circumstances where the damage is quite severe, a hip replacement is required because the bone itself will not heal otherwise.

In the early stages of hip disease, the pain and loss of function may be improved by conservative means of treatment including nonsteroidal anti-inflammatory agents, intra-articular injection of steroids, the use of a cane or crutches, and restriction of activity. Weight loss, if possible, can also significantly reduce the level of pain. For many medical reasons, it is best to reach and maintain your optimal weight. Weight loss is difficult and sometimes impossible with severe disease as you cannot exercise or walk very far.

At some point, the arthritic process will increase in severity and patients will have increasing pain and decreasing function which is no longer managed by conservative measures. Many patients wish to consider hip replacement at this time. The decision to perform the total hip replacement is usually based entirely on the patient's complaints. It is rare when the surgery is done on an emergent basis except in the case of fracture. There are, however, some cases where the arthritic process is so severe that it actually wears away or erodes the bone. Once this erosion occurs, the operation must be done in a reasonable period of time to

prevent loss of bone which may compromise the optimal results.

SURGERY

The hip is a ball and socket joint that remains connected or reduced by a thin capsule and muscle tension. The ball is the femoral head of the upper end of the femur, or thigh bone. The socket is the acetabulum which is part of the pelvic bone. A hip replacement replaces these abnormal or worn surfaces. The femoral head is removed and replaced by a metallic head. The acetabulum is removed and replaced by a plastic in metal socket which is made of a high-density polyethylene. The metal is a strong alloy of either titanium or a combination of chromium and cobalt. A new capsule or lining forms around the replaced joint, to maintain the ball inside the socket.

A controversy that previously existed in total hip replacement is the method of fixation of the prosthesis to the patient. Two options are available. One is the use of commercially pure acrylic bone cement called methyl-methacrylate. Early use was quite crude and the cement fixation was actually quite weak. It was typically used in patients who were older or had very weak or osteoporotic bone. This type of fixation had been thought superior for many years but evolution in surgical technique and implants has changed this practice significantly. Current literature supports the use of a newer type of fixation which involves the patient's bone growing into a roughened or porous surface of the total hip implants. It is my belief that this type of fixation is superior, with better long term longevity, in the majority of patients, regardless of age, bone type or gender. It is an extremely rare occasion that I would choose the use of methyl-methacrylate over bone ingrowth fixation.

A second controversial issue is that of alternative bearing surfaces, or all metal or ceramic total hip replacements. These surfaces may have some potential advantages but also have some potential pitfalls including stability, breakage and carcinogenesis.

EXPECTATIONS

Total hip replacement is very successful in terms of its main goal which is pain relief. Approximately 90 percent of people have complete pain relief. The additional 10 percent of patients may have mild and intermittent discomfort if they overuse the hip or become too active. The same high percentage of people no longer have a limp after the surgical procedure. A limp may occur or persist even though pain relief occurs. This occurs in situations where the muscles around the hip are very weak or in cases where the postoperative exercises are not performed. Most patients do not require any assistive devices to walk, although in some cases, patients choose to use a single prong cane for safety or balance reasons. You are usually able to increase your activity level dramatically after surgery. Patients are encouraged to walk, hike, ride a bicycle or exercycle, swim and even play golf and doubles tennis. Sports that cause significant impact or twisting such as running, singles tennis or downhill skiing are not ideal.

A frequent complaint of patients in addition to pain and limp is that of shortening of the leg. This occurs as the arthritic process wears away the articular cartilage and in some cases even the bone itself. At the time of surgery the leg can usually be lengthened to a point that the legs seem to be equal. You must understand that leg length equality is a secondary goal and the most important goal is pain relief and stability. Leg length discrepancy has become less common with the development of more versatile implant systems.

The final critical issue is how long the hip replacement will last. At this point we have very good information that suggests an ingrowth/non-cemented total hip replacement will last approximately fifteen to twenty-five years. After many years of use and walking, the hip prosthesis can loosen from the bone or the plastic can wear out. If this occurs and pain is present, it may be necessary to revise or re-do the hip replacement. This technically can be accomplished successfully but obviously it is best to have the initial hip replacement last as long as possible.

COMPLICATIONS

The results of total hip replacements are excellent. Therefore, there must be some reason that prevents us from performing hip replacements except in patients with significant arthritis. Complications are rare but nonetheless exist. These complications include infection, blood clot formation or thrombophlebitis, dislocation of the prosthesis ball from the socket, nerve injury, fracture and other general complications. The issues especially important to address include infection, blood clot formation and dislocation.

The chance of infection in a total hip replacement is 1 out of 200 or 0.5%. This is a very low number but, nevertheless, can occur. If this occurs, it can be very difficult problem to treat and it is often necessary to have other surgeries to remove the infection. In some cases, removal of the implant for a temporary period of time is required. Obviously, the best way to treat the infection is to prevent it. The surgical team uses air exhaust systems which are operating room apparel often called spacesuits. This prevents the operating room staff from breathing on the area of your hip operation. In addition, all patients receive preventive or prophylactic antibiotics for 24 hours. This combination of techniques should lower the chance of infection. Our hospital infection rate for all primary joint replacements last year was 0.2%.

Blood clot formation/thrombophlebitis or deep venous thrombosis is the formation of a blood clot in one of the deep veins of the lower leg. This is a common complication that occurs despite all methods of prevention. There are multiple ways to try to prevent this. Early mobilization decreases blood pooling your lower extremities. We put all patients on ASPIRIN which is a blood thinner throughout the hospitalization. All patients also wear thigh high compression TEDS which are stockings placed on both legs that increase blood flow to minimize the chance of clot formation. The best result, of course, is that you do not form a blood clot. If you did form a blood clot, it is important to know about it because it can be adequately treated. If you form a blood clot and it is not treated, there is a chance the blood clot could break loose and embolize/or move to your heart or to your lung. This could potential be fatal. Therefore, the safest approach is: 1) attempt to prevent DVT and 2) diagnose deep vein thrombosis prior to leaving the hospital. With this protocol the incidence of blood clots following hip replacement is 4 percent.

During your brief hospitalization you will ambulate and be instructed on the postoperative hip positions that you should avoid. If you bend your hip too far, bring your knees all the way to your chest, or turn your leg in too far, there is a chance that the ball can dislocate out of the socket. This should not occur if you use a reasonable amount of caution and follow the instructions. These restrictions should be maintained for life but are most critical during the first three months after surgery while the soft tissues about the hip are healing. If this does occur it usually requires an operation where you have to open the hip replacement. This is a potential complication that should be preventable. The dislocation rate for a primary hip replacement is less than 0.2%.

Because incision sizes have become significantly smaller than they were in the past, total hip replacement rarely requires blood transfusion. Because it is rare that our patients require blood transfusion we do not suggest pre-surgery blood donation by our patients. We also use a medication during surgery that decreases blood loss. This medication, in combination with smaller incision sizes, help avoid the concerns of hepatitis and AIDS transmission from blood transfusions. The chance of complication from blood transfusion is exceedingly small with the estimated incidence of hepatitis transmission being 1 in 4,000 blood transfusions and AIDS being 1 in 1,000,000 transfusions. In cases of a fractured hip, I will be very cautious in using any type of blood transfusion and will always discuss this with you first. If blood transfusion becomes necessary, the blood is very carefully screened and tested for these two problems.

Other complications that might occur are rare. They are potentially associated with any major surgery and anesthesia. The potential complications include death, heart attack, heart failure, stroke, pneumonia, lung congestion, gastrointestinal problems such as nausea, vomiting, diarrhea, constipation, urinary tract infections and decubitus or bedsores, etc.

The long-term complication involves failure of the implant, as discussed in the previous section. This may occur by either loss of fixation or mechanical loosening of one or all of the implants or by wear of the plastic polyethylene surface. Modern hip replacements should last more

than twenty years.

It is advisable to stay in good physical health, avoid excessive weight gain, avoid excessive impact activities as previously noted, and exercise frequently. Although revision surgery is usually very successful, hopefully it will never be required for most patients.

PREPARATION FOR SURGERY

Once you have made your decision to have a total hip replacement, you should contact our Surgery Coordinator, Renee Wood at 910-295-0224. She will help you choose a surgery date and will also schedule you for a pre-surgery appointment with my Physician's Assistant: Michelle (Shelley) Moore. This pre-surgery appointment with Michelle is mandatory for surgery. The time you must wait for your surgery is variable depending on the surgery schedule and your other medical conditions. We will make every attempt to schedule the surgery at your convenience. Renee can answer many questions about preparation for surgery, the pre-operative sequence of events, inpatient vs. outpatient questions and insurance matters.

It is important to have a physical examination by your primary care physician/internist and/or cardiologist (if you have any cardiac history) prior to your outpatient total hip replacement surgery. Since this is a serious operation, you should be in your best medical health with all medical problems under good control. If you have had a recent physical examination it may not be necessary to have a new examination. Once you have discussed your upcoming hip replacement with your primary care physician and/or cardiologist they will then mail or fax the results of your examination and tests results to our office. It is preferable that these documents are received by our office prior to your pre-surgery appointment with Michelle. Additionally, we request that your dental health be at its optimum. We must ensure that you do not have any active oral/dental infection prior to joint replacement surgery, and therefore require that if you have any teeth in your mouth, you see a dentist and undergo evaluation. Your dentist may also mail or fax results of your examination to our office prior to your admission to the hospital.

We will provide you with a letter to give to your primary care provider/other medical providers detailing our plans to proceed with surgery. ***It is your responsibility to make certain your pre-operative primary care physician, cardiology, and dental appointments are completed prior to surgery.***

As mentioned above, at the time that our surgery coordinator schedules your outpatient hip replacement she will also be scheduled an in depth preoperative history and physical examination with my Physician's Assistant, Michelle Moore (Shelley). This appointment typically occurs 3-4 weeks prior to your surgery date, and we do encourage you to bring a spouse, family member or friend with you to this appointment if you would like to involve them in your care. Michelle will be involved in your whole hip replacement experience as she is also my operative assistant during surgery, she is equally involved in your post-operative care and will also be seeing you during various clinic follow up visits. At your pre-surgery appointment Michelle will ensure that you are medically and surgically prepared for surgery, and that all of your questions have been answered. You will understand what will happen just prior to surgery, during surgery, during your stay in the surgery center, and after your discharge from the hospital. **You should bring copies of your medical and/or cardiac preoperative evaluation and dental evaluation to this appointment if they have not already been faxed to our office.**

Upon arrival and check in at Pinehurst Surgical Clinic for your appointment with Michelle, one of our nurses will accompany you to one of our examination rooms for an anticipated 45-60 minute appointment. During this appointment, please be prepared to complete specialized x-ray examination needed specifically for surgery purposes. Additionally, you will be accompanied to our Pinehurst Surgical Clinic laboratory for routine laboratory tests of your blood. It is not necessary that you fast prior to your appointment with Michelle as the laboratory testing that will be completed does not require so. You will also undergo an electrocardiogram at this time (please inform us if you have undergone EKG testing by any other provider within the past six months and bring a copy of this study with you to your appointment if you have). **It is important that you come to your history and physical examination with the actual bottles of medications you are taking, including those used on a daily and on an as**

needed basis, both prescription and over the counter. We will be carefully documenting the dosages of the medications you take including the time of day your medications are taken. Please do not bring a list of your medications, as we prefer the medications in their original bottles instead, insuring accuracy.

I would also like for you to compile a comprehensive list of all the medical providers you see including their name, and contact information. This will allow us to keep all of your medical providers updated with your progress before your hip replacement surgery, during your hospitalization and also during your recovery. Michelle will request this list at your pre-surgery appointment with her. At this appointment, Michelle will also provide you with individualized written instructions detailing any medications that need to be discontinued prior to surgery, medications that must be taken the morning of surgery and any other necessary instructions. She will also provide you with an application for a temporary handicapped license tag, which you might use for three to six months after your hip surgery.

HOSPITALIZATION

You will be admitted to the Surgery Center of Pinehurst the morning of your surgery. Renee Wood, our Surgery Coordinator, will call you one business day prior to your surgery date and inform you of your arrival time to Surgery Center of Pinehurst. We do not assign surgery times for our patients as there are instances where certain surgeries may take longer than others. It is likely that you will wait a period of time between your arrival to the hospital and the start of your surgery. We advise that you bring a family member or friend to keep you company during this waiting period as well as some reading materials to help in passing the time. It is important that we have current, accurate contact information for you in order to facilitate the provision of information in a timely manner. Michelle will confirm your current phone number at the time of your pre-surgery appointment and also discuss the best methods of providing your arrival time to you (i.e. telephone vs. email).

You will find that the pre-medication process begins immediately

upon admission. We will be administering medications to prevent post-surgical nausea and pain. You will then be taken to the preoperative holding area in the operating room. This will allow for consultation with the anesthesiologist and starting of the intravenous line. At this point a preoperative sedative will be given to you by your anesthesiologist. In almost all cases, a spinal anesthetic is administered. You will be numb from the waist down. Although you may choose to be wide awake or we can sedate you as heavily as you would like so that you are completely relaxed and will not remember anything about the operation. This is safer than a general anesthetic and your recovery is more rapid. A general anesthetic is used in rare cases.

Primary total hip replacement requires approximately one hour of surgery time. While you are in the operating room, your family may wait, in the surgical waiting area or at home. As soon as surgery is completed, I will contact them in person or by telephone.

You will be in the recovery room for one to three hours until the effect of the spinal anesthesia is worn off. Once that occurs and your vital signs are stable, you will be taken to your surgery center room. It is allowable that only one family member or friend stay with you in your hospital room overnight.

After surgery, you will be able to move about the bed. You will not need to remain rigidly immobilized in one position. With the bed controls you may elevate the head of the bed or remain perfectly flat. With the assistance of our nurse, you will begin your bed exercises, standing and walking on the evening of surgery. Since your stay at the Surgery Center of Pinehurst is a maximum of 23 hours, it is important to get you mobile as soon as possible. You will also participate in physical therapy-including walking and stair climbing the morning of your discharge to home insuring you are able to get back into your home. Home health care and home physical therapy will be arranged by our surgery coordinator prior to your surgery. You should expect that once home, a physical therapist will come to your home daily for the first five days. After those first five days we will make arrangements for the physical therapist provide home care three times a week for approximately two additional weeks. You may find you wish to transition to outpatient physical therapy during this time frame but

we will leave that decision up to you and your home therapist to decide. In some instances, we bypass home therapy and offer patients to opportunity to participate in outpatient physical therapy either at Pinehurst Surgical Clinic or at an outpatient physical therapy clinic local to you. This requires transportation to the outpatient therapist regularly and you will not be driving initially so you would not be able to drive yourself to and from these appointments. This option is not a viable option for all patients.

Your therapy will be tailored to the type of operation that you received. You will be able to bear weight on your operative leg as tolerated, which means you can put as much weight on the leg as you desire. Should unexpected bone fracture occur during surgery, there is the possibility you will have limited weight bearing for a short period of time, although this is not typical. While you are walking in the surgery center, you will initially be using a walker but you can advance to the use of crutches if you can master the technique. It is your personal preference whether you go home on a walker or on crutches. Prior to the discharge from the surgery center, the physical therapist will be certain that you understand very clearly your discharge exercise program and have all the assistive devices that will help you cope in the immediate postoperative period. You will be required to go home with the use of a walker for ambulation.

In order to prevent blood clot formation you will be placed on ASPIRIN and will also be required to wear thigh high TEDS/stockings. We will also have you continue ASPIRIN at home for 6 weeks.

You will not have any staples placed into your hip incision. We will, rather, sew your incision closed using suture that will dissolve over a short period of time. We will pre-schedule a follow-up clinic appointment approximately 7-10 days after your surgery. Within the first week after your surgery you may have some clear, yellow drainage (serous drainage). This is not an indication of any type of infection but just a part of the healing process in the fat below the skin level. This may continue from one to five days. Once you are home you will be able to take a shower with an occlusive airstrip in place.

When you are discharged home you will begin using several

prescribed narcotic pain medications, one that is taken on schedule for the first two days and one that is taken as it is needed. As your recovery progresses you will require less and less medication each day. You should moderate your activities to reduce the amount of stress that is put on the incision and muscles about the hip. This is the appropriate way to manage your pain after your discharge. It is common to have swelling in the leg, especially, if you are becoming more active in your activities at home. The one type of swelling that can be worrisome is swelling in the entire leg starting at the ankle or foot level. This is common when you sit for prolonged periods of time. If this occurs you need to spend less time sitting and more time lying down on the bed or couch with the leg elevated. If the swelling does not resolve significantly with this rest and elevation, you should contact me so that we might further evaluate this. Bruising in the hip area is also a common finding in the weeks after surgery.

You should make arrangements to have intermittent help at home (spouse/family member/friends) for the first 5-7 days after your outpatient total hip replacement surgery. Although we will arrange for home physical therapy to come to you, you might need help with meal preparation, with medications and with general activities of daily living that are made safer with an extra helping hand.

You should stay on your crutches, cane or walker for the entire first six weeks after the surgical procedure unless otherwise informed.

FOLLOW-UP

Once you have had a total hip replacement, it is important to monitor closely the healing process in the first three to six months following the surgical procedure. It is also important to monitor the long-term fixation of the implant over a period of many years to be certain there is no adverse effect on the bone or any sign of loosening of the prosthesis. Therefore, the usual follow-up schedule involves your return to the office for examination and x-rays at the following times after the surgical procedure: two weeks, six weeks, six months, and one year. After the first year, you are typically seen on an annual basis. In some situations because of difficulty of travel, I can make arrangements for you to be seen by your local family physician

who can obtain x-rays and send those to me for evaluation. Unfortunately, this is not the ideal situation. I will try to be as flexible as possible because I know travel is often quite difficult and expensive.

PROPHYLACTIC ANTIBIOTICS

Patients with hip replacements can develop infections of the joint in special circumstances. Any infection you might acquire in any other part of your body could potentially spread to your replaced hip. As a result, antibiotics should be taken before certain types of medical, urologic, and dental procedures. An instruction sheet has been prepared and will be given to you in your educational packet.

PROBLEMS OR QUESTIONS

If you have any concerns or questions about the scheduling or preoperative sequence of events, you should contact Renee Wood at 910-295-0224. She can answer questions about surgical scheduling, any insurance concerns or preparation for surgery. She can also help you after your discharge from the hospital with questions about your recovery and will forward any other specific questions to me or my Physician's assistant, Michelle. If we are not in the office at the time of your call, they will make certain that we receive the message as soon as we return to the office. Either myself, or Michelle will return your phone call as soon as we are able.

I want you to understand completely your arthritis and the proposed surgery. It is best that you clearly understand all information about outpatient total hip replacement surgery. If you have any additional questions, please ask me when I see you prior to your admission to the hospital or at the time of your preoperative history and physical examination with Michelle. You may also contact Michelle via the internet at mmoore@pinehurstsurgical.com.

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SUGGESTED ADDITIONAL INTERNET RESOURCES

- www.aahnks.org
- www.nih.gov/medlineplus
- www.aaos.org
- www.edheads.org
- www.zimmer.com