The purpose of this folder is to provide you with some basic information about your joint replacement. The physicians of Des Moines Orthopaedic Surgeons (DMOS) consist of a large group of orthopaedic subspecialists. In order to provide care for you that is as competent and skilled as possible, each of the surgeons has chosen to focus on a fairly limited portion of orthopaedic care. This group has a vast experience with the procedures of total hip and total knee replacement. Since the early 1970's, surgeons of DMOS have performed over 10,000 total hip replacements, and over 11,000 total knee replacements. In addition, surgeons of this group have published over 100 articles on the science of total hip and total knee replacement. This experience history is unparalleled in our area.

DES MOINES
ORTHOPAEDIC SURGEONS, P.C.

ORTHOPAEDIC PRE-ADMISSION TESTING AND TEACHING

Congratulations on choosing to have a joint replacement!

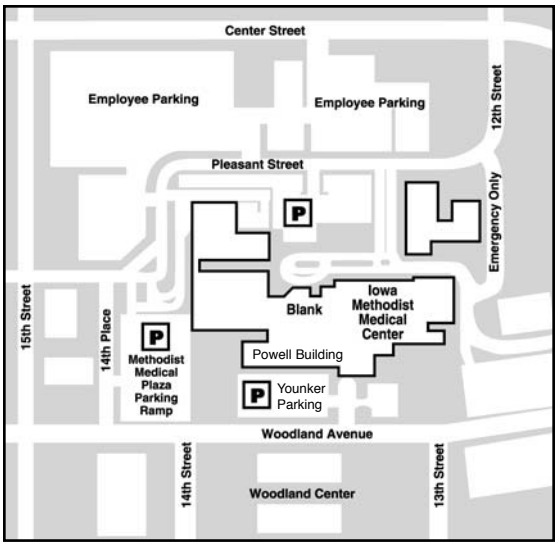
As a part of your surgical process, you will be required to attend a pre-admission teaching day at Iowa Methodist Medical Center. This will include a physical therapy education session, talking with an anesthesiologist and nursing education.

If you are scheduled to arrive at 7 a.m., please park in the Younker lot off Woodland Avenue. Enter the Powell Building under the blue canopy. You will find the orthopaedic clinic at the second door to the left as you enter the Powell Building. This class will last approximately three hours. If you are arriving at 9 a.m., please park in the Younker lot off Woodland Avenue. Enter the Powell Building under the blue canopy. Take the elevator to the 5th floor. This class is held in the Powell 5 West Conference room. The classroom is to your right as you come off the elevators. Please follow the signs to the classroom.

Please contact the Powell 5 staff at 515-241-6750 if you have questions.

Directions to Iowa Methodist Medical Center:

Upon arrival at Iowa Methodist Medical Center, please park in the Younker Parking lot on the south side of the hospital complex. This is located off of Woodland Ave. Enter the Powell building under the blue canopy.



PREPARATION FOR SURGERY

The following directions are important to follow in preparation for your surgery and to facilitate an effective recovery.

1. NO FOOD OR BEVERAGE OF ANY KIND AFTER MIDNIGHT THE NIGHT BEFORE YOUR SURGERY. This includes gum, chewing tobacco, and cigarettes. The day before your surgery, eat a regular breakfast and lunch. After lunch drink only clear liquids for the rest of the day (until midnight).
2. Due to the fact that your digestive system slows for a few days following surgery, it is recommended that you have an enema the night before surgery. A Fleets Enema, which can be purchased at any drugstore, is recommended.

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3. If you take blood pressure, heart or diabetes medication, please be sure to bring specific instructions regarding your dosages with you to your surgery. You will be provided with specific directions at the Pre-Admission Testing and Teaching Program regarding when you can take your medications. Stop all aspirin, Motrin and anti-inflammatories 5 days before surgery. Tylenol is acceptable to use in place of these if necessary.
4. Take time to read the materials provided to you in this packet and the materials provided by Iowa Methodist Medical Center. You are encouraged to bring the materials with you to the hospital for reference during your hospital stay.

IMPORTANT FACTS ABOUT YOUR SURGERY

You will be contacted by Iowa Methodist Medical Center the day before your surgery to confirm the time of your surgery and what time to arrive. Surgery times are available at noon the day before surgery. They are not available for release prior to noon. If you have not received a call by 3:00 p.m., call (515) 241-6751. Please expect to arrive 2 1/2 hours prior to your surgery time.

Report to the Powell building, 5th floor (this is the same floor where you participated in the Pre-Admission Testing and Teaching Program). Check in at the nursing station. You will be assigned a room. If you are not initially assigned to a private room, you will be moved to one as soon as one becomes available. We are not able to hold private rooms in advance; it is necessary to fill the rooms as they are needed.

HOSPITAL ADMISSION AND CARE

Patients that live a distance from the hospital or prefer to stay close by on the preoperative night can stay at the Care Inn, just south of the hospital, for a nominal fee. To reach the Care Inn, please call 515-241-3219 to make a reservation. The Care Inn is located on the hospital campus.

INTRODUCTION

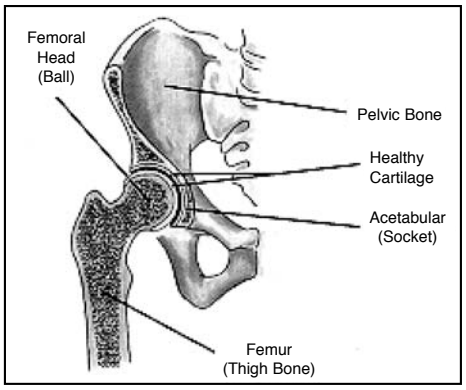

Figure 1

The hip joint is commonly called a "ball and socket" joint. The "ball" of the hip joint, the femoral head, rests within a "socket" called the acetabulum (Figure #1).

The femoral head and acetabulum are covered by a specialized surface, articular cartilage, which allows smooth and painless motion of the joint. With hip injury or disease, articular cartilage undergoes degeneration and wears away. The joint surfaces become rough and irregular resulting in pain and stiffness. This is commonly known as "arthritis" but it has many causes. The onset of pain is gradual and, initially, it occurs only after higher levels of physical activity. Pain gradually increases and may become present at rest as well. Physical disability includes a limp, muscle spasm, and increasing stiffness.

DAMAGED HIPS

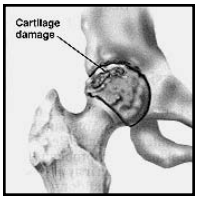

Figure 2

OSTEOARTHRITIS (FIGURE #2)

As we age, normal wear and tear can add up. Injuries and hereditary factors can predispose a patient to this wear. Cartilage may begin to crack and roughen. As the surfaces rub together, the cartilage is worn away. This leads to a "bone on bone" joint, which is stiff and painful.

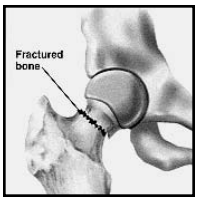

Figure 3

FRACTURE (FIGURE #3)

A bad fall or blow to the hip can break (fracture) the bone. Sometimes hip replacement is immediately performed after a fracture; at other times, it is not indicated until much later.

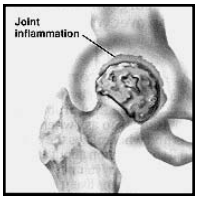

Figure 4

INFLAMMATORY ARTHRITIS (FIGURE #4)

An inflammatory disease, such as rheumatoid arthritis or gout, can cause swelling and heat (inflammation) in the joint lining. As the disease progresses, cartilage may be worn away and the joint will become painful.

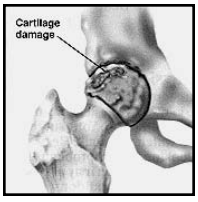

Figure 5

OSTEONECROSIS (FIGURE #5)

Long-term use of alcohol or steroids or a bad injury can reduce blood supply to the bone. If the bone dies (necrosis), the ball will collapse, leading to hip pain.

There are many different operations used to treat the damaged hip joint. By far, the most common operation is total hip replacement. This operation involves taking the hip apart and removing the scar tissue (capsule) from around the hip, cutting off the bony ball on the upper end of the thighbone, and deepening the bony socket in the pelvic bone. A socket prosthesis (acetabular component) is then fixed into the pelvic bone, and a stem prosthesis (femoral component) is inserted into the marrow cavity of the upper thigh bone. The metal ball on the end of the stem fits into the socket. It is then held in place by your muscles and by the scar tissue (capsule) that reforms during the healing process.

The three most common types of total hip replacement (THR) are: cemented THR, hybrid THR, and uncemented THR.

CEMENTED THR

Cemented THR has been used extensively in the past, with generally excellent results. This operation involves fixing both the socket and the stem to bone with acrylic cement. We still do a fully cemented THR in selected cases, but in general, the most common types of THR done in the United States today are hybrid THR and uncemented THR.

Figure 6

At this time, the most common metals used in total hip replacement are titanium, chrome cobalt, and stainless steel.

HYBRID THR (SEE FIGURE #6)

Hybrid THR involves fixing the socket to the pelvis with uncemented fixation, and the stem to the thigh bone with cemented fixation. The socket prosthesis is made of metal and has a special porous surface with microscopic holes that allows ingrowth of bone into the holes, much like a fracture healing. This metal socket is wedged into the bony socket of the pelvis after the bone is prepared by reaming (deepening and shaping of the bone). Screws can then be placed through holes in the socket to further stabilize the metal socket. Some surgeons use screws all the time, and some surgeons use screws only occasionally.

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After the metal socket is fixed to the bony pelvis, a liner is then snapped into the metal socket. This liner is usually made out of polyethylene (a very durable plastic). In hybrid THR, the stem is fixed to the thighbone with acrylic cement. This type of cement has been used for over 25 years. It has proven to be durable in many patients for well over 25 years.

Figure 7

UNCEMENTED THR (SEE FIGURE #7)

In uncemented THR, the metal socket and plastic liner are placed in the same fashion as noted above for hybrid THR. The stem is then inserted tightly into the marrow cavity of the thighbone. The stem prosthesis also usually has a porous surface that allows bone ingrowth. In some cases, the stem will have a surface that is coated with hydroxyapetite (a chemical that induces bone ingrowth).

In summary, the choice of an uncemented socket has largely replaced that of a cemented socket throughout the United States. On the other hand, both cemented fixation (for hybrid THR) and uncemented fixation (for uncemented THR) of the stem remain very popular. The choice at this time is based primarily on surgeon preference and bone quality.

Treatment options, prior to THR, include reducing stress on the hip, physical therapy, and medication. Weight reduction is highly desirable, since one pound weight loss equals three pounds in stress reduction on the hip while walking! The use of a cane or walking stick is also a very effective means of reducing stress on the hip. Physical therapy and exercises are directed at preserving muscle strength and range of motion within the limits of pain. Recommended medications include anti-inflammatory agents such as aspirin, Indocin, Motrin or Advil (ibuprofen), Feldene, Naprosyn, or Aleve (naproxen), Voltaren, Lodine, Celebrex, Vioxx, and others.

Selection of the optimal treatment plan should be consistent with the degree of pain, the amount of hip disability, and the nonsurgical and surgical alternatives. The individual's anticipated life span will also influence the selection of treatment.

At this time, there are numerous alternatives to standard total hip replacement. Some of these alternatives are new and some have been used for many years. Although the plastic liners that have been used in the past have been shown to be durable over periods of greater than 25 years, this part of the hip replacement (the bearing surface) has been found to be the weak link in many cases of THR failure. Therefore the polyethylene in almost all plastic liners has been improved by the implant companies throughout the 1990's. In addition, there is increasing interest in a newer type of plastic, called highly cross-linked polyethylene. This polyethylene has been shown to wear at a rate that is less than 10% of the old polyethylene. However, it is not as strong mechanically and there are disadvantages to its use. In addition, other bearing surfaces such as ceramic and metal-on-metal are being used in some centers. All of these options are available to us here, but for many reasons we still reserve them for patients with extraordinary needs.

There are also ways to do the operation of hip replacement that are much different than standard THR. These include hemi-surface replacement, where just the surface of the femoral head (hip ball) is replaced with metal. This operation is used primarily for necrosis of the femoral head (osteonecrosis or avascular necrosis). Another operation surface replacement arthroplasy, where both the ball and the socket are "resurfaced" with metal coverings only (metal-on-metal), is being introduced in several areas throughout the country.

The most important information we can give you about all of these alternatives to standard THR is that we do our best to attend meetings, talk to colleagues, and study the literature. We are involved in research and societies that study the hip. We will always do our best to choose the best operation for you. In general, our philosophy is that most patients would prefer an operation that is proven to work over one that is experimental. It is primarily in cases where the traditional option is not likely to work that we will suggest an alternative or experimental option. In general, you want **"what works"**, not **"what's new"**.

PREDICTED RESULTS OF SURGERY

Following your surgery, you can expect to be restricted to bed on the day of surgery and will be in the hospital 3-5 days. You will leave the hospital walking with a walker or on crutches and you can plan to use these for about 4-6 weeks. At that time, you will begin walking with a cane or single crutch and you will do this until you walk well without support. Most patients are walking without support by 6-8 weeks, but this varies from patient to patient. Patients who limped longer before the surgery tend to limp longer after. During the next 12 months, you will continue to gain strength and endurance.

You can expect that your reflexes have slowed, therefore it is recommended that you do not drive a car for 4-6 weeks following surgery. Most people are able to return to light work for limited periods of time at about 1-2 months following the surgery. Most people can return to a full day's work at a desk job at 2-3 months and heavy labor at about 3-6 months. Some examples of expected workload are listed below for your benefit:

Farming: Most farmers can return to tractor driving in about 2-3 months. Heavier farm work is usually resumed in 3-6 months following surgery.

Golf/Tennis: Most people can play golf at 4-6 months postoperative or light tennis at 6-8 months postoperative.

Other Recreational Sports: Bike/Horse Riding: You may be able to ride a horse or a bicycle at 6 months to a year following the surgery, but should not plan to ski or ride snowmobiles.

Based on our results to date, you have a 98% chance of having what we call a "good result". This means you will be able to walk with minimal or no limp, minimal or no pain, without cane or crutches, as far as you want to walk. You should have enough motion to sit and stand normally and very likely bend to tie your shoes. You can also expect to do pretty much what you want to do. You will <u>not</u> have a normal hip. The purpose of the operation is not to give you a hip that functions normally, but one that functions significantly better than your hip functioned prior to surgery. However, with reasonable common sense, you should be able to live a normal life.

LONG TERM OUTCOMES

Based on the results of the first 1,000 operations performed by DMOS and followed for 20 years, you may expect the following:

HIP DISLOCATION

You have two chances in 100 of your hip dislocating (ball coming out of the socket). The need for another operation to correct this problem is very rare.

WEAR OF THE ARTIFICIAL PARTS

Wear of the artificial parts has not been a major problem in the first 20 years for our patients. There are, however, extensive reports of bone destruction (osteolysis) caused by wear of the artificial parts. Because of this concern, we recommend that you have x-rays every 2 years after surgery, even if you have no pain.

LOOSENING

Loosening of the metal ball from the thighbone or of the socket from the pelvic bone has been found to be the major long-term problem. This is most likely due to wear debris causing bone destruction or the plastic cement beginning to crumble because of fatigue due to higher levels of mechanical stress than the cement will tolerate repetitively.

While reoperation for this problem has been reported to be needed in as many as 25% of patients, our own experience has been much more favorable. In our own experience, if you have a good result at one year you have only one chance in 100 of needing additional surgery to replace a loose ball or socket during the first 10 years. After 20 years, only 5% total of our patients had either a loose ball or socket. However, because of this concern for loosening of the products over time, we recommend this operation to young people only after failure of conservative measures.

It should be pointed out that these are the results of the operation as we did it 20 years ago.

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We have made a number of improvements in the way the operation is performed which should reduce the chances of the artificial pieces coming loose from the bone. New artificial pieces have been developed which are much more durable with lab testing. We have also learned a little more about preparing the bone for either cemented or uncemented parts. All of these changes should reduce the chances of loosening or failure of your prosthesis. Of course, only time will tell how much difference these improvements will make.

RISKS AND COMPLICATIONS

There are certain risks involved in any operation, and a joint replacement is no exception. This information is not intended to scare you, but to make you understand that there is some risk involved with any operation, including a joint replacement.

1. **Infection.** There is a risk of infection with any operation. There is a very small risk of infection with this operation. If you do develop an infection with this operation that is deep down around the artificial parts in the hip, then all of these materials may have to be removed to control the infection. This will leave you with an abnormal hip. Once the infection is completely cured, there is a chance of putting in another new hip. This can usually be done 2-3 months later. Based on our experience to date, your chance of developing infection is less than 1%. We operate in special laminar-air flow operating rooms that are designed for joint replacement. We use antibiotics before and after surgery. However, you must understand that in spite of these efforts to prevent infection, there is still some risk of infection that you must accept when you decide to have the operation.

2. **Dislocation.** There is an approximate 2% chance of your hip dislocating (ball coming out of socket). This can usually be managed by simply pulling on the leg while you are under anesthesia. The ball snaps back into the socket and is unlikely to come out again if you are reasonably careful. Rarely is another operation necessary. If necessary this could include: replacement of the liner, lengthening the ball on the femur, or placement of a constrained or locking liner. Following dislocation it may be necessary to wear a brace for several weeks.

3. **Medical Complications.** Medical complications in general include complications affecting organs other than the hip joint that was operated on. Total hip replacement is major surgery and the stress from this surgery can affect almost any organ in the body including lungs, heart, vascular system, neurologic system, gastrointestinal, and genitourinary system to name a few. Any of these complications can result in severe illness or death, but usually are much less severe. One of the potential complications is deep vein thrombosis (DVT), which basically is clots forming in the veins of your legs. This can be further complicated by these clots dislodging and going to the lung (pulmonary embolism). Other pulmonary problems include pneumonia and atelectasis (areas of lung collapse). After surgery, you will be instructed on exercises, which will decrease the risk of these complications. These complications are rare and generally will be managed by a medical doctor who will be assigned to you at the time of your admission.

4. **Blood Loss.** You may require a blood transfusion. The likelihood of this increases if you are to have both hips done during the same admission. Blood-borne diseases (AIDS, hepatitis, etc.) and adverse allergic reactions are the major hazards of a transfusion. Our blood bank screening is as modern and as thorough as possible, therefore these risks are exceedingly small. In fact, the risk of dying from a blood transfusion is hundreds of times lower than that when driving your car for one day. There are many options available to lower your chance of needing a blood transfusion. Those are discussed separately in this packet.

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5. **Obesity** can potentially shorten the life of the prosthesis by increasing the "wear and tear" on the components. In addition, obesity can make the operation more difficult, and does increase the risk of infection and other complications.

6. **Neurovascular Damage.** Although extremely rare, it is possible to have nerve damage that could result in permanent paralysis or blood vessel damage affecting the blood supply to the leg. These complications can definitely occur, but are rare. Significant nerve or blood vessel damage occurs in less than one in every 200 patients we operate on.

7. **Loosening of the Prosthesis.** As mentioned earlier, in some of our cases, we use cement to hold the prosthesis in place. Although this cement has different and much better properties than the cement on your driveway, it can crack just as the cement on your driveway can. This would result in loosening of the prosthesis and could be painful and require reoperation to replace the loose pieces. The chances of this happening in the short term (5 year) are very small, less than 1%. Uncemented parts can also loosen by a different mechanism, and the risk of this is about the same as with cemented parts. In fact, we anticipate a hip replacement to last at least 15 to 20 years in the majority of the cases.

8. **Loss of Limb.** Based on our experience, loss of the lower limb is an extremely rare occurrence from this surgery (less than a 1 in 10,000 chance). Nevertheless, it is a small possibility. Possible reasons leading to this disastrous result would be a severe infection or damage to the blood vessels and the nerves to the leg.

9. **Question of Cancer caused by Wear Products.** The possibility of wear products from artificial joints causing cancer in the area of the joint has been raised. The evidence for this is not conclusive. Most orthopaedic surgeons doubt the association. If it exists, it is very, very rare.

10. **Death.** Any invasive procedure, including surgery, carries with it a risk of death. Based on our experience to date, you have a very small chance of dying during the first weeks following the operation due to complications related to the operation such as pulmonary embolus, pneumonia, myocardial infarction, reaction to anesthetic, etc. This complication is a much greater concern in patients who have severe pre-existing health problems such as renal failure or severe heart disease. Overall, the risk is less than 1 in 300.

REVISION (REDO) SURGERY

Increasing numbers of patients are undergoing revision surgery. The most frequent cause of failure of a total hip replacement is loosening of the implant in bone, which may be caused or aggravated by the wear process. The magnitude of the surgery depends on the complexity of prosthetic removal and restoration of bone deficiency. Revision surgery may require bone grafts from your pelvic area and/or from the bone bank. Custom prostheses may be needed. Like primary surgery, the durability is dependent upon the techniques utilized. Revision surgery is technically more difficult, though quality results can be achieved. Third, fourth, and even tenth revisions have also been performed. Once again, each revision may have special and more difficult challenges for the surgeon and the patient. Special precautions are often necessary following these types of procedures.

In cases where infection is detected, we may need to remove all of the artificial components and leave them out. Patients who have had infections of hip joints may be advised to have delayed reinsertion of a total hip replacement (two operations: one for removal and one for reinsertion of the implants); or direct exchange which involves thoroughly removing the infected implants and tissue and reinserting a new implant at the same operation. While the success of these procedures has continued to increase, special precautions are recommended. These include careful monitoring and close observation in the postoperative period because there is a risk for the recurrence of infection.

All of the complications mentioned for the original operation apply to the reoperation. The results of the reoperation are nearly as good as the original operation. Due to the fact that the operation is much more extensive and bone may have been destroyed, the chances of complications are greater than with the original operation.

Many of the diseases that cause disabling hip problems affect both hips. The hips may be affected at the same time or at different times and to different degrees. We only operate on the hip if and when it becomes a major problem. However, we have found that if both hips are a major problem, the results of surgery are best if the operations on each hip are as close together as possible. We have done both hips the same day, but found that to be too stressful for most patients. In fact, many studies suggest that doing two hip replacements under the same anesthetic is much riskier than to do them separately. We have done the operations three to six months apart and found the unoperated hip to significantly interfere in the rehabilitation of the operated hip with less than good results. We have found that recovery from the first operation is sufficient to safely do the second operation after four to seven days and then rehabilitation can proceed properly. Therefore, if both hips are a major problem, we will do them both during the same hospitalization.

BLOOD DONATION

Many patients will require one or two units of blood after surgery; however, we cannot predict the exact need for blood transfusions prior to your surgery. The options available to lower your risk of needing blood bank blood are listed below.

1. **No Donations Before Surgery.** Not everyone requires a blood transfusion following total joint replacement. Some people choose not to donate their own blood before surgery. If you need blood after surgery, it will be supplied from the blood bank. This blood is carefully screened for disease and cross-matched to you before transfusion. A patient who undergoes a routine joint replacement on one side only would have about 10% chance of needing blood.

2. **Autologous Donation.** If your medical health allows, you can donate your own blood (autologous) which is stored and given back to you postoperatively if needed.

   When giving autologous blood donations, you may donate one unit per week. It is recommended not to donate blood for two weeks prior to surgery. Donations can start six weeks before surgery. An iron supplement will be prescribed for you to take when you start donations. This is to be taken until you come to the hospital for your surgery. If your blood is not used, it is discarded. A disadvantage to autologous donation is that your blood count may still be low at the time of your surgery.

   Donating your own blood is NOT a guarantee that you will not need blood bank blood.

3. **Direct Donations.** This is a procedure where specific people selected by you donate blood for you. They have to be screened and cross-matched to see if they are a compatible donor.

   Having blood from a friend or relative does not decrease your risk of a transfusion problem and may increase your risk. An example of this is Graft-vs-Hose Disease when parent to child or child to parent donations occur. The risks of problems (including AIDS) are actually higher with direct blood donation from a friend or family member than with blood bank transfusion. In addition, it is more expensive, and insurance companies may not cover all the costs. If you choose to do this, the necessary paperwork to start the process will be provided to you. It is then your responsibility to contact the blood center and make arrangements.

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4. **E-Poetin Alpha (Procrit).** This medication has been used for several years for people with chronic anemia conditions. It is now also being used occasionally for total joint patients with special needs. If you want to explore this option, contact your primary care physician.

   Procrit causes your body to produce more red blood cells and increase your hemoglobin before surgery. By doing this, it lessens the need for postoperative blood transfusions. Prior to receiving Procrit, you will have your hemoglobin checked at the office. If your hemoglobin count falls within the guidelines, you may choose to use Procrit.

   The treatment consists of:
   - A series of subcutaneous injections beneath your skin. These start three weeks before surgery and must be done at a doctor's office. Your last injection is approximately one week before surgery.
   - Taking an iron supplement that is provided to you. We have found that Procrit successfully raises your preoperative hemoglobin. As a result you may not need a blood transfusion postoperatively. However, as stated earlier, we cannot predict your need for blood before surgery and there is always the possibility of the need for a transfusion even after treatment with Procrit. A disadvantage of Procrit is the cost. It may or may not be covered by your insurance company.

5. **Cell-Saver Transfusion.** In cases where we believe the blood loss will be large, we will sometimes choose to use a device that saves the blood lost during surgery, filters it, and then re-infuses it back into you.

6. **If you choose** to have blood available either through autologous or direct donation, it is recommended to have:
   - One unit for a total knee replacement
   - One to two units for a total hip replacement
   - More than two units for revisions or complex procedures.

   This will be determined on an individual basis.

Please remember that even with autologous or direct donation the possibility of needing additional blood from the blood bank still exists.

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Determination for discharge from the hospital is based on your medical condition and your ability to walk and get up and down independently. Most patients will be discharged at 3 – 4 days after a routine total hip replacement.

If you need further assistance with your rehabilitation, you may go to a Skilled Nursing Facility (SNF). While there, you are given assistance with normal daily activities as well as physical therapy. Your length of stay there is determined by your progress. Most people are there less than two weeks.

These arrangements are completed at the hospital with a Social Worker. The Social Worker will often make arrangements for a Skilled Nursing Facility several days before your anticipated discharge, and we can always cancel this if necessary. Whenever possible, the Social Worker will take your facility preferences into consideration. **Transportation to the skilled facility is generally not covered by insurance companies and is the responsibility of the patient and their family.**

If you have assistance at home and are able to transfer and walk independently, you can plan to be discharged to your own home.

Following discharge from either the hospital or a skilled care facility, you should arrange for further assistance with family and friends. Many patients will not be able to do their own cooking, cleaning, laundry, etc. The level of assistance that you will need is related in a large part to the abilities you had prior to your surgery.

COMMON QUESTIONS AT HOME

There are always questions that arise once you are home. Listed below are some of the most common questions.

1. **Swelling.** Once you are home, it is likely that you will be more active and up for longer periods than you were at the hospital. You may notice increasing swelling in your entire leg on the operative side.

Swelling is normal and may occur for several months. There are guidelines to follow that should minimize your problems with swelling.

- Wear your Ted Hose (white stockings) until you find that they are no longer necessary.
- Throughout the day plan for periods to lie down with your leg elevated above your heart, usually in bed with your leg on a pillow.
- Continue your exercises including foot pumps and ankle circles. These help with circulation.
- Alternate periods of sitting and standing, avoid either for extended periods of time. Avoid long periods of sitting.
- Your swelling should be decreased in the morning.

If after following these guidelines your swelling does not improve or worsens, contact our office.

2. **Infection.** It is important to check your incision daily. Normally you will notice swelling along with slight redness and bruising. There may be drainage that is light yellow to pink in color. All of these things are normal and should improve.

   Contact our office if you develop:
   - An increase in drainage that is purulent (pus like) or green tinged
   - Increased redness or warmth of your incision
   - An elevation in your temperature over 100.5°
   - A general feeling of malaise-chills, sweats, aches, accompanied by a loss of energy
   - If you develop a secondary illness such as urinary tract infection, upper respiratory infection, toothache, or an open wound.

   Contact your surgeon for any of these developments even if you have seen your family physician for treatment.

3. **Blood thinners.** After surgery, most patients will be managed on a blood thinner to lower the risk of blood clots. Some patients will receive Coumadin, which is sometimes monitored with a blood test (PT/INR). Those that receive Coumadin will usually continue the medication for 2 or 3 weeks after leaving the hospital. Other patients will receive "low molecular weight heparin" like Fragmin or Lovenox.

These drugs are given by small injections under the skin. Those that receive Fragmin or Lovenox will usually continue the medication for a few days after leaving the hospital, and will be taught how to give the medication while in the hospital.

It is very important that you know the name and dosage of the blood thinner you will be using when you leave the hospital. If you are on Coumadin, it is important that you understand who will monitor the medication after you leave (your Surgeon, Internist, or Family Physician). If the dose of Coumadin is low, it may not require monitoring.

4. **Dislocation Precautions.** Following your total hip replacement, it is advised to sit in high, firm chairs. Avoid couches and low or overstuffed chairs. It is also important to not cross your legs and to keep your knees apart for six weeks. Avoid quick movements, especially those that involve bending and twisting. Our restrictions following a total hip replacement are not numerous due to the surgical approach we use, which is associated with a very low risk of dislocation. However, revisions and complex cases may have more specific restrictions.

5. **Physical Therapy**. Supervised physical therapy following discharge after total hip replacement is generally not warranted. Patients have been found to do just as well with a home exercise program (in other words, in multiple studies, patients who have had routine total joint replacement have equal results with or without supervised physical therapy). We do want you to do the exercises you are taught at class and in the hospital, and we will arrange outpatient physical therapy in cases of special need.

   After a total hip replacement, the most beneficial exercise is walking.

ASSISTANCE FOLLOWING DISCHARGE

It is recommended that the family be prepared to be available to help at the time of discharge. The patient will require transportation home or to a skilled nursing facility that has been selected. In addition, the spouse or able-bodied family member/members will need to be available to assist the patient at home for a short period of time. **Insurance companies do not authorize additional days of hospitalization due to a lack of transportation or assistance at home.**

ANTIBIOTICS FOR DENTAL WORK

The American Dental Association and American Academy of Orthopaedic Surgery have recently come to a consensus that routine antibiotic coverage for dental procedures for patients with joint replacement is not warranted. However, further research is necessary to confirm this. Therefore, pending further research, antibiotics are recommended for the first two years after surgery on normal patients, and forever in immunocompromised patients (those on steroids, chemotherapy, or who have rheumatoid arthritis, lupus, organ transplantation, diabetes, or some other chronic illness).

To prevent any infections to your total joint, you will need antibiotics for dental work and some invasive procedures. These include:

- Teeth cleaning
- Cavities filled
- Teeth pulled
- Root canal
- Urinary catheterization
- Endoscopy

Either your doctor or your dentist can provide you with this prescription.

Our current recommended coverage is:

Amoxicillin 500mg six (6) tablets one hour before dental treatment and three (3) tablets six hours after the first dose. Another alternative is Keflex 500mg one hour before dental treatment and 500mg six hours later.

In patients with allergies to penicillin, we recommend Erythromycin, one gram one hour before dental treatment and 500mg six hours after the first dose.

FRIENDS

It is quite common after total hip replacement for patients to receive extensive advice from their friends and family. Some of these friends have had a joint replacement themselves, and some have known someone who has. Please realize that very few of these people have performed a total joint replacement, and very few have seen hundreds of patients who have undergone total joint replacement.

You may hear comments like:

- "You're not getting enough therapy"
- "I didn't have that much pain after my surgery"
- "You shouldn't be limping still"
- "Why are you still swollen, using crutches, etc."

We suggest that you listen to the positive and encouraging comments and ignore the negative ones. Realize that all patients are different, and that some will recover rapidly while others will recover slowly. Recovery rate depends on multiple factors, including patient age, patient physical condition, complexity of the operation, and others. We will do our best to give you the best care possible and to help you recover from surgery as rapidly as possible.

DES MOINES
ORTHOPAEDIC SURGEONS, P.C.