TABLE OF CONTENTS

Contact Information     Page 3
Appointment Schedule           Page 5
General Information    Page 7
Pre-Admission Food Information           Page 14
Total Hip Replacement     Page 17
Anticoagulation Information     Page 29
Postoperative Precautions     Page 32
Exercise Program for Total     Page 37
           Hip Replacement
Map                        Page 46
SECTION 1

CONTACT INFORMATION
CONTACT INFORMATION

Penn State Hershey Bone and Joint Institute (717) 531-5638
Physicians (717) 531-5638
Charles Davis, M.D.
David Maish, M.D.
Gregory Raab, M.D.
James Fenwick, M.D.

Weekdays 8 am -4:30pm call 531-5638. After hours and weekends call 531-8521 and ask to speak with the Orthopaedic resident on call.

Jaime Blansett, PA-C (717) 531-5638 / Pager: 3804
Karyn Miller, PA-C (717) 531-5638 / Pager: 4681
Joseph Laurito, PA-C (717) 531-5638 / Pager: 2272
Rebecca Sheriff CRRN, BS (717) 531-0003 ext: 289224
Attending Nurse Orthopaedics Pager: 1748
Mary Merriman, MSW (717) 531-6316/ Pager: 1897
Social Worker
Coumadin Clinic (717) 531-5312
Dan Stitt, BSW (717) 531-8905
Care Coordinator Orthopaedics
SECTION 2

APPOINTMENT SCHEDULE
PREOPERATIVE
TOTAL JOINT REPLACEMENT

APPOINTMENT SCHEDULE

PATIENT NAME _____________________________________
SURGERY DATE _____________________________________
PREOPERATIVE PHYSICIAN/PA-C _____________________
ANESTHESIA ______________________________________
EDUCATION CLASS __________________________________
POSTOPERATIVE FOLLOWUP _________________________
SECTION 3

GENERAL INFORMATION
PREOPERATIVE CHECKLIST

2 Weeks Before Surgery

- If you have any questions, please call the Bone and Joint Institute at (717) 531-5638 or the Orthopedic Attending Nurse at (717) 531-0003 ext 289224.
- Choose someone to stay with you one to two weeks after surgery.
- We want you to be in the best possible health for your surgery. Notify your surgeon of any infection, cold or flu symptoms, fever, exposure to chickenpox or shingles.
- Check with your insurance company regarding coverage for the following: surgery, lovenox-if indicated, outpatient Physical Therapy, home health care, acute rehabilitation or skilled nursing facility admission.
- Look for outpatient Physical Therapy facilities, outpatient labs- if on Coumadin after surgery, skilled nursing and rehabilitation facilities in your area. Schedule outpatient Physical Therapy appointment 2 days after discharge.
- Obtain medical clearance from your PCP (primary care physician), and/or specialist.
- Have necessary dental work completed one month prior to surgery.
- Make arrangements for transportation to and from the hospital and for all clinic appointments and therapy visits.

1 Week Before Surgery

- Attend the joint replacement education class.
o Take the following information to your anesthesia appointment: list of medications including dosage and times and a list of medical conditions and surgeries.
o Prepare your home for a safe recovery. Recommendations will be given in class.
o Meet with your surgeon to discuss surgery and address any questions that you might have.
o Start the home exercise program. Instructions will be given in class.
o Take medications as directed by anesthesia and your surgeon.
Specific directions will be given regarding your medications, if needed.
o Pack your suitcase including the following: clothing, advanced directives, toiletries, insurance cards, CPAP machine and equipment if applicable, inhalers, and a list of all medications with dosage and times. * If you will be going to another facility and will be transported by an ambulance, please send your suitcase home with your family.
o NO SMOKING after midnight the night before surgery.
o REVIEW YOUR GUIDEBOOK and take it to the hospital with you.
o Bath or shower with antibacterial soap the evening before or morning of surgery.

*LOVENOX TO BE TAKEN AFTER SURGERY
DISCHARGE PLANNING: Plan A and Plan B

PLAN A: RETURNING HOME AFTER SURGERY

☐ INCLUDES 2 NIGHTS AND 3 DAYS IN THE HOSPITAL

☐ THIS INCLUDES THE MAJORITY OF PATIENTS

☐ REQUIRES GOOD PREPARATION

☐ CHECKING FOR ANY OUT OF POCKET EXPENSES SUCH AS:
  ● PRESCRIPTIONS FOR LOVENOX
  ● PHYSICAL THERAPY VISITS
  ● DEDUCTIBLE FOR INPATIENT CARE
  ● PHYSICAL THERAPY ASSISTIVE DEVICES: WALKER, CANE, 3 IN ONE COMMODE CHAIR
  ● OCCUPATIONAL THERAPY ASSISTIVE DEVICES: LONG HANDLED SHOE HORN, SOCK DONNER, LONG HANDLED BATH SPONGE

☐ INVESTIGATE THE AVAILABILITY OF OUTPATIENT PHYSICAL THERAPY SITES IN YOUR AREA. IS YOUR INSURANCE ACCEPTED?

☐ PLEASE ARRANGE FOR TRANSPORTATION TO AND FROM THE HOSPITAL AND APPOINTMENTS BEFORE AND AFTER SURGERY. THE HOSPITAL DOES NOT PROVIDE THIS SERVICE. TRANSPORTATION COST ARE NOT TYPICALLY COVERED BY INSURANCE AND CAN BE COSTLY IF PAID OUT OF POCKET. PATIENTS MAY BE BILLED FOR INCREASED HOSPITAL STAY DUE TO LACK OF TRANSPORTATION AT THE TIME OF DISCHARGE AS INSURANCE MAY REFUSE COVERAGE IF DELAY IS FOR THIS REASON.
PLAN B:  IF PLAN A IS NOT AN OPTION

- INCLUDES AN ADDITIONAL STAY IN A REHABILITATION FACILITY OR A SHORT TERM STAY IN A SKILLED NURSING CARE FACILITY

- VISIT SKILLED CARE OR REHABILITATION FACILITIES IN YOUR AREA. IS YOUR INSURANCE ACCEPTED?

PLEASE CALL THE SOCIAL WORKER OR CARE COORDINATOR IF YOU HAVE ANY QUESTIONS ABOUT REHABILITATION ADMISSIONS.
GENERAL INFORMATION

WHAT TO BRING TO THE HOSPITAL

☐ Advanced directives
☐ Inhalers, and a list of medication including the dosage and times that you take the medication
☐ Toiletries
☐ Loose fitting shorts, culottes, pants, t-shirts or sweatshirts
☐ Loose fitting PJ’s with short legs, calf or knee length robes
☐ Well-fitted slippers, tennis shoes or flat shoes with nonskid soles
☐ Cell phones may be used in your room.

DO NOT BRING TO THE HOSPITAL

Electric devices, jewelry, or large amounts of money.

WHAT TO TAKE TO REHABILITATION OR TO A SHORT TERM NURSING FACILITY

In addition to the items listed above, you will need the following:
☐ Underclothing
☐ Socks

PREPARE FOR YOUR RETURN HOME

Make sure your home is a safe environment for you to recover from your surgery. Before surgery, take the next few steps to make your recovery safer and less stressful. Prepare to live on one floor. It is useful to have someone stay with you all of the time for the first 1-2 weeks after surgery. We have seen some serious safety issues when people were left unattended and attempted to do too much (i.e. falls).
☐ Remove throw rugs from the floor
☐ Repair torn carpeting
☐ Rearrange furniture to facilitate walker accessibility
☐ Do your laundry and put it away
☐ Place clean linens on your bed
☐ Prepare meals ahead of time
☐ Pick up clutter from the floors and remove electrical cords from walkways
☐ Place nonskid treads on wooden stairs
☐ Tighten stair hand railings
☐ Install nightlights in hallways, bathrooms, and bedrooms
☐ Mow the lawn and complete any yard work. Make arrangements for snow removal/mowing for 6 weeks after surgery.
☐ Install nonskid safety strips in the shower or tub

* Vaccinations can have side effects and flu like symptoms which could make the postoperative course complex and result in unnecessary testing which wouldn’t be necessary if the vaccinations are completed before surgery. Please receive vaccinations before surgery.
SECTION 4

PRE-ADMISSION FOOD INFORMATION
PRE-ADMISSION FOOD SELECTION

To prepare your body for surgery, select healthy food choices from all food groups.

Iron is especially important to prevent anemia. It is needed by your body to manufacture healthy red blood cells. Iron functions primarily as a carrier of oxygen in the body. Iron deficiency anemia occurs when there is not enough iron in the red blood cells. This can occur as a result of blood loss.

MAJOR FOOD SOURCES OF IRON

Beef, chicken, turkey, pork, calf or beef liver, salmon, tuna, oysters, shrimp, sardines, clams, veal, lamb, chicken liver

NON-MEAT FOOD SOURCES OF IRON

Almonds, apricots, iron fortified cereals and breads, baked beans, broccoli, dates, lima beans, kidney beans, molasses-blackstrap, peas, prune juice, raisins, rice, enriched pasta, spinach, dried fruit, eggs, tofu, soybeans, wheat germ, whole grain breads, vitamin supplements

DIETARY GUIDELINES

Include at least 4 iron-rich foods per day.
Include a food or beverage high in vitamin C at each meal to increase the iron absorption.
Include a serving of meat, fish, or poultry at lunch and dinner.
Avoid drinking tea or coffee with meals.
Cooking with cast iron cookware slightly increases your iron intake.
GOOD SOURCES OF VITAMIN C

Citrus fruits and juices, strawberries, cantaloupe, mango, kiwi fruit, cabbage, tomatoes, green pepper, broccoli and brussel sprouts

IF YOU ARE TAKING COUMADIN, KEEP A CONSISTENT DIET WITH FOODS CONTAINING HIGH AMOUNTS IN VITAMIN K. THIS INCLUDES THE FOLLOWING:

Dark leafy vegetables, broccoli, spinach, cabbage, dark green lettuce, foods containing a large amount of oils-mayonnaise, and margarine

Please avoid: fat free chips and snack products containing Olean, green tea, black licorice, or foods containing anise and liver

FOR BOWEL MANAGEMENT

Fruits, vegetables, whole grain breads and cereals, beans, peas and other legumes, nuts and seeds

Drink plenty of fluids, especially water.
SECTION 5

TOTAL HIP REPLACEMENT
TOTAL HIP REPLACEMENT

Total hip replacement surgery is performed to alleviate conditions caused by rheumatoid arthritis, osteoarthritis, avascular necrosis, congenital deformities and arthritis following a fracture or injury. These conditions are characterized by joint pain, inflammation, and progressive functional limitation.

Rheumatoid arthritis is a chronic disease affecting primarily the lining of the hip joint resulting in destruction and deformity. The exact cause of rheumatoid arthritis is unknown.

Osteoarthritis usually affects the articular cartilage surfaces (joint surfaces) of weight bearing joints. Its exact cause is unknown, but it is believed to be caused by abnormal wear and tear to joint surfaces. Other factors that may contribute to osteoarthritis include age, heredity, obesity, and gender (male or female). Women over the age of 55 are at a greater risk of developing osteoarthritis.

Other causes of degeneration of the hip include previous joint injury, metabolic bone disease, and abnormalities of growth.

The hip is a ball and socket joint. The surgical procedure for a joint replacement involves complete replacement of the worn out, damaged hip joint: both the ball and socket. A metal prosthesis is used to replace the femoral head and neck (ball), and the acetabular cup (socket) is replaced by a combination of metal shell and polyethylene (plastic) liner.

Components may be fixed in position either by cementing or by bone attachment (ingrowth) into a porous surface on the device. Your doctor will discuss with you the selection for your hip replacement.

AUTOLOGOUS BLOOD DONATION

Blood transfusions may be necessary after hip replacement surgery. You may donate your own blood of you wish and have no medical problems which prohibit this process. Usually 2 units are collected and stored at the blood bank. If a transfusion is needed, you will receive the blood. Your surgeon will make the final decision depending on your medical condition.
PREOPERATIVE PREPARATION

You will be asked to come to the hospital two to four weeks before your scheduled surgery for a physical examination and to have blood work done. You will come to the Bone and Joint Institute, 30 Hope Drive (your physician’s office) where a member of the surgical team will complete a physical examination of your hip and answer any questions you might have about your surgery.

You will be asked to visit your medical physician prior to this appointment to be certain your overall health will allow you to proceed with hip surgery. After your questions have been answered, you will be asked to sign an operative consent. (Anyone having surgery must sign an operative consent). Also, if you have agreed to participate in any studies, someone will see you to explain the details of the study.

Joint replacement classes are offered on Tuesday and Friday mornings. The purpose of the class is to prepare you for your surgery. Members of the team will discuss your preadmission, hospitalization and discharge. There will be time for questions and answers. Patients who attend the class tell us the program has been very helpful. We ask that everyone attend the class.

You will need to go to the Pre-Admission Department (located in the East lobby-beside Starbuck’s). Here you will see a pre-admission nurse and anesthesia doctor, and complete tests that have been ordered by your doctors. An anesthesiologist is the doctor who will give you your anesthesia and monitor you during surgery. They will explain what type of anesthesia they have planned for you and ask some questions about your health. Most of our patients have regional and or general anesthesia. Regional anesthesia is given through a tiny catheter to numb the surgical area during surgery and provide pain relief after surgery. General anesthesia acts on the brain and nervous system producing a deep sleep. Usually it is given by injection or inhalation. Bring a list of your medications including dosage and times to this appointment.

You will be admitted to the hospital on the same day of your surgery. Your doctor’s office will let you know how and when your admission is scheduled and the day and time of your appointment with the outpatient department. A nurse from admissions will call you the day before surgery to let you know
what time you should come into the hospital, when to stop eating and drinking, and other information you will need to prepare for your admission.

MORNING OF SURGERY

Upon your arrival in the Same Day Admission Unit, staff will assist you or verify that:

1. You put on a hospital gown.
2. Make-up and nail polish are removed. The color of your lips, nail beds, and skin is important in assessing your circulation during and after surgery.
3. All jewelry is removed. A wedding band may be taped if you do not wish to remove it.
4. All prostheses, such as contact lens, wig, and hair pins are removed.
5. All dental appliances are removed. A denture cup will be provided for you to place any appliance in.

When the operating room calls for you, the nurse will ask you to empty your bladder (urinate). You may be given an injection or a pill with a sip of water. This medication will not make you sleepy, but it will help prepare you for your anesthetic. Once you have received the medication, you should stay in bed. The side rails of your bed will be put up to provide for your safety. Your family may stay with you until you go to the operating room.

FAMILY WAITING AREA

While you are in the operating room, your family members may wait in the family waiting area in the East Lobby near the gift shop and Starbuck’s. They should give their name to the receptionist in this area to be available for a call from your doctor.

When your family is notified that your surgery is over, they will not be able to visit you immediately because you will be in the Post Anesthesia Care Unit (PACU). Your family will be notified when you are in your room and they may visit you then.

THE OPERATING ROOM
The operating room is actually a group of three (3) different rooms: preanesthesia room, operating room, and post anesthesia care unit.
**PREANESTHESIA / BLOCK ROOM**

You will be taken by stretcher to the preanesthesia room, an area for all patients having surgery to wait and be further prepared for the operating room. The nurse in this area will put electrocardiogram (EKG) leads on your chest. These will be connected in the operating room so the anesthesiologist can monitor your heart during surgery. An intravenous line (IV) will be started in the preanesthesia room also. Sometimes the epidural or nerve block is inserted while you are in the preanesthesia room if you are having one.

You will stay in the preanesthesia room until your operating room is ready for you. This stay is usually short, less than one hour, but sometimes there are delays and you may have to wait a bit longer.

**THE OPERATING ROOM**

After the preparations are completed, you will be moved into the actual operating room, where everyone will be wearing helmets, masks, hats, and scrub clothes. You will be assisted onto the operating table and be properly positioned. A safety belt will be placed across your legs because the table is quite narrow. The operating room temperature is cool. Please ask for a blanket if you need one.

During your operation, you will be under the constant care of a member of the anesthesia team. The type of anesthesia you will receive will be determined by your anesthesiologist. If you are having a general anesthetic, the anesthesiologist will give you oxygen and anesthetics to make you sleepy. Once you are asleep, the anesthesiologist will place a breathing tube in your trachea (windpipe) to further administer anesthesia throughout the operation and to assist you in breathing.

Most of our hip replacement patients have a regional anesthetic. This may be supplemented with a general anesthetic as well. If you are having a epidural anesthetic, you will be asked to sit on the side of the table. The anesthetic will be administered and you will be assisted onto your back. Your legs will feel very heavy and eventually you will not be able to feel them. Sometimes you may have a combination of an epidural and a general anesthetic.
POST ANESTHESIA CARE UNIT

After your surgery, you will be taken to the Post Anesthesia Care Unit (PACU). Here you will be under the care of a nurse and an anesthesiologist. While in the PACU, the nurse will check you frequently. She/he will check your blood pressure, look at the IV line in your arm, and check your bandages. You may hear strange noises while in the PACU, but do not worry, this is the sound of the equipment they use to monitor you.

Your doctor and the anesthesiologist may want you to receive oxygen in the PACU and for your first 24 hours. If you have had a spinal anesthetic, the nurse will frequently check for the return of sensation in your legs. The amount of time required for full sensation to return varies from person to person.

Visitors are not allowed in the PACU. If your stay in the PACU is extended, a nurse will try to contact your family in the family waiting room.

When you are awake and alert and your vital signs are stable, you will be transferred from the PACU to the nursing care unit (usually the 3rd Floor) and your room. A nurse from the PACU will accompany you in your transfer and will give your nurse information about your condition and surgical procedure.

Occasionally, after surgery, there is a need to closely monitor your heart due to an irregular heartbeat or other heart problems. If this is the case, you will be admitted to the Surgical Intensive Care Unit (SICU) or a unit equipped to monitor your heart before returning to the orthopaedic unit.

ORTHOPAEDIC UNIT

Once you are back in your room, your nurse will continue to check on you frequently. She/he will help you find the most comfortable position possible and will give you a button to push if you need assistance. Please do not try to get out of bed by yourself.
DISCOMFORT

You can expect some pain and discomfort after surgery, but we will check with you frequently to see how your pain medicine is working. As stated previously, most of our patients have epidurals or nerve blocks, which decrease the sensation of pain for the first one to two days. Every year improvements in pain control for the hip and knee replacement patients are made. Our goal is for you to have a painless recovery. However, most patients experience some discomfort. We will do our best to make you comfortable.

INTRAVENOUS LINES (IVs)

You will have an IV until you are able to drink liquids without any problems. Then your IV may be changed to a heparin lock (a small plastic cap placed on the end of the plastic catheter that is in your vein) to give you antibiotics. The IV equipment is attached only long enough to give you the required dose of antibiotics. This allows you more freedom of movement between doses of medications.

FOLEY CATHETER

A foley catheter is a small tube which is inserted into the bladder. It is connected to a drainage bag and will drain the urine from the bladder. This will be removed the morning following your surgery.

DRAINS

A drain device will be present after your surgery. This is a flexible plastic tube placed in the wound at the time of surgery and used to drain any blood which may accumulate around the hip joint after surgery. It will be removed about 48 hours after surgery. A moderate amount of bloody drainage is normal.
DRESSING (BANDAGE)

You may have a large bandage on your entire leg. You will have this dressing on for the first few postoperative days. After that time, a gauze bandage will be placed over your incision.

ACTIVITY

Generally you will remain on bed rest the night after your operation. Occasionally, your doctor will order a low dose radiation treatment on the first or second postoperative day. This is to help prevent heterotopic bone (excessive bone growth in tissues) from forming around the new hip replacement and producing stiffness.

The morning after your surgery, a nurse or physical therapist will assist you in getting out of bed into a chair. The physical therapist will instruct you on how to use a walker and/or crutches. The amount of weight you place on your leg will be determined by your doctor. Usually you are allowed to put part of your weight on your new hip when you can control the muscles in the leg.

TED STOCKINGS

You will be wearing a long elastic stocking (TED) on your non-operated leg, and when the bulky bandage comes off, you will also wear a TED on your operated leg. You should continue to wear this during your entire hospitalization and after discharge. You should put on your TED stockings on upon arising each morning and wear them all day. They may be removed at bedtime and left off all night until you get up the following morning. These stockings help the circulation in your legs and prevent swelling.

To help prevent blood clots from forming in your legs, you will wear plastic inflatable boots (called SCD’s) and you will receive a blood thinner while you are in the hospital. You will be asked to take either Coumadin and/or Lovenox when discharged from the hospital.

A pillow may be placed between your legs or under the knee on the side of your new hip replacement. This is used to keep your legs separated and your hip in proper positioning for healing. Some surgeons feel it will help prevent dislocation of your new hip.
POSTOPERATIVE EXERCISES

There are several exercises for you to do after surgery. It is helpful to take your pain medication before you begin your exercises. This decreases the discomfort and helps you move better.

LUNG EXERCISES

Anesthesia can lead to poor lung expansion after surgery and cause secretions (mucus) to collect in your lungs. An increased amount of mucus is present in people who smoke. Doing deep breathing and coughing exercise every few hours will help improve lung expansion and clear air passages. Deep breathing opens air passages. Coughing removes any secretions in your lungs and air passages.

How to cough and deep breath (as you read, practice each step):
1. Take a deep breath in through your nose. Hold for a count of five and slowly blow the air out through your mouth. You can tell when you are taking a deep breath if you place your hand on your chest and feel your chest rise and fall.
2. Repeat “Step 1” five times.
3. During the last deep breath, hold the air in and then, tightening the muscles in your chest and abdomen (stomach), cough to let the air out. To be effective, the cough must come from your chest and not your throat. If you cough as if you are clearing your throat, this is not correct. Ask the nurse if you are coughing correctly.

ANKLE EXERCISES

Ankle exercises help return the blood from your legs to your heart. This exercise should be done while in bed or in a reclining chair. Bend your foot up and down as if pressing on a gas pedal in a car. You should do this 10 to 15 times an hour while you are awake.

QUADRICEPS AND BUTTOCK MUSCLE SETTING

Push the back of your hips down into the bed to tighten your thigh muscles. At the same time, squeeze your buttocks together. Hold for the count of five, then relax. Do this after your ankle exercises.
The exercises and instructions the physical therapist gives you are important to use for the rest of your life. The muscles which control your hip have become weak from the longstanding arthritis or other problem for which you have had surgery. You must build up these muscles after surgery to obtain maximum benefit from your total hip replacement.

**OCCUPATIONAL THERAPY**

During your hospital stay, you will see an occupational therapist to help you plan for your recovery at home. They will instruct you in activities of daily living, how to take care of your home, how to reach for things, and in general, help you with problems you might have when you are discharged from the hospital. They will show you some devices that can help with daily activities.

**PHYSICAL THERAPY**

During your hospital stay, you will see a physical therapist. He/she will teach you how to use a walker or crutches, as well as assist you with exercises to strengthen your new hip.

**DISCHARGE PLANNING**

Your doctor, nurses, social worker, and other members of the health team will begin to discuss plans for your discharge from the hospital on the day you are admitted, or often even before admission. They will help you identify activities that may require assistance and will help you identify possible resources among your family or within the community.

**RECOVERY AT HOME**

Your hip joint has been replaced with a prosthesis or artificial joint. This implant is made of metal and plastic and is designed to enable you to participate in daily activities, such as walking, without the pain and stiffness you had before your surgery. You have an important role in caring for your “new” hip. There are certain movements that place stress on your new hip and should be avoided until you are instructed to do otherwise by your doctor.
**Do’s**

1. Use crutches or a walker to assist with walking. **Be safe, falls can be disastrous.**
2. Use pillows between your legs or under your knee on the side of your new hip replacement in bed to keep your operated leg out to the side.
3. Continue to wear your TED stockings. A second pair will be provided for you at the time of your discharge so you will have a pair to wear while washing the other pair.
4. Continue the exercises that you have been instructed in by the physical therapist.
5. Use assistive devices to put on shoes and socks.
6. Use an elevated toilet seat or bedside commode. You may purchase one from a local medical supply store or possibly borrow one through your local community organizations.

**Don’ts**

1. Do not overdo. Plan your activities with frequent rest periods.
2. Do not bend your hip more than 90 degrees
   - Do not sit in low or overstuffed sofas and chairs.
   - Do not sit in bucket seats in cars.
   - Do not pick up items from the floor – use a grabbing device.
3. Do not cross your legs.
4. Do not drive a car until given permission by your surgeon.
5. Do not lift heavy objects.
6. Do not have sexual intercourse until after your six-week follow-up visit and your doctor has given you permission. Intercourse will be uncomfortable the first weeks after surgery.
7. Do not bathe in a bathtub or hot tub. No swimming in a pool, lake or ocean.
8. Do not play tennis, downhill ski, water ski, run, jog, or do other demanding physical activities that require quick starts and stops.
WHEN TO CALL YOUR DOCTOR

If any of the following occur, call your doctor:

1. Redness, swelling, or warmth around or drainage from your incision.
2. Fever and/or chills.
3. Severe pain that is not controlled by the pain medication given to you at the time of your discharge.
4. Pain, swelling, or cramps in your lower leg or calf.
5. Shortness of breath, or if pain occurs when you take a deep breath. (If you have new chest pain or shortness of breath seek immediate attention at the closest emergency room. Notify your surgeon’s office after treatment.)

NOTE:

IT IS EXTREMELY IMPORTANT THAT YOU INFORM YOUR HEALTH CARE PROVIDERS, INCLUDING YOUR DENTIST, THAT YOU HAVE HAD A TOTAL HIP REPLACEMENT. YOU WILL NEED TO TAKE ANTIBIOTICS BEFORE DENTAL WORK, ROUTINE TEETH CLEANING, OR BOWEL OR BLADDER SURGERY. IT IS RECOMMENDED THAT YOU NOT HAVE ANY ROUTINE DENTAL WORK (FOR EXAMPLE, CLEANING) DONE FOR THREE MONTHS AFTER YOUR OPERATION.
SECTION 6

ANTICOAGULATION INFORMATION
Penn State Hershey Medical
Anticoagulation Clinic
(717) 531-5312

The Penn State Hershey Anticoagulation Clinic is here to serve you with your post-op needs for anticoagulation (blood-thinning).

It is extremely important to follow all of the directions regarding your medications once you return home from the hospital. This includes having any appropriate blood tests. Medications have risks even when taken correctly but are very dangerous when instructions are not followed.

Anticoagulation medications are used in order to prevent a potentially dangerous blood clot from forming after your surgery.

Pharmacists on Staff: Beth Bittner, Frank Herrmann, Paul Kocis, Kim Nguyen & Gretchen Richardson. Assistant: Deborah Connolly.

INJECTIONS
(ex. Lovenox, Fragmin, low molecular weight heparin injection)

- Sometimes used after surgery for blood clot prevention
- Please fill the Rx as soon as possible to avoid issues (pre-authorization, etc)
- Storage: room temperature, away from children (ex. Closet shelf)
- Dosage (# mg) and frequency (how often) can be different among people and their needs
- It is extremely important to follow the directions in terms of how much (mg) to use, how often to use and for how long (days) to use these injections
- Injections need to be administered the correct way. It is important that the person performing these injections be properly trained. It is a simple, painless procedure, but it still needs to be performed correctly for the medication to work properly and to avoid extreme bruising. Please speak with your health care provider if there are any questions
- The patient WILL become bruised
- Place used syringes in a red “sharps box”, empty coffee can or empty plastic detergent bottle and return to a health care provider for proper disposal
Warfarin
(Coumadin, Jantoven)

- Sometimes used after surgery for blood clot prevention.
- A tablet that is taken once daily, preferably in the evening.
- There are several different tablet strengths available and each person requires a different amount. You may need to take a different amount on different days of the week. We suggest using a pillbox to aid in this. The amount prescribed will likely change after blood tests are performed.
- It is extremely important that blood tests (PT or INR) are taken every Monday and Thursday (or as directed) while taking this medication in order to insure you are receiving the proper amount. This test can be performed at your local physician’s office, local hospital/laboratory, by a visiting nurse or at our offices (fingerstick).
- We usually target an “INR” value between 2 and 2.5.
- Too little medication could lead to the formation of a blood clot.
- Too much medication could cause bleeding.

- Our Anticoagulation Clinic will contact you within 1 day of each INR test.
- Our staff (pharmacists) will review several questions with you after each test and we appreciate your honesty in trying to determine how to adjust your medication, if needed.
- Please keep track of how you have taken the medication (how many tablets or mg) and notify us if any doses were missed.
- Please notify us of any changes in the other medications (rx, over-the-counter, vitamin, etc).
- It is important to keep a CONSISTENT diet with foods containing high amounts of vitamin K. This includes green, leafy vegetables and foods containing large amounts of oils (mayonnaise, margarine). Please see pamphlet for list of foods.
- Please avoid: fat-free chip/snack products containing Olean, green tea, black licorice of foods containing anise and liver.
- Please report any EMERGENT bleeding to the physician. Please report more minor bleeding (nose, gums) to us.
SECTION 7

POSTOPERATIVE PRECAUTIONS
A deep vein thrombosis, also known as DVT, occurs when a blood clot forms in a deep vein. Most commonly found in the thigh or calf of the legs.

**Risk Factors** - Any of the following place a person at risk for DVT:

- Immobility (lack of movement)
- Fractured bones, especially the pelvis and hip
- Increasing age
- Trauma
- Total joint replacement
- Being overweight
- Heart disease
- Birth control pills
- Smoking
- Previous history of blood clots
- Malignancy
- Varicose veins
- Some clotting disorders

**Symptoms** - You may or may not experience any of the following symptoms in your calves or thighs:

- Pain
- Tenderness along vein
- Redness
- Swelling
- Increased skin temperature
- Deep tenderness

**Diagnosis** - Some of the commonly used tests are:

- **Venography (venogram)** – Dye is injected into a vein on the top of the foot. The physician can see the blood as it flows through the veins and an x-ray can show any blockages.

- **Duplex Ultrasonography** - Sound waves are used to show any abnormalities in the blood flow. Now with Color Doppler imaging is more accurate.

- **Magnetic resonance imaging (MRI)** - is a noninvasive test and can visualize both legs. It is expensive and not always available.
Treatment - Anticoagulants: medications that “thin” the blood to prevent it from clotting. Your physician will order the proper type of anticoagulant for you.

- Coumadin: This is a tablet you will take once a day. You will need to have blood draws 2 times a week. Your nurse will give you the Coumadin Information Booklet.

- Lovenox: this is a shot that you give once a day in the fat tissue of your belly. The nurse will give you the Lovenox Instruction Packet.

- Aspirin: the surgeon will write how much and how often to take the aspirin.

Prevention:

- Early movement/walking
- Lower extremity exercises such as: ankle pumps and leg lifts
- Elastic stockings (TED stockings)
- Avoid sitting for long periods
- Pneumatic compression device
- Anticoagulant medications

When to contact your physician:

If you have any signs and symptoms of a DVT go to the nearest Emergency Room and/or call 911. This may be a medical emergency. Make sure you keep your follow up appointments.

Call the Hospital Operator at 717-531-8521 and ask for the resident on call for your service (ex. Trauma, Ortho, Neurosurgery, General surgery). You can call the operator 24hrs/day.

During the day (8am – 4:30pm), you can call the ___________ Clinic at _______________.

References:

American Academy of Orthopaedic Surgeons www.AAOS.org 10/17/06
Introduction to Orthopaedic Nursing (3rd edition) by National Association of Orthopaedic Nurses

Reviewed: 7/02, 10/02, 1/04, 11/06
Revised: 11/06

| Patient Education Manual – Hershey Medical Center | Number: PE-200 |
| Deep Vein Thrombosis (DVT) | Effective: November 2006 |
A pulmonary embolus, also known as a PE, is a particle that travels through the bloodstream until it becomes lodged in a blood vessel in the lung. This causes a stoppage of oxygen rich blood from reaching other parts of the body and decreased lung function. The particle could be one of the following: blood clot, bubble of air, fat particle, clump of bacteria or piece of tissue or tumor.

**Risk Factors:**
Any of the following place a person at risk for PE:
- Immobility (lack of movement)
- Trauma
- Being overweight
- Heart problems
- Surgery or trauma to a hip, pelvis, or leg
- Age more than 65 years
- Birth control pills / medications for osteoporosis
- Smoking
- Pregnancy
- Infection
- Cancer
- Previous history of blood clots

**Signs and Symptoms:**
Signs and symptoms of a pulmonary embolus vary and depend on the size of the clot and the blood vessel involved. Some signs and symptoms are:
- Chest pain
- Shortness of breath
- Rapid heart beat
- Feeling faint/dizziness
- Restlessness
- Anxious feeling/confusion
- Sweating
- Unexplained fever
- Cough, sometimes with blood

**Diagnosis:**
- Blood tests, such as ABG's: sample of blood is taken from a small artery in the wrist, that measures oxygen and carbon dioxide, to evaluate lung function. Other blood tests to measure clotting factors in the blood.
- Chest x-ray
- EKG to detect any heart problems
- Spiral CT scan to show any abnormalities in the chest. Dye, given by mouth or IV, may be used to better show any abnormalities.
Treatment:

Anticoagulants (medications used to thin the blood) such as:

1. Heparin- given IV to prevent new clots from forming and dissolve some clots already formed. You will need blood drawn frequently to check the thinness of your blood.

2. Coumadin- given by mouth for a period of time, as decided by your MD, to decrease formation of blood clots. While on this medication, you will have to have blood drawn twice a week to monitor the thinness of your blood. You will be given written information on Coumadin before you are discharged.

3. Alternative anticoagulant items (i.e., Lovenox, Fragmin, etc.)

4. Greenfield Filter: is a small filter implanted in the main blood vessel leading from the legs to the heart, to catch any clots before reaching the lungs. This is done on patients who are at high risk of a PE or can’t tolerate anticoagulant medications.

Prevention:

• Early movement/walking
• Lower extremity exercises, such as ankle pumps
• Elastic TED stockings/pneumatic compression stockings will be used while hospitalized,
• Anticoagulants
• Don’t sit for long period
• Do coughing and deep breathing exercises after surgery and at home.

When to contact your Physician:

If you have any signs/ symptoms of a PE go to the nearest emergency room and/or Call 911.

THIS IS A MEDICAL EMERGENCY.

If you suspect something is wrong call your physician immediately. Call the Hospital Operator at 717-531-8521 and ask for the resident on call for your service (Ex. Ortho, Neurosurgery, Trauma, General surgery)

How to Contact Us

Call the main phone number at the Medical Center, (717) 531-8521, and ask the hospital telephone operator to page the resident on call for your service (for example, Orthopaedics, Trauma, etc).

References:

American Academy of Orthopeadc Surgeons @ www.aaos.org: 10/2/06
Introduction to Orthopaedic Nursing (3rd edition) 2004 by NAON
Health Center: www.heart.healthcenteronline.com/bloodclot/embolism: 10/31/06

Reviewed: 7/02, 10/02, 1/04, 11/06
Revised 11/06, 03/07

| Patient Education Manual - Hershey Medical Center | Number: PE-201 |
| Pulmonary Embolus (PE) | Effective: March 2007 |
SECTION 8

EXERCISE PROGRAM FOR TOTAL HIP REPLACEMENT
Exercise Program for
Total Hip Replacement

Penn State Orthopaedics and Rehabilitation
Milton S. Hershey Medical Center
Hershey, Pennsylvania
TOTAL HIP REPLACEMENT
EXERCISE PROGRAM

Now that you have a new hip joint it is important to exercise regularly and follow certain precautions to help your hip fully recover and enable you to resume an active lifestyle.

Precautions Following Your Hip Replacement

Most of the soft tissue healing occurs in the first 12 weeks following surgery. For this reason, we ask that you do not attempt any exercises other than those prescribed by your physical therapist. Doing exercises that are too difficult or performing too much exercise can injure healing tissue and increase the risk of dislocation.

- Do NOT bend your hip past 90°
  Keep your hips higher than your knees when sitting
  Always sit on a high, firm chair at the level of your knees or higher
  Use a raised toilet seat
  Do not reach for things or lean over to put on your shoes while seated. Instead, use a long handled reacher or shoe horn.
- Do NOT turn your hip or knee in or out or twist your leg in or out
  Do not cross your ankle when lying in bed or when sitting
- Do NOT twist your body when standing – Move your feet instead
- Do NOT cross your legs while sitting or lying down
  Use a large pillow between your legs when lying on your side or when turning over onto your side.

You should maintain these precautions for a minimum of 12 weeks. You may be advised by your Doctor to continue with these precautions in certain cases.

General instructions

These exercises will help you to improve your range of motion and strength after surgery. The repetitive motion also helps to decrease any swelling you may have in your leg. The exercises are separated into 2 phases. Phase I exercises are started the day following surgery in the hospital and should continue daily until you are advised by your therapist or physician to stop. Phase II exercises are generally started at about 6-8 weeks following your surgery and incorporate additional exercises to work on advanced strength and balance.

Important: Do ONLY the exercises that the therapist has advised you to do.

- If your pain increases for more than 2 hours after exercise, reduce activity and talk to your therapist or physicians office.
- Use your walking aid (walker or crutches) until your therapist or doctor advises you to stop. Slowly increase the distance you walk daily. Wear good supportive footwear. Walk on a level surface to begin with. Do not increase your walking distance by more than 20% daily.
- Your weight bearing status is __________________________
  Always maintain weight bearing limitations if assigned. Specific walking and stair climbing techniques will be taught to you by your therapy team.

Total Hip Replacement Exercises
Penn State, Hershey
Phase I

The following exercises are generally started the day following surgery in the hospital and should be continued until advised by your therapist or physician to stop. Do all exercises 2-3 times per day and increase from 10 to 30 repetitions (or as directed by your therapist).

1. **Ankle Pumps**
   - Lying on your back with knees straight, pump your ankles up and down.
   - Repeat ........ times

   ![Ankle Pump Image]

   **Tips:**
   - Pump slowly.
   - Rock your ankle from side to side.

2. **Quad Sets**
   - Lie on your back with your knees straight. Press the back of your knee down onto the bed by tightening the muscle on the front of your thigh.
   - Hold for five seconds, relax.
   - Repeat ........ times

   ![Quad Set Image]

   **Tips:**
   - Firmly press the back of your knee into the bed.
   - Relax between sets.

3. **Gluteal Sets**
   - When lying on your back, squeeze your buttocks muscles together.
   - Hold for five seconds, relax.
   - Repeat ........ times

   ![Gluteal Set Image]

   **Tips:**
   - The exercise can be performed in pairs.
   - Try to maintain a steady contraction of the muscles.

---

Total Hip Replacement Exercises
Penn State, Hershey
4. **Standing Hip Flexion**
Stand with your hands on a counter (or on your walker) for support. Lift your operated knee forward, allowing your knee to bend. **DO NOT** lift the knee higher than your hip.
Repeat ............. times

**Tips:**
- Keep your back straight and your chest open.
- Lift for 3 to 5 seconds, then lower slowly.
- Do not lock your operated knee.

5. **Standing Side Leg Lift**
Stand with your hands on a counter (or on your walker) for support. Keep your knee straight and lift your operated leg slowly out to the side. Keep the toes of both feet pointing forward.
Repeat ............. times

**Tips:**
- Keep your back straight, shoulders open, and arms relaxed.
- Keep your chest open and don't lock your operated knee.
- Lift for 3 to 5 seconds, then lower slowly.

6. **Standing Hamstring Curls**
Stand with your hands on a counter (or on your walker) for support. Bend the operated knee, bringing your heel towards your buttocks.
Repeat ............. times

**Tips:**
- Keep your back straight and your chest open.
- Keep your operated leg parallel, not tucked.

---

Total Hip Replacement Exercises
Penn State, Hershey
Phase II

These exercises are generally started 6-8 weeks following surgery and will help to improve your strength and balance. Your therapist may add additional or different exercises to your program depending on your specific needs. As always, be sure to inform your therapist or physician's office if you are having increased pain or loss of range of motion that seems significant.

1. Stationary Bicycle
   Start on a stationary bicycle with the seat positioned higher so that your knee straightens fully at the bottom of the pedal stroke. Minimal or no resistance should be applied for about 12 weeks. The purpose of this exercise is to "warm-up" the legs and gently work your range of motion.
   Time: start with 5 minutes and increase slowly

   **Tips:**
   - Do not use your feet to push down on the pedal. Use only arm and leg actions.
   - You should not feel more than a light pressure.

2. Balance – Weight Shift/Single Leg Stance
   Stand with your feet apart and toes pointing forward. Stand by a counter or behind a chair for safety. Transfer your weight from one leg to the other. Progress until you can stand on one leg for 10 seconds.
   Repeat .......... times

   **Tips:**
   - Completely lower your hands between each step.
   - Your balance. You may perform with hands on your hips or back while shifting weight between legs.

---

Total Hip Replacement Exercises
Penn State, Hershey
3. Step up/ down (Sideways)
Start with both feet on the floor standing beside a step (ie: bottom step of stairway). Hold onto the wall or railing with your operated leg closest to the stair. Step sideways onto the step and follow with the other leg. Return to starting position. Repeat ........ times

Tips:
- Progress on holding railing
- No change in position when stepping

4. Step up/ down (Forward)
Stand facing a low step (ie: bottom step of stairway). Hold onto the rail on your non-operated side. Place the foot of your operated side onto the step. Slowly step up. Return to starting position. Repeat ........ times

Tips:
- Progress on holding rail
- Decrease leg position on stair

5. Wall Slides
Stand with your back against a wall. Place your feet shoulder width apart and about 6 inches away from the wall. Slide down the wall by slowly bending your knees ¼ of the way (30 to 40 degrees maximum). Slide back up the wall. Hold ............ seconds. Repeat ........ times

Tips:
- Do not sit too low. Your hips should move below the level of your feet

Total Hip Replacement Exercises
Penn State, Hershey
SECTION 9

MAP