

CONCORD
ORTHOPAEDICS

A Patient Guide to
Total Hip and Total Knee Replacement

Table of Contents

Introduction	3
Meet the Care Team	4
Common Causes of Disease	5
Preparing for Surgery	5
Medication Management	5
Pre-hab Exercises	5
Medical Clearance	5
Preventing Infection	6
Risk Reduction	6
Preparing the Home	6
Surgery	6
The Day of Surgery	6
Operating Room	7
Post Anesthesia Care Unit	7
Risks	8
Going Home	9
Readiness for Discharge	9
The Drive Home	9
Comfort	10
Activity	10
Swelling	10
Incision Care	10
Showering	10
When to Call the Surgeon	10
Life After Joint Replacement	11
Diet	11
Rest	11
Exercise and Activity	11
Dental Care	12
Reducing Risks of Infection	12
Follow-up Care	12
Traveling	12
Driving	12
Returning to Work	12
Important Information	12

Introduction

Thank you for choosing Concord Orthopaedics for your total joint replacement surgery. Your total joint replacement surgery will be performed by one of the most experienced orthopaedic surgical teams in the United States.

This Guide is designed to give you the important information you need to achieve the best outcome from your total joint replacement surgery. This guide is your workbook. It discusses:

- How to prepare for your upcoming total joint replacement surgery
- What to expect before, during and after surgery
- How to enjoy your joint replacement into the future

A Note from the Team

We are happy to be a part of your joint replacement journey. After reading this book, it is very important to reflect on ways that we can help you achieve your goals. Whether your goal is to play a sport, travel, or just be out of pain, we are committed to serving you. You will meet many people along the way, but it is important to remember that YOU are the most important member of this team. Please feel free to reach out to us any time. We are always here for you!

Stephen J. Fox, MD

Jeffrey W. Wiley, MD

Neil T. Dion, MD

Jason M. Desmarais, MD

Sean T. Burns, MD

Meet the Care Team

Anesthesia Physician - Your Anesthesia Physician will provide medication to keep you comfortable during surgery and directly afterward.

Cardiologist - If you have a history of cardiac disease, your Cardiologist will provide recommendations to the team that will keep you safe during and after surgery.

Coach - Your Coach is any person that you choose to support you in preparing and recovering from surgery. The Coach can be a spouse, friend, or family member that agrees to participate in your joint replacement experience.

Licensed Nursing Assistant - Your Licensed Nursing Assistant will assist you in activities like bathing, dressing, or getting to the bathroom.

Nurse Practitioner - Your Nurse Practitioner will assist your Orthopaedic Surgeon in the office and after surgery.

Occupational Therapist - You may have treatment from an Occupational Therapist to teach you how to perform activities of daily living like showering and dressing.

Orthopaedic Surgeon - Your Orthopaedic Surgeon will perform your surgery and will oversee your care throughout your recovery.

Patient Care Coordinator - Your Patient Care Coordinator will receive your calls postoperatively. They can help with medication refills, scheduling appointments, or any communication needed to your surgeon.

Physical Therapist - Your Physical Therapist will show you how to gain strength and mobility after your joint replacement.

Physician Assistant - Your Physician Assistant will assist your Orthopaedic Surgeon in the office, in surgery or after surgery.

Primary Care Provider - Your Primary Care Provider manages your general health and wellness. Your Orthopaedic Surgeon will keep in contact with your Primary Care Provider to ensure that you are ready for surgery and recovering well after surgery.

Registered Nurse - The Registered Nurse will care for you before, during and after surgery. They provide assessment, delivery of treatment, and education.

RN Navigator - Your Nurse Navigator will help coordinate your care before and after your surgery. Your Nurse Navigator is ensuring that you are in optimal shape prior to surgery and that you have all your resources needed in place after surgery.

Surgical Scheduler - Your Surgical Scheduler is coordinating your preoperative appointments and your surgical appointment. They will also be preparing your paperwork to ensure that communication takes place between all of the care providers.

Common Causes of Disease

Osteoarthritis - Joint inflammation due to a breakdown in cartilage in the joints. Cartilage is a protective covering over the ends of bones. Although osteoarthritis can occur anywhere, it is most common in the hips, knees, hands and spine. Symptoms include pain with overuse and with inactivity. Osteoarthritis is generally caused by “wear and tear”, but can also be influenced by family history. Osteoarthritis is diagnosed with x-rays and physical assessment. It affects nearly 21 million people and is more common in older adults

Rheumatoid Arthritis - An inflammatory form of arthritis that is found in approximately 1% of Americans. All age groups can be affected by rheumatoid arthritis. Rheumatoid arthritis can be diagnosed with blood tests, x-ray, and physical assessment.

Other - Joint damage can occur after a traumatic injury or a congenital defect. Hip damage can also result from avascular necrosis.

Preparing for Surgery

Preoperative Education - There is education material on www.concordortho.com/services/specialties/total-joint-surgery. You may be scheduled to speak with a nurse prior to your surgery to review expectations.

Pre-admission Assessment and Testing - Your surgical scheduler at Concord Orthopaedics will give you an appointment for presurgical testing. A clinician will assess you and make recommendations to help you get ready for surgery. They may check lab work at to create a baseline of your health. This information is communicated to your surgeon for evaluation prior to surgery.

Medication Management - Your surgeon and primary care provider will work together to advise you on which medications to stop prior to surgery and when to stop them. Certain vitamins/supplements (fish oil, vitamin E, etc.), anti-inflammatory (Advil, Motrin, Aleve, etc.), and anticoagulant (Eliquis, Plavix, Coumadin, etc.) medications must be stopped prior to surgery. Anticoagulants like Eliquis, Xarelto, and Pradaxa must be stopped 72 hours before surgery. Although you can safely have a total joint replacement after 48 hours, you cannot undergo spinal anesthesia within 72 hours. Lovenox injections must be stopped 24 hours prior to surgery. It is recommended that the last dose of this medication is before 7AM the day before surgery. It is important that you discuss these recommendations with the medical doctor that has prescribed these medications for you. Not stopping these medications, in time, can result in a delay of your surgery. Your doctor will tell you if and when you should stop your rheumatoid arthritis medication. If you are ever unsure about when to stop medications, you should call Concord Orthopaedics for clarification.

Prehab Exercises - Gentle exercise focused on strengthening your muscles and improving stamina is important before surgery to ensure your best outcome. Do not participate in exercise that is painful. If you experience severe pain with exercise you should notify your surgeon.

Medical Clearance - Your surgical scheduler will schedule appointments for you to see your primary care provider. It is important that your doctor communicates recommendations to your surgeon about your specific medical conditions and how the rest of the team can best care for you. You should expect your primary care provider to review your advanced care planning (the care you wish to receive if you ever become unable to speak for yourself) with you, if they haven't yet this year. You may also be asked to see a specialist, like a cardiologist. This is important if there are specific care recommendations needed to keep you safe throughout the process.

Preparing for Surgery (cont.)

Preventing Infection

- **Dental Health** - Any dental work should be completed at least 4 weeks prior to surgery. If you have any unplanned dental work within the 4 weeks prior to surgery, it is important to notify your surgeon.
- **Shaving** - Do not shave your legs or use hair removal products near the surgical area within 48 hours of surgery. Shaving can cause microscopic openings in the skin that can become pathways for bacteria.
- **Hand Washing** - You will notice care providers using hand sanitizer frequently to help prevent the spread of infection. You and your family are encouraged to use alcohol based hand sanitizer in between frequent washing.
- **Illness** - If you are ill with a fever, sore throat, flu, or any other illness the week before surgery, please notify your surgeon.
- **Skin Rash** - If you notice any broken skin, rashes, sunburns, or other skin abnormalities on the affected leg, the week prior to surgery, please notify your surgeon.
- **Skin Preparation** - It is important to shower with the soap given to you in preadmission testing the night before surgery and the morning of surgery. Do not use any creams or lotions after these showers.

Preparing the Home

- Have a nonslip bathmat inside the tub or shower.
- Remove any tripping hazards like throw rugs or electrical cords.
- Ensure that frequently used items are within reach (counter height to avoid bending and reaching).
- Make sure you have a cordless or cell phone that can go with you everywhere easily.
- Stairs should have hand rails that are securely fastened to the wall.
- Make sure pets are cared for. They should not be under foot while you are walking. If you do not have someone to take care of them, you could consider boarding them for a few days.
- Find a chair to sit in that has a firm back and is not too short. A taller chair will be easier to get in and out of. You should not be sitting in a chair with wheels. You will need to keep your legs elevated while in your chair. This can be done with a recliner or a foot stool in front of a stationary chair.
- Prepare meals in advance, so that you do not have to stand and cook when you first arrive home. It can be helpful to freeze meals ahead of time or to have quick healthy options available like salad or yogurt.
- Ensure that your pathways are illuminated at night. Install night lights, if necessary.
- Ensure that you have enough clean clothes and linens to last for at least a week.
- Make sure your coach, friend, or family member is able to stay with you for a few days after you get home from surgery. You will be able to perform personal hygiene for yourself but you will need support. Your coach should expect to remind you of taking your pain medication or grabbing an item that was left out of reach.

Hospital or Outpatient Surgical Center - see site specific instructions

Surgery

Joint replacement surgery involves removing cartilage and some bone from the joint and replacing it with metal, ceramic, and plastic. Your surgeon will choose an implant that is right for you. You should expect a good outcome after surgery. Approximately 90% of joint replacements are intact and functional 12 years after surgery. You can protect your joint by maintaining an ideal body weight and avoiding high-impact activities.

The Day of Surgery

- Wear loose-fitting sweatpants or shorts.
- Wear shoes that fit well, such as walking shoes or sneakers.
- Bring your crutches, walker or cane so they can be properly adjusted.
- Do not wear makeup, nail polish, hairspray, gels, perfumes, after-shave, lotions or deodorant
- Do not apply creams or lotions near the area where your incision will be made.

Surgery (cont.)

- Remove all jewelry, including wedding bands and pierced jewelry. If you have jewelry that cannot be removed, notify the staff once you arrive at the Orthopaedic Surgery Center.
- Leave all valuables at home. You will only need your driver's license, your insurance card and a credit card for your prescriptions.
- Do not eat, drink or chew anything the day of surgery, unless otherwise instructed by the Nurse. This includes NO gum, lozenges, hard candy or chewing tobacco.
- If you have been instructed to take your medication(s) on the morning of surgery, take them with a small sip of water.
- Your family/significant other may stay with you in the preoperative area until you go to the operating room. They may then wait in our waiting room.
- Your Nurse will be able to answer any questions or concerns that you may have.
- You will have anti-embolism stockings (compression stockings) placed on your legs in the Pre-operative area to help prevent blood clots.
- You will have an intravenous catheter (IV) started by a Nurse in the Pre-operative area. The IV helps replace the fluid lost during surgery and from not eating or drinking for a day.
- You will meet the Anesthesiologist who will be caring for you in the Operating Room. The anesthesiologist will review the plan for anesthesia with you.
- You will see your Surgeon before surgery. The Surgeon will mark your surgical site and answer any final questions you may have.
- You will receive medication in the Pre-operative area to help you relax and feel sleepy.

Operating Room

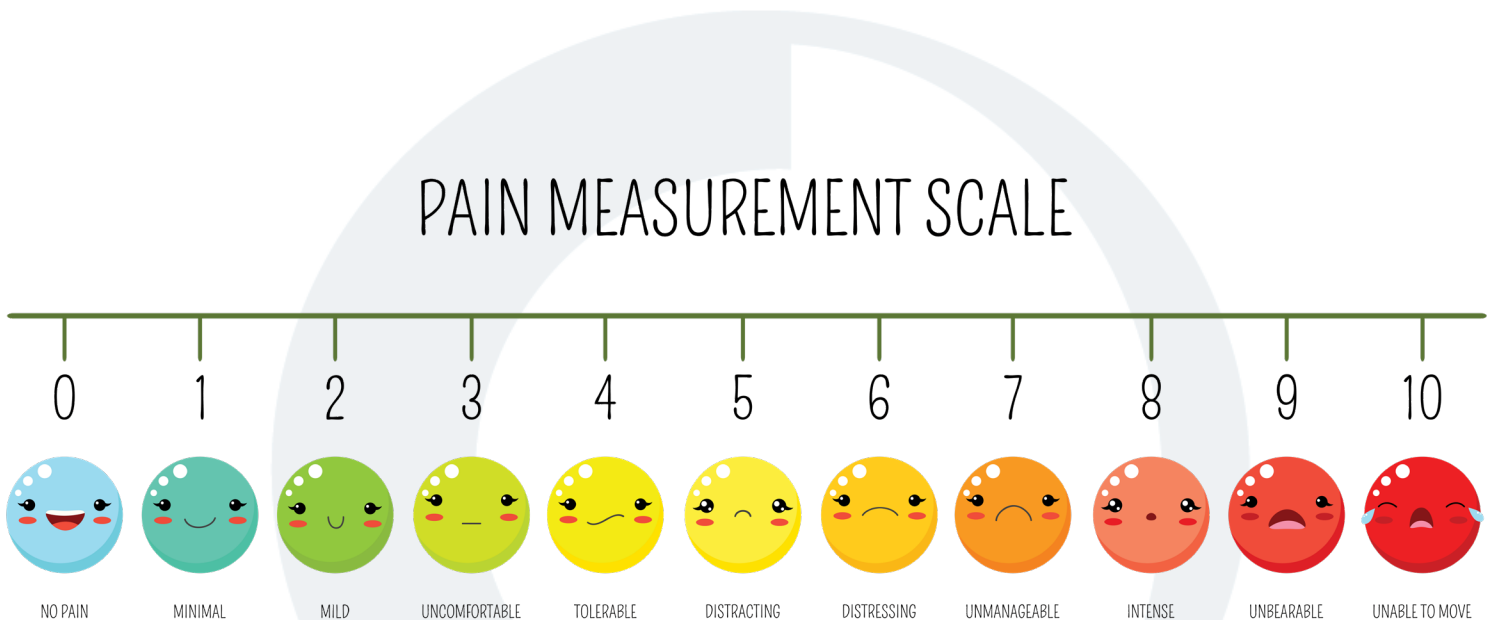
- From the Pre-operative area, you will be taken to the Operating Room.
- It is normal for the temperature in the Operating Room to be cool. The Nurse will apply a warming blanket on you to be sure you remain warm during the procedure.
- The Surgical Team will assist in moving you on to the Operating Room table and positioning you for the procedure.
- The Anesthesiologist will be monitoring your blood pressure, pulse and breathing at all times.
- You will see other members of the Surgical Team including the Surgical Nurse, who is responsible for your care while you are in the Operating Room, Surgical Technicians who assist the Surgeon, X-Ray Technicians who assist in taking x-rays during the procedure and the Physician Assistant who assists the Surgeon during the surgery.

Post Anesthesia Care Unit (Recovery Room)

- When your surgery is completed, you will be moved from the Operating Room table on to a stretcher. You will then be transferred to the Post Anesthesia Care Unit (PACU).
- At this time, your Surgeon will usually meet with or call your family and update them on your status.
- You will have oxygen going through a small mask over your mouth and nose. You will be asked to take deep breaths and cough. You will also be taught how to use an incentive spirometer (IS) device, which helps prevent respiratory congestion.
- You may notice the anti-embolism stockings (compression stockings) on your legs. These help to prevent the formation of blood clots in your legs.
- You may have an ice pack on your incision area to keep swelling down and decrease pain.
- You will have a dressing over the surgical area.
- Once you are awake, one family member will be allowed to visit you in the PACU.
- You may be cold from the low temperature in the Operating Room. The PACU Nurse will provide warm blankets to help you warm up.

Surgery (cont.)

- The PACU Nurse will monitor your vital signs frequently (blood pressure, pulse, temperature, respirations and breathing).
- The PACU Nurse will check the color, feeling and motion of your feet and legs frequently. You will stay in the PACU until you are fully awake and your pain is effectively controlled.
- You will then be moved to the Phase II recovery area.
- If you experience nausea or vomiting after anesthesia, the Anesthesiologist will order medications to relieve your symptoms. Please notify staff before surgery if you have had nausea and vomiting after surgery in the past.
- As your anesthesia wears off, you may start to feel uncomfortable. The Nurse can give you medication to ease your pain. You will be asked to rate your pain using a pain scale of 0-10. *See pain scale below.*



Risks - Although advances in technology have made joint replacement surgery safe, there are still risks associated with the surgery. We are committed to reducing your risk prior to, during and after surgery.

- **Blood Clots** – Blood clots can occur in the legs or the lungs after surgery. Certain risk factors, like obesity and smoking, can significantly increase your risk of developing a blood clot. Your healthcare team will help you reduce this risk by encouraging activity and prescribing blood thinners, like aspirin.
- **Infection** – Although infection is rare in joint replacement, it can be a very serious complication. Some patients with chronic health conditions may be at higher risk. It is important to ensure that chronic health conditions are controlled before surgery to maximize your outcome. If an infection occurs, it may be treated with antibiotics. Infections that have reached inside the joint, may require reoperation.

Surgery (cont.)

- **Nerve, Blood Vessel, and Ligament Injury** – Permanent damage to nerves, blood vessels, and ligaments is extremely rare. Some patients experience numbness on parts of the leg after surgery that typically improves over time.
- **Hip Dislocation**- In less than 1% of patients, a hip replacement may move out of place. If this occurs, it requires a trip to the emergency room and sedation in order to be manipulated back into position. Sometimes this requires surgery.
- **Delayed Wound Healing** – Delayed wound healing can occur and is higher risk in patients that take corticosteroids, have immune system disease, or smoke.
- **Limited Range of Motion** – Although some stiffness is normal after exercise or prolonged rest, you will notice that your joint function improves over time. Not participating in prescribed activity after surgery can put you at risk for limited use of your new joint.
- **Hematoma** – Bleeding inside the joint can occur right after surgery or at a later time. You may notice more pain and swelling. Your surgeon will determine the best treatment if this occurs.
- **Changes in Length of Leg (Hip)** – Sometimes after a hip replacement, you can experience slight differences in the length of your leg. At times, the leg will be lengthened during surgery. This helps the muscles that support the hip joint better hold the new ball into the new socket, limiting the possibility of dislocation. Typically the sensation of a longer leg improves after time. Occasionally, a patient may benefit from an orthotic.
- **Loosening of the Joint** – Loosening can occur over time. This is due to erosion to the bone surrounding the joint. Maintaining a healthy body weight and avoiding high impact exercise can reduce the risk of this happening.

Going Home

Readiness for Discharge - You will be ready for home when you meet the following criteria.

- Able to get in and out of bed
- Get up and down from a toilet or chair
- Perform personal hygiene independently
- Walk up and down stairs
- Walk 100-300 feet
- Get dressed
- Get in and out of a car
- Perform exercises
- Have your transitional needs met
 - ◊ Medication for pain and inflammation
 - ◊ Medication to prevent blood clots
 - ◊ Walker or any other equipment
 - ◊ Physical therapy ordered

The Drive Home - Your coach, friend, or family member will drive you home. To make yourself more comfortable, ensure that the seat is slid back and reclined slightly. If you have a longer drive home, make sure you get out and walk for 10-15 minutes every 1-2 hours. This will help prevent blood clots and joint stiffness.

Comfort - Although pain is expected during your recovery, it is important to stay as comfortable as possible after surgery. Reducing pain can improve mobility outcomes. Take your pain medication as prescribed. Some pain medications have side effects like constipation and disrupted sleep. Constipation can be prevented with increased hydration, medications like Colace and senna, and dietary fiber over the counter laxatives are okay to take. Remember that regular exercise, elevating the extremity, and cold packs can provide significant comfort. If you are having difficulty controlling your pain or have a sudden increase in pain, call your surgeon.

Going Home (cont.)

Activity - It is important to continue your exercise program after surgery. You will go home with a plan for exercise. If you are unable to participate in your exercise program, it is important to notify your surgeon. Your long term outcomes are dependent on you doing the prescribed amount of activity. You may resume low impact activities as soon as you are feeling strong enough. You should contact your surgeon before attempting any high impact sports. You can resume swimming when your surgeon or physician has said it is OK. This typically happens after your four (4) week visit.

Swelling - It is normal to experience bruising around your incision. If you have had a knee replacement, you may experience bruising around the thigh. Swelling peaks between the 7th and 14th day and can last for a few weeks after that. Expected swelling is better in the morning and increases over the day. Severe swelling can increase pain and slow healing. Please elevate your leg whenever possible. Cold packs are helpful to reduce swelling around the incision during the first week and may help with comfort after that.

Incision Care - You will have a bandage over your incision after surgery. That bandage will remain in place for a week after surgery. It is waterproof and should remain tightly sealed for that week. If you notice drainage that is increasing at home, call your surgeon. After a week, you can remove the dressing, inspect your incision and then replace the dressing with a new bandage. Do not apply any creams or lotions to the incision area, unless directed to by your surgeon. Your incision may have been closed with staples or glue. The glue will fall off on its own or the staples will be removed by a healthcare provider. The incision might have some redness or dried drainage. You can wash your incision with a clean cloth and some mild soap. If you notice cloudy or foul smelling drainage, or your incision is not closed, call your surgeon. You should not submerge your incision in water until you have been cleared to do so by a provider. This ensures that there is no way for water to soften the incision and allow for bacteria to get to the joint. You may notice some numbness around the incision. This typically improves over several months.

Showering - You may shower as soon as you are strong enough to do so. Your incision is under a waterproof bandage for 2-4 weeks. You can shower and allow the water to wash over the incision without soaking it. You should use a mild soap.

When to Call the Surgeon - You can expect a moderate amount of bruising, swelling, and redness that should improve over time. If you experience any of the following, you should call your surgeon:

- A fall
- Inability to walk or perform your exercises
- Pain in your calf (on either side) that is not responsive to rest and/or pain medication
- Increasing redness around your incision
- Yellow foul smelling drainage from your incision
- Temperature over 101°F
- Bleeding from or an opening in the surgical site
- Toes that are cold and are unable to get warmed
- Any unexpected problems, concerns, or questions
- If you are unable to reduce your pain with rest, elevation, cold, or medication
- Nausea, vomiting, or diarrhea that is not resolving

If you experience chest pain, palpitations or difficulty breathing, call 911

Life After Joint Replacement

Diet - A healthy balanced diet is very important to your recovery. It is normal to have a decreased appetite after joint replacement. You will need to focus on ensuring that you have the proper nutrition and hydration. Some important nutrients are iron, calcium, fiber, and protein. It is important to drink at least 6-8 cups of water or other fluid. It is common to experience constipation after surgery. You should ensure that you are hydrated and eating enough dietary fiber. You can use over the counter constipation medications for relief. If you have not had a bowel movement in more than five (5) days or you experience abdominal discomfort, you should contact your surgeon. Although supplements to your diet may be useful, you should be focused on eating a healthy diet with the proper nutrients. Some useful nutrients are listed below. How many can you check off in a day?

- Protein helps with healing and tissue repair. Protein is found in meat, poultry, fish, eggs, milk, cheese, legumes (beans), soy, nuts, and seeds.
- Carbohydrates give energy for healing and prevent muscle breakdown. Carbohydrates are found in all fruits and vegetables, legumes (beans), breads, cereals, rice, pasta, and grains. Healthy carbohydrates that come from unprocessed foods are essential to recovery.
- Fats allow for absorption of vitamins, as well as providing energy and boosting the immune response. Fats are found in oils, dairy, nuts, seeds, and avocado.
- Calcium is an important mineral that allows for building and maintaining bones. Calcium is found in dairy, as well as soy, and dark green vegetables.
- Iron is an important mineral that is helpful in forming blood cells that carry oxygen. It is important to eat iron with food rich in vitamin C. Iron is not absorbed well with food rich in calcium. Iron is found in meat, poultry, fish, fortified cereals, beans, dark leafy green vegetables, and dried fruits.
- Zinc is important for wound healing and preventing infection. It is an essential component of your body's enzymes. Zinc is found in meat, eggs, and seafood.
- Vitamin A helps to heal skin and is important to wound healing. Vitamin A is found in carrots, sweet potatoes, dark yellow or leafy green vegetables, dairy, and egg yolk.
- Vitamin D helps in bone healing and Calcium absorption. Vitamin D is found in fortified dairy, fortified cereals, liver, fatty fish, and egg yolk.
- Vitamin E is an antioxidant with disease fighting properties. While Vitamin E is not appropriate to take (as a supplement) prior to surgery, dietary Vitamin E is healthy after surgery. Vitamin E can be found in vegetable oils, beef liver, milk, eggs, butter, green leafy vegetables, and fortified cereals.
- Vitamin K helps with wound healing and blood clotting. Vitamin K can be found in green leafy vegetables, fatty fish, liver, and vegetable oils. Avoid food high in Vitamin K while taking Coumadin.
- Vitamin C is helpful for building connective tissue and assists with iron absorption. Vitamin C can help prevent infection. Vitamin C is found in citrus fruits, strawberries, tomatoes, peppers, greens, raw cabbage, and melon.
- Phosphorus is a mineral that helps build bone. It can be found in dairy and meat. Vitamin D is important for phosphorus absorption.
- Magnesium is found in bone crystals and improves bone strength. You can find magnesium in green leafy vegetables, fruits (like fig and banana), nuts and seeds, beans, and seafood.

Rest - You will feel very fatigued after surgery. It is normal to take naps during the day and to have less energy for several weeks after surgery. You might also notice that your sleep at night is disrupted. Your normal sleep patterns should resume within four weeks.

Exercise and Activity - It is important for you to continue exercise and activity for your lifetime. You should avoid high impact sports. High impact sports can shorten the life of your joint replacement. Low impact sports like golfing and swimming are encouraged. Typically patients are able to perform their normal daily activities within 6 weeks, but it can take up to three months to return to normal. You might hear a clicking noise when walking. This is normal and may reduce over time. Sexual activity can resume when you are feeling ready. You should take an over the counter pain medication 30 minutes before sexual activity and you should choose a comfortable position. You might want to keep pillows and rolled towels handy to help support that comfortable position.

Life After Joint Replacement (cont.)

Dental Care - It is important that you notify your dentist of your new implant. You will need to take antibiotics prior to any extensive dental work. Your surgeon will give you more details about the type of antibiotic and for how long you need to take them. Openings in the gums around the teeth may be an entry for bacteria to get into the bloodstream.

Reducing Risks of Infection - Notify your surgeon of any invasive tests, procedures, or surgeries. Antibiotics may need to be administered to prevent infection.

Follow Up Care - You will need to follow up with your surgeon or physician assistant at regular intervals to monitor your joint replacement. Your surgeon wants you to focus on healing for three months after surgery. Please notify your surgeon if you have any unexpected medical issues during those three months. Do not schedule routine elective procedures during that timeframe.

Traveling - You are discouraged from traveling long distances for the first several weeks after surgery. Once you have recovered, and feel ready to travel, you must remember to change positions every one to two hours. You are also encouraged to move your feet up and down to prevent blood from pooling in your lower legs. You will likely set off metal detectors at the airport. You can explain to the security screeners that you have a joint replacement.

Driving - You will not be able to drive while you are taking your pain medication. A return to driving typically takes place between 2 and 6 weeks postoperatively, depending on which leg is affected.

Returning to Work - Your surgeon will let you know when they anticipate your return to work. Because different jobs require different physical activity, you and your surgeon will decide what is best for you.

Important Phone Numbers

Concord Orthopaedics: (603) 224-3368

Nurse Navigator: (603) 724-2353

For More Information

<https://hipknee.aahks.org/>

<https://orthoinfo.aaos.org/>

<https://www.concordortho.com/services/specialties/total-joint-surgery>

Patient Portal

You can use the patient portal to request an appointment, send non-urgent messages including pictures to your provider, view upcoming appointments, and request medical records. To sign up, simply provide your email address to our Patient Service Representatives at check in or check out. Follow the link from DoNotReply@patientportalregistration.com that you get in your email. Create your account using the ten- letter pin included in the email.