

Total Knee Replacement Handbook


DEER LODGE
MEDICAL CENTER



WELCOME TO DEER LODGE MEDICAL CENTER

Thank you for choosing Deer Lodge Medical Center for your total joint replacement surgery. Deer Lodge Medical Center is a non-profit 501c3 community hospital located in Deer Lodge, Montana. Managed by Cypress Healthcare, DLMC is a certified critical access hospital serving Powell County and the outlying communities.

We believe the relationship between the patient and their health care team is vitally important to both your experience with us and our place in the community. Every facet of our campus, as well as the services we provide here, has been designed with the goal of creating a place where you get the quality care you need. We are made up of compassionate, highly skilled physicians, care team members, and support staff who live and work right here in the community.

Using This Handbook

We want to ensure that every patient receives the best possible care. You play an invaluable role in the success of your surgery. Our goal is to include you in the plan of your care, every step of the way.

This guide is designed to give you all the information you need to have the best outcome from your surgery. The guide will help you:

- Prepare for your upcoming surgery
- Know what to expect each step of the journey
- Provide a home exercise program
- Navigate through your recovery for continued success at home

Please keep in mind that this book contains general guidelines for your surgery. Your orthopedic team may add to or change any of the recommendations. Please keep this book as a reference for at least the first year after your surgery.

IMPORTANT CONTACT INFORMATION

DLMC Clinic	(406) 846-1722
DLMC Hospital	(406) 846-2212
Peri-Operative Surgical Services	(406) 415-1028
Patient Financial Services	(406) 846-7735
Orthopedic Nurse Navigator	(406) 299-9144

TABLE OF CONTENTS

3		Your Joint Replacement Team
4		What Is A Total Knee Replacement?
7		Understanding Surgical Risks
8		Surgery Road Map
9-12		Preparing For Surgery Preparing For Surgery, Preparing Your Home Checklist, Infection Prevention And Skin Preparation, Quit Smoking
13		Week Before Surgery
14		Day Before Surgery
15-16		Day Of Surgery
17		Anesthesia And What You Need To Know
18		Recovery
19		Pain Management
20		Activity After Surgery
21		Wound/Surgical Incision Care
22		Driving After Surgery
23-25		After Surgery
26		Life After Knee Replacement
27		Frequently Asked Questions
30		Notes
31-42		Appendix Recovery Zones, CHG instructions, Home Safety Checklist, DME, PT exercises, Medication Tracker, Map of Campus

YOUR JOINT REPLACEMENT TEAM



Orthopedic Surgeon

Your orthopedic surgeon is a skilled physician who can repair damaged joints and bones.

Dr. Dean Sukin is a fellowship-trained orthopedic surgeon and Montana native with decades of experience in total joint replacement. He specializes in total knee, anterior total hip, partial knee, and revision total joint surgery with a passion for helping patients restore mobility and quality of life.



Physician Assistant (PA-C)

A physician assistant will participate in your care before, during, and after your joint replacement. Your PA will assist during your surgery.

Jana Paul, PA-C is a native Montanan with extensive experience in Orthopedics with most of her career spent serving rural Montana communities.

Nurse Navigator

The orthopedic nurse navigator will review health information and be a resource for you throughout the knee replacement journey.

Hospital Nurses

The nursing staff will care for you throughout your stay at DLMC. They will assist in your recovery and work with the team to make your stay as comfortable and pleasant as possible.

Anesthesia Providers

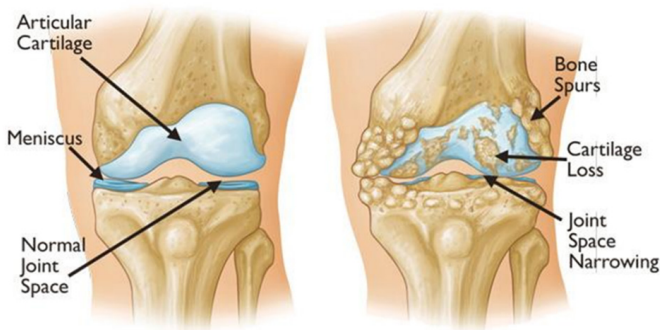
Anesthesia will meet with you on the day of surgery to determine the right type of anesthesia for you. They also help to manage pain throughout the peri-operative period.

Physical and Occupational Therapists

The therapy team will assist you with mobility after surgery. They will review your home exercise program, ensure your walker/assistive devices fit properly, and provide tips for performing daily tasks and managing swelling after surgery.

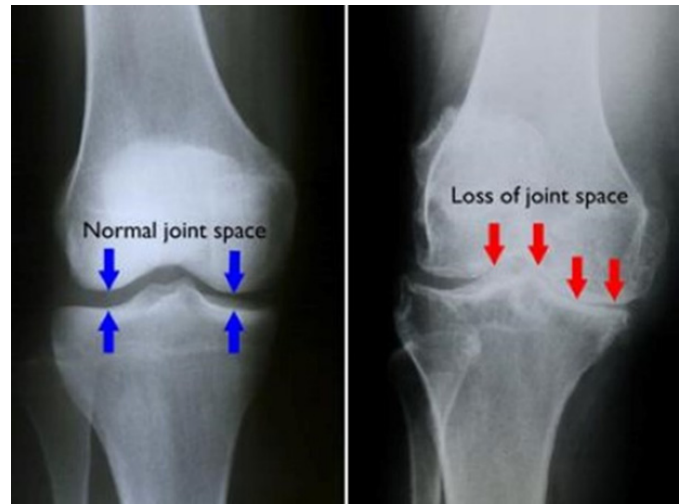
WHAT IS A TOTAL KNEE REPLACEMENT?

The knee is the largest and strongest joint in your body. It is made up of the lower end of the femur (thighbone), the upper end of the tibia (shinbone), and the patella (kneecap). The ends of the three bones that make up the joint are covered with articular cartilage, a smooth, slippery substance that protects and cushions the bones as you bend and straighten your knee. The joint is surrounded by a thin lining called synovium. This releases a small amount of fluid that lubricates the cartilage and reduces friction.



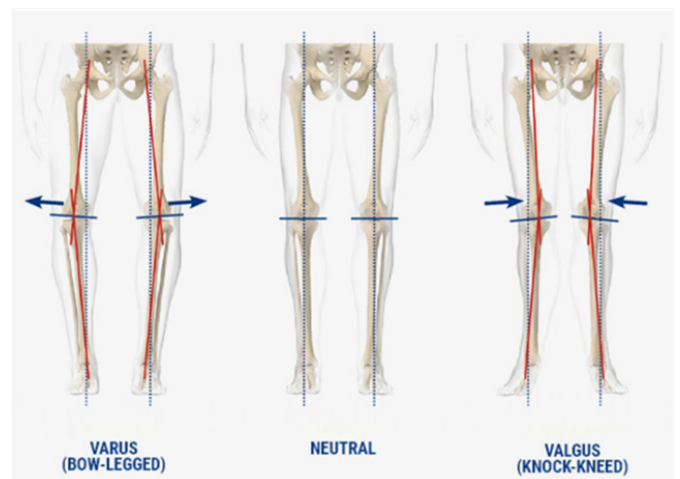
Knee arthritis refers to inflammation of the knee joint. The most common cause of knee arthritis is osteoarthritis, the wearing away of the cartilage that covers the ends of the bones of the knee joint, leaving bone exposed. This causes pain, swelling, decreased motion, weakness, and possibly a bow-legged or knock-kneed deformity at the knee, all of which can lead to difficulty with daily and recreational activities. These symptoms are generally worse with activity and improve with rest.

Other causes of arthritis include inflammatory arthritis such as rheumatoid arthritis, trauma, previous surgery, obesity, and genetics.



A knee replacement is a surgical procedure that involves removing the damaged part of the knee joint, the end of the femur and top of the tibia, and replacing it with an artificial joint, called a prosthesis. Metal is placed over the femur and the tibia with a plastic liner in between. The undersurface of the kneecap may also be replaced with a plastic button. This creates a surface for smooth, pain-free movement.

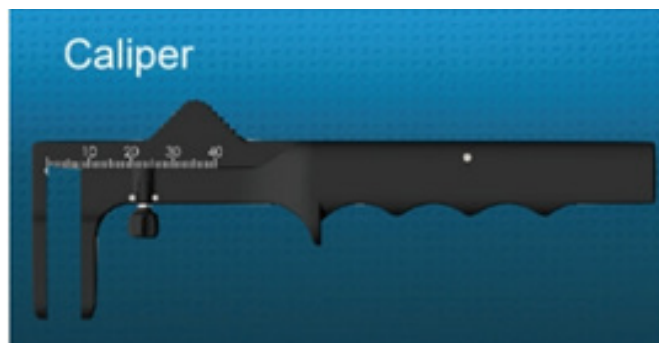
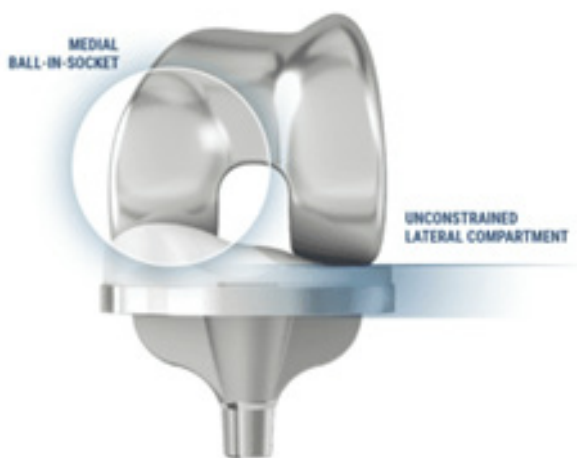
The implants used in knee replacement are biocompatible – meaning they are designed to be accepted by your body – and they’re made to resist corrosion, degradation, and wear.



Calipered Kinematically Aligned Total Knee Replacement

Dr. Sukin performs total knee arthroplasty using the Calipered Kinematically-Aligned Technique with specific implants designed for this approach. He adopted this technique in 2020 from Dr. Stephen Howell. Since then, Dr. Sukin has collaborated on studies, become an educator to other orthopedic surgeons interested in kinematic alignment, and collaborated with a team of orthopedic surgeons worldwide to develop an augmented reality-assisted kinematically aligned surgical technique.

The calipered kinematically aligned (KA) total knee replacement was created to speed up recovery and give the knee a more natural feel after surgery. The KA technique uses intra-operative verification checks and caliper measurements to ensure a perfect fit and balance the pre- and post-operative collateral ligaments. The traditional, mechanically aligned technique changes the patient's joint lines, often requiring the release of perfectly normal ligaments which can lead to post-operative pain, stiffness, and instability in some people.



Calipered-kinematic alignment restores the patient's pre-arthritis joint surfaces within 0 ± 0.5 mm, more accurate than robotics and navigation instrumentation. It also has a beneficial effect on function, like aligning new tires on a car's axles.

Researchers have conducted multiple studies worldwide comparing the outcomes of patients treated with a caliper-assisted kinematic alignment to mechanical alignment. The results show that patients who received the caliper-assisted technique had better patient satisfaction, function, and recovery. They also had fewer ligament releases, improved motion, and orientation of the knee components during weight-bearing, and better overall knee function. The forgotten knee score, a measure of patient satisfaction after knee replacement, showed significantly higher scores for the calipered kinematic aligned technique compared to mechanical alignment.

Choosing the right prosthetic is also crucial. The pre-arthritis human knee works like a ball-and-socket mechanism on the inside and pivots on the outside. Using a prosthetic implant that mimics this function is essential for post-operative stability and a pre-arthritis, knee-like function. Combining the KA technique with a medial ball-in-socket and unconstrained lateral compartment

prosthesis provides ACL-like stability, greater post-operative function and a more athletic knee.

Dr. Sukin also uses augmented reality (NextAR) for pre-operative planning and real-time measurement of ligament balances intra-operatively. NextAR provides complete 3D personalized planning tools to accurately plan every case and provides complete, precise and real-time intra-operative guidance during bone preparation and implant placement. This technology enhances the accuracy of the procedure, verifies kinematic alignment of the prosthesis and can improve efficiency in the operating room.

Calipered kinematically aligned total knee replacement and use of augmented reality technology offers many advantages over traditional mechanically aligned total knee replacement:

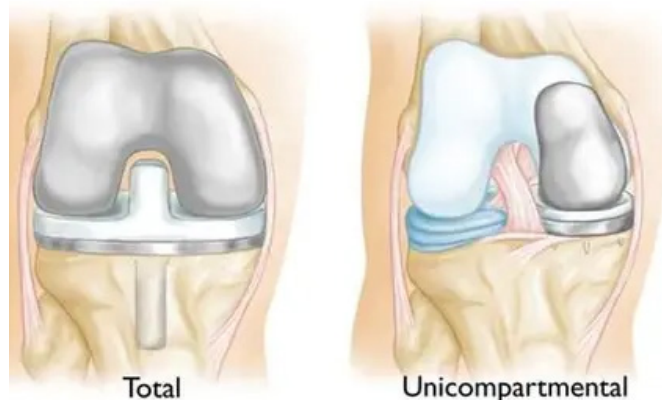
- more precise implant alignment compared to robotic surgery
- use of a minimally invasive surgical approach
- low risk of infection due to the short anesthetic and surgical time
- negligible risk of blood transfusion
- same-day discharge for most patients
- low risk of re-admission within 30 days of surgery

The implants have also been proven to be durable. Most patients aged 60 or older have a low probability of needing another operation in the same knee.

Total versus Partial Knee Replacement

A total knee replacement involves removing all joint surfaces in the knee and replacing them with a prosthesis.

A partial knee replacement, also known as unicompartmental knee replacement, replaces only the part of the knee that is damaged. This could be the medial, lateral or patellofemoral joint space. Benefits of partial knee replacement include a smaller incision and shorter surgery time, often resulting in less pain and a quicker recovery, more rapid return of motion in the knee, and a more natural feeling post-operative knee. The approximate life span of a partial knee replacement is 15 years.



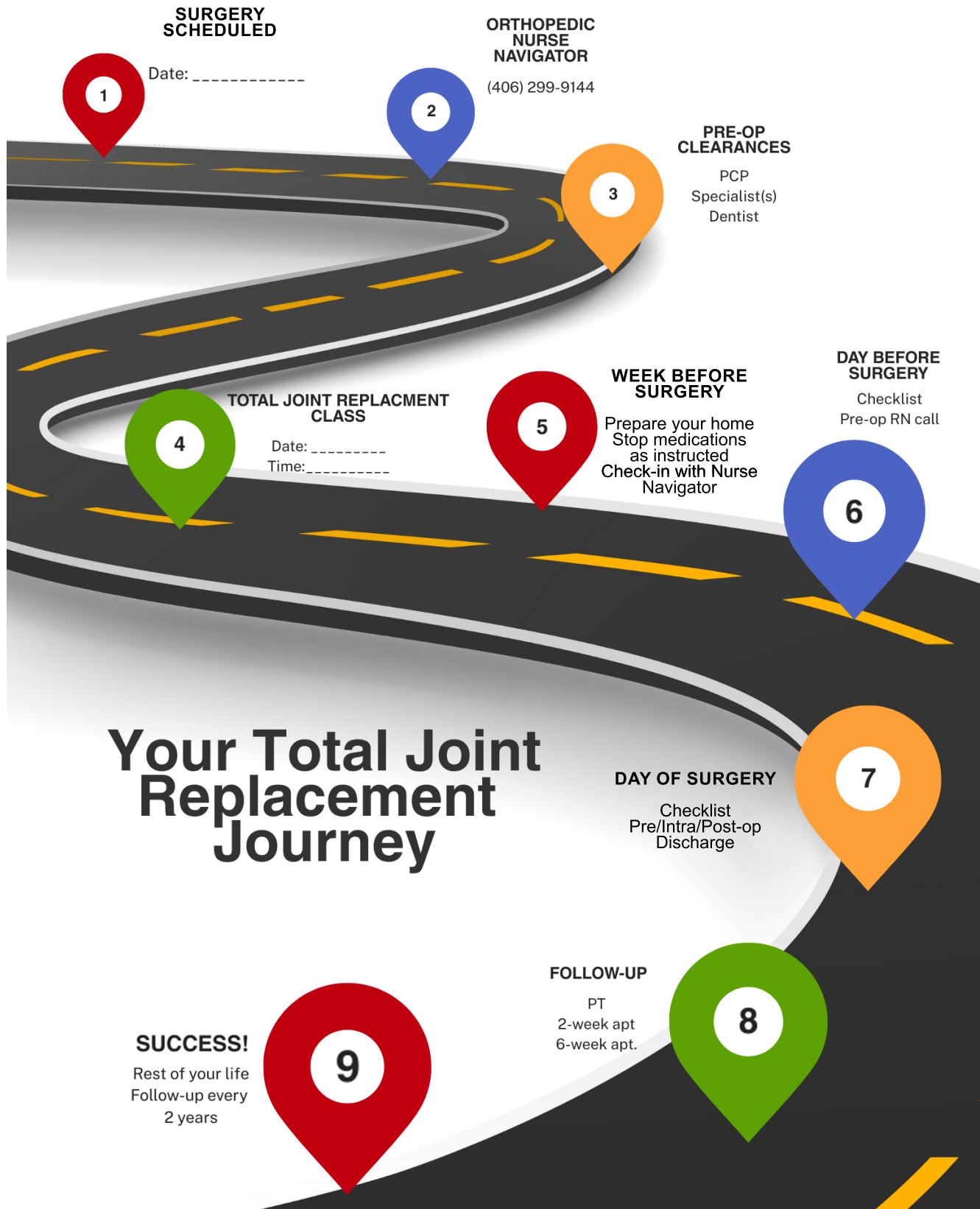
UNDERSTANDING SURGICAL RISKS

In general, knee replacement surgery is safe with very few complications. However, as with any procedure, there are associated risks.

The specific surgical risks related to total knee replacement include, but are not limited to:

- Risks related to anesthesia
- Bleeding
- Infection
- Nerve or blood vessel injury
- Wound healing problems
- Failure of components - implants may loosen or wear out requiring revision surgery
- Limb length inequality
- Malposition and malalignment
- Osteolysis
- Scar tenderness
- Motion loss
- Incomplete pain relief or lack of improvement altogether
- Postsurgical pain disorders such as reflex sympathetic dystrophy
- Need for further surgical procedures in the future
- Blood clots in the extremities or pulmonary emboli (clots that travel to the lungs) that can be life-threatening
- Fracture
- Dislocation
- Metal Allergy/Pseudotumor
- Death

SURGERY ROAD MAP



PREPARING FOR SURGERY

Once you have scheduled your surgery, there are a few things you need to complete. You may call (406) 299-9144 and ask the nurse navigator if you have any questions. Please read this booklet in its entirety and bring it to all appointments and to your surgery.

TO DO CHECKLIST:

- Designate a coach:***
It is important to involve your family and/or a friend in this journey. Ideally, your coach will accompany you to appointments, attend your pre-operative class with you, and support you during and after surgery.
- Fill out Advance Directives and/or POLST:***
Discuss this with your primary care provider. Bring completed copies to the hospital on the day of surgery.
- Pre-operative clearance:***
Schedule this with your primary care provider. Take the pre-operative clearance letter with you to that appointment as well as a complete list of your medications, including prescriptions and supplements. Your primary care physician will clear you medically for surgery.
- Specialist(s) Clearance:***
You may need clearance from your cardiologist, pulmonologist, hematologist, endocrinologist, etc. Your orthopedic team and PCP will help to arrange this if necessary.
- Pre-Op Dental Exam:***
This is extremely important and is done to help prevent a catastrophic joint infection. Please schedule this as soon as possible if you have not seen your dentist in the last 3 months or if you are experiencing any dental discomfort. Should you not receive a dental exam prior to admission, your surgery will be canceled.
- Total Joint Class:***
A class specifically for total joint replacement patients will be held at least monthly. You will need to attend a class prior to your surgery, either in person or online. This is an opportunity to ask any questions you may have about your upcoming procedure. We ask that you bring your coach and this book with you to the class.
- Prepare your home*** (See next page)
- Obtain equipment necessary for recovery at home*** (see page 35-36 for suggestions)
- Arrange for a ride to and from the hospital and for help at home after surgery.***

DO NOT

Do not donate blood within 8 weeks prior to surgery and for at least 2 months after surgery.

Steroid injections in areas other than the joint on which you're having surgery are ok, but do not have any injections in the affected joint for 3 months prior to surgery.

Do not have any other procedure in which you will have sedation within 6 weeks of your total joint surgery. Call the office with specific questions if you are unsure.

Do not get vaccines within two weeks of surgery, either before or after.

PREPARING YOUR HOME CHECKLIST

To create a safe environment for your return home, we suggest you do these simple tasks prior to your surgery.

TO DO CHECKLIST:

- Place items you will need to use often in an easy to reach space.
- Check and make sure no railings are loose. If so, be sure to fix them prior to your surgery. Add rails to steps if possible.
- Pick up throw rugs and tack down any loose carpeting.
- Remove all obstructions from usual walking areas throughout and into your home.
- Install nightlights in bathrooms, bedrooms, and hallways.
- Place a non-slip bathmat in the bottom of your tub/shower and install sturdy grab bars. You may want to use a shower chair or a tub transfer bench.
- Consider a toilet riser with grab bars for comfort and ease of getting off toilet.
- Prepare and freeze meals
- Arrange for someone to pick up mail, the newspaper, and trash.
- A long handled shoe horn, reacher, and sock aid are also helpful. These are available for purchase through DLMC therapy. Inquire with your nurse navigator if interested.
- You will use a front wheel walker after surgery and when you return home. If you plan to borrow a front wheel walker, make sure it is cleaned with bleach, damage free, and ready to use. Check the tips of front wheel walkers to make sure they are not worn through. If you do not have a front wheel walker, one will be provided to you before discharge.

Your safety is our top concern. We require that a family member or friend stay with you after surgery for at least 48-72 hours or until you can perform your activities of daily living independently and safely.

See pages 34-36 in the appendix for more information and ideas of helpful equipment.

IF YOU HAVE PETS:

Consider boarding them for a few days after surgery.

Be sure to keep pets out of the bedroom or sleeping area for 5 days prior to surgery and until wounds are completely healed.

Do not allow pets to lick wounds.



INFECTION PREVENTION AND SKIN PREPARATION

Dental Care

The relationship between dental health and total joint replacement is significant. Oral infections can increase the risk of catastrophic post-operative infections. The American Academy of Orthopedic Surgeons (AAOS) recommends that patients undergoing joint replacement surgery receive a dental clearance before surgery. This involves a comprehensive dental exam to identify and treat any existing oral infections, particularly periodontal disease, which could pose a risk for post-operative complications. Routine dental work or cleanings should be completed no later than 2 weeks prior to joint replacement and not scheduled until 3 months after surgery. For patients with a history of trauma to a tooth or active dental infection, dental work should be done with antibiotics prior to the exam or procedure. Preventative antibiotics are recommended for all patients prior to dental procedures or cleanings for two years after joint replacement.

Shaving

Do not shave your legs or use any hair removal products near the surgical site for 3 days prior to surgery. There is an increased risk of surgical site infection with shaving due to microscopic cuts in the skin through which bacteria can enter.

Finger and Toe-nail Polish

Remove all fingernail polish from your fingers and toes as polish can harbor bacteria and can interfere with measurement of vital signs.

Illness

Notify the office if you develop a fever, cough, sore throat, flu or any other signs and symptoms of illness.

Skin

The skin helps to prevent dirt and microorganisms from entering our body. We all have millions of microorganisms on our skin and if the skin is cut, these microorganisms can get in and cause an infection. Because an incision is made through your skin for surgery, you are at an increased risk for infection.

Preparing your skin before surgery can help to reduce the risk of infection. Using a pre-operative skin prep of Chlorhexidine gluconate (CHG) helps to remove bacteria from the skin. It is important to follow the instructions regarding skin prep the night before surgery.

Skin prep: See page 33 in the appendix for instructions.

IT IS IMPORTANT TO STOP SMOKING PRIOR TO YOUR SURGERY.

Smoking can increase your risk of surgical complications including:

- Increased risk of lung complications such as pneumonia
- Increased risk of heart problems such as high blood pressure, fast or irregular heart beat
- Decreased oxygen in your blood
- Increased risk of blood clots
- Increased risk of wound complications such as infection and healing problems

To increase your ability to heal from surgery and decrease your risk of complications, quit smoking at least 4 weeks prior to your surgery. If you need help with quitting, contact your primary care provider.

RESOURCES TO HELP QUIT SMOKING:

Montana Quit Line
1-800-QUIT-NOW
www.quitnowmontana.com

American Lung Association
www.lungusa.org

Center of Disease Control
www.cdc.gov/tobacco/quit_smoking

Smokefree.gov



WEEK BEFORE SURGERY

To do:

- Clean, do laundry, and put it away.
- Do not shave legs **3 days prior** to surgery
- Pick up post-op medications: These will be available within 48 hours of surgery at your pharmacy. Do not bring these to the hospital with you. The hospital will provide all medications necessary while you are here.
- If you will be staying in the area overnight, **do bring your post-operative medications to use after discharge.**
- Call the office if you experience any fevers, wounds on the operative leg, or other signs of illness

MEDICATIONS

Stop All Herbal Medicine and Supplements *1 week prior to surgery.*

Some herbal medicines and supplements can interfere with medications you will be receiving for your surgery. You will need to notify your surgeon of any herbal medicines you are currently taking.

Examples include, but are not limited to:

Echinacea, ginkgo, ginseng, ginger, licorice, garlic, valerian, St. John's Wort, ephedra, goldenseal, saw palmetto, kava-kava, Multi-vitamins, Vitamin C, Vitamin D, Vitamin E, Magnesium, Calcium, etc.



Stop Medications That Increase Bleeding

NSAIDs: These anti-inflammatory medications can increase bleeding

Stop Aspirin, Motrin®, Naproxen, Ibuprofen, Advil, Aleve **at least 5 days prior** to surgery unless instructed otherwise.

You can continue Celebrex (Celecoxib) up until the morning of surgery

If you are currently taking a blood thinner such as Warfarin, Eliquis (Apixaban), Xarelto (Rivaroxaban), Pradaxa (dabigatran), etc, you will need special instructions for stopping this medication.

These medications are typically **stopped between 3-5 days prior** to surgery. Be sure to get clear instructions from the prescribing provider on when to stop these medications prior to surgery.

The preadmission nurses will provide instructions on how to discontinue use of other medications. If you have any questions regarding medication use prior to surgery, be sure to contact your nurse navigator.

DAY BEFORE SURGERY

You will be called after 1:00 the day before your surgery regarding your surgery and arrival times.

If you have not heard from us by 3:00, please call the hospital at (406) 846-2212.

Please follow these guidelines:

- Follow all pre-operative instructions. Thoroughly review your surgery packet.
- Do not eat after midnight. This includes candy, mints, and gum.
- Drink fluids as instructed: This helps to prevent post-operative nausea and vomiting.
- Drink 400-800 ml (12-24 ounces) of a carbohydrate containing clear liquid before midnight – Gatorade (NOT red, blue or purple), Apple Juice, Pedialyte.
- Drink another 12 ounces of this liquid 2 hours prior to arrival at the hospital.
- If you are diabetic, drink only water using the same instructions as above.
- No smoking, vaping, or other tobacco or nicotine products after midnight the day of surgery.
- Remove fingernail and toenail polish as this can interfere with measurement of vital signs and can harbor bacteria.
- Change the sheets on your bed.
- Shower and use the CHG wipes as instructed. See page 33 in the appendix for instructions.



DAY OF SURGERY

Day of Surgery

You may have the following clear liquids up until 2 hours prior to check-in: Water, apple juice, non-protein sports drink such as Gatorade or Powerade (not red, purple, or blue), black coffee, tea, clear Jell-O, Pedialyte.

NO CREAM/MILK/DAIRY.

Take your medications if instructed to do so the morning of surgery.

Use your inhalers and bring them to the hospital with you.

Brush your teeth

No contact lenses, artificial nails, make up, lotion, colognes/perfumes

Remove all jewelry and leave valuables at home

What to Bring with You to the Hospital

Glasses case, Denture and hearing aid containers

Your insurance card, driver's license or photo I.D., and any co-payment required by your insurance company

C-PAP or Bi-PAP machine, if you use one

Your coach

An overnight bag including toiletries in case an overnight stay is necessary.

Please have these items available for discharge:

Comfortable loose-fitting clothing with elastic waist (no denim)

Well-fitted, flat, non-slip shoes or slippers

Front wheel walker

Home Medications

Do not bring your home medications with you, unless you are instructed to do so. Your nurse will be administering all medications per your surgeon's orders. Your surgeon can track what medications you are taking, how often it is being taken and the amount you are taking. If you are on a rare medication that our pharmacy does not carry, you will be asked to bring this medication to the hospital on the day of surgery. Your medication will be checked by our pharmacy and kept at the nurses' station. Please be sure medication is in its original container.

Arrival at DLMC

The morning of your surgery, please check-in at the front registration desk inside the Emergency Room entrance. There is a DLMC campus map in the appendix to reference for parking.

Once registered, your pre-op nurse will escort you to the pre-op area where you will be weighed and assigned a room.

If you are staying in the area after surgery, not returning home, **DO** bring your home medications with you to resume the morning after surgery.

Pre-op

You will be asked to change into a surgical gown. Your nurse will again review your medical history and medications, check your vital signs and will start your IV. If you are diabetic, please let your nurse know, to ensure a blood glucose level is checked prior to your surgery.

A thigh high compression stocking will be placed on your non-operative leg.

SCDs (Sequential Compression Devices) will also be used throughout your stay in the hospital. These are used to increase circulation and prevent blood clots while sedentary.

We ask that you wear the compression stockings on both legs for 6 weeks after surgery.

You will be given pre-operative medications for pain management as well as antibiotics to reduce the risk of infection.

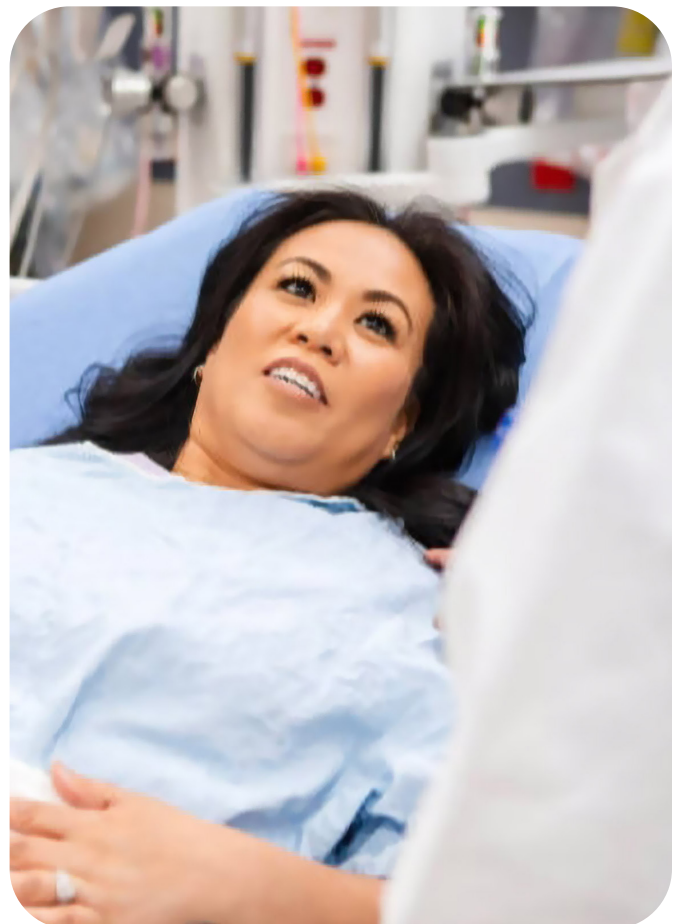
You will meet with your anesthesia provider, operating room nurse and surgeon again just prior to surgery. The surgeon will mark your surgical site. You can ask any final questions at this time. Prior to your going to the operating room, you will be asked to empty your bladder.

Family Waiting

Your family member or friend can stay with you until you are ready to go to the operating room. After that, they can wait in the family waiting area until you are ready to be seen after surgery. The surgeon will look for your family member in the waiting area once the surgery is done. If your family member chooses to leave, the surgeon will attempt to contact them by phone after the surgery.

In the Operating Room

The OR is cold and bright. The surgical team will work to make sure you are comfortable throughout the surgery. The total time for surgery varies, but expect to be in the OR for 1.5-2 hours.



ANESTHESIA AND WHAT YOU NEED TO KNOW

Anesthesia for total joint surgery is geared toward keeping you safe during and minimizing pain and discomfort after your surgery. The anesthesia provider will meet with you just before surgery to discuss your medical and anesthesia history and determine the best plan for your anesthesia.

Total joint surgeries are often performed using regional anesthesia (spinal combined with peripheral nerve blocks). This can help speed up recovery. If this is not a good option for you, then general anesthesia may be recommended.

Spinal Anesthesia

Spinal anesthesia involves placing local anesthesia near the spinal cord to produce loss of sensation (numbness) to the lower extremities. This is the most common type of anesthesia used for total joint replacements in the lower extremities. This procedure includes IV sedation for relaxation followed by local anesthetic to the lower back skin. A small needle is passed after the skin is numb and local anesthetic deposited to make the lower extremities completely numb.

IV Sedation

This allows you to relax and feel very comfortable and sleepy throughout your operation. You breathe on your own with IV sedation.

General Anesthesia

This provides anesthesia for the entire body by changing the way the brain perceives pain. This includes inhaled gas as well as IV medication. A machine helps you breathe while under general anesthesia.

Peripheral Nerve Block

A peripheral nerve block is the temporary numbing of a nerve bundle around the joint to provide temporary pain relief after surgery. This is done prior to being transported to the operating room using an ultrasound machine and needle to place medication near the nerve bundle that covers the affected joint. These nerve blocks typically last 8-24 hours. Once the nerve block starts to wear off, you will regain feeling and have an increase in pain.

Some anesthesia risks include sore throat, nausea, vomiting, and pain. Less common risks include spinal headaches in less than 3% of patients, pin-prickly sensations or numb patches on the operative extremity, and extremely rare life-threatening circumstances that your anesthesiologist will be monitoring you for throughout your surgery.

RECOVERY

Post op in the hospital

Directly after your procedure is done, you will be moved to the recovery area (PACU). The post-op nurses will monitor your vital signs and progress. They will make you feel as comfortable as possible during your recovery. You will be discharged home from the PACU or moved to a hospital room if you need further care.

What to expect from your nurse in the PACU:

- Address your discomfort and treat appropriately with repositioning and medications.
- Monitor for any side effects of medications or anesthesia including chills, dry mouth, nausea or vomiting.
- Apply ice to the surgical site to help keep swelling down and minimize pain.
- Encourage you to cough and take deep breaths to help prevent pneumonia after surgery.
- Assist you to the bathroom and with transfers in and out of bed. Staff will assist you to begin activity such as sitting on the edge of the bed, standing or walking with the front wheel walker.

Physical Therapy

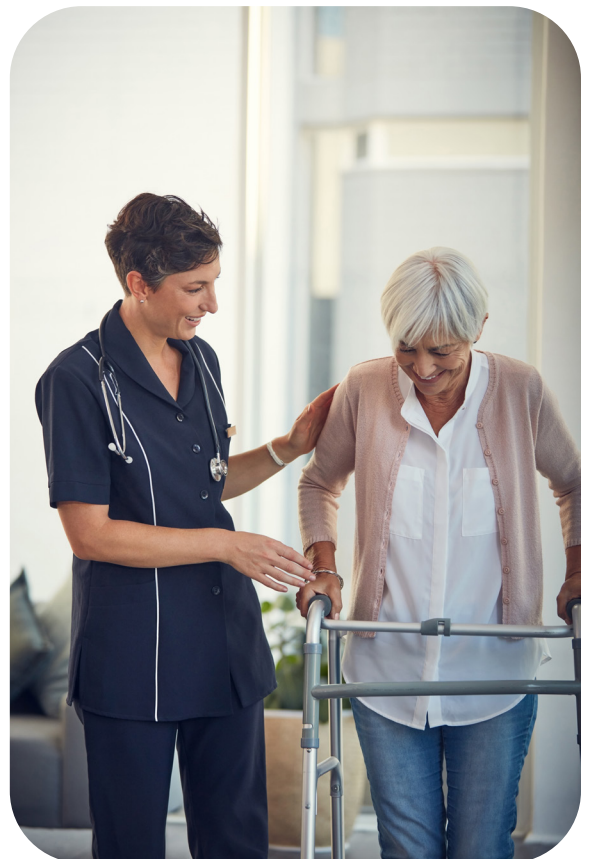
Physical therapy will meet with you prior to discharge. They will ensure that your front wheel walker fits appropriately, instruct on your home exercise program, review your knee precautions, and walk with you to ensure that you are safe doing so. They will review walking stairs, “up with the good, down with the bad.”

Discharge

Your surgery is scheduled for same-day release or 23-hour stay. You will only be admitted to the hospital if more care is required.

Once you have met discharge criteria, you will be discharged home. You will need a ride, someone over the age of 18, not on public transportation and in a mid-sized vehicle for comfort.

You will be given discharge instructions from the hospital. Please review and refer to these for post-operative questions.



PAIN MANAGEMENT

Surgery can be painful. Pain is typically the worst the first 2-3 days after surgery and improves as time passes and your recovery progresses. Staying ahead of the pain will make your recovery much more manageable. When one is in pain, they are less likely to eat, drink, walk, breathe, and participate in recommended activities/exercises. The amount of pain you experience depends on multiple factors and is different for every patient. Your orthopedic team will do everything possible to make your pain manageable using multimodal pain techniques.

Techniques

Medication:

Please follow instructions regarding pain and anti-inflammatory medication use.

Ice and Elevation:

Apply ice to the area for 20-30 minutes at a time, every 2-3 hours for the first 48 hours after surgery and then as needed thereafter. Do not put ice directly on the skin. Elevate the legs (“toes above nose”) to help with pain and swelling

Change position every 45 minutes.

Get up and walk for 10-15 minutes every hour that you are awake.

Opioid Pain Medication

- This will be prescribed to help manage your pain. We will use the lowest effective dose for the shortest time possible after surgery. The orthopedic team will not prescribe opioid pain medication for more than 6 weeks post-op.
- Be sure to take the medication with food.
- Do not drink alcohol or use other recreational drugs while taking opioids.
- Do not drive while taking opioids.
- Common side effects:
- Constipation: drink plenty of water and eat high fiber foods (fruits and whole grains). Take a stool softener while taking opioid pain medication. Exercise and walking is helpful too. If you do not have a bowel movement for two days, please notify the office or your PCP for further recommendations. If you have severe abdominal pain and constipation, go to the ER.
- Nausea and vomiting: Take the anti-nausea medication you were prescribed with your pain medication. If this is not helpful, contact the office for other recommendations.
- Drowsiness: This is common with pain medication use. It will improve as you continue the medication or as you reduce your use of the pain medicine.
- Itching: Prescribed medication can help with this as well. The itching will subside once you stop taking the opioid medication.

ACTIVITY AFTER SURGERY

Activity the first 6 weeks after surgery

It is important to get up and moving after surgery. Being active will help to:

- Prevent blood clots
 - Assist in the return of normal bowel function
 - Get back to your daily routine and activities sooner
 - Prevent lung problems and infections such as pneumonia
- We recommend that you walk 10-15 minutes with a walker every hour that you are awake, starting right after surgery. You can bear weight as tolerated, unless told otherwise by your orthopedic team.
 - Being overly aggressive with activity can lead to increased pain and swelling. If this occurs, just reduce your activity and rest until you are able to walk or do more activity without increased pain.
 - Use a front wheel walker to prevent falls after surgery. Use the walker until you are able to walk normally (without a limp) without the walker. Most patients use the walker for 1-2 weeks and then transition to a cane or walking sticks.
 - Post-operative exercises help to increase strength and flexibility after surgery. Please follow the home exercises present in the back of this booklet, see pages 38-41 in the appendix.

During the first six weeks of your recovery, you can expect to:

- Walk using the front wheel walker or other assistive device
- Shower independently
- Independently dress yourself
- Slowly resume some household tasks

Activity after 6 weeks post op

Increase activity as tolerated after 6 weeks post-op. It is best to choose low impact activities following a total knee replacement and gradually increase your activity as your pain, motion and strength allows. Activities can include the following: walking, hiking, riding a stationary or normal bicycle, gradually increasing weight with weightlifting.

Always be sure to check with your orthopedic team about returning to any specific activity and the recommended timeline to do so.

In general, avoid high impact activities such as:

- running
- jumping
- heavy weightlifting
- contact sports

You can return to low impact sports like:

- swimming
- golf
- skiing on groomed trails
- gardening
- cycling

WOUND/SURGICAL INCISION CARE

Your incision is closed with 4 layers of stiches under the skin. There are no visible stitches or staples. No stitches will need to be removed after surgery.

You can shower starting 24 hours after surgery.

There are 2 dressings (bandages) on your incision after surgery

The outer island dressing



- This is waterproof. You can shower with it in place. Cover with plastic wrap and tape for added protection and to ensure that the incision does not get wet.
- You may notice bleeding or drainage in the center of the dressing. As long as there is no bleeding or drainage leaking out from the dressing, there is no need to worry. Contact the office if you have concerns.
- Remove the island dressing 10 days after surgery. As long as the wound is dry, there is no need to replace this dressing.
- Notify the orthopedic team if this dressing becomes saturated or if there is any drainage, redness, pain or odor around the incision after the island dressing is removed.

A Sylke dressing

White mesh with adhesive is placed directly over the wound and should stay in place at least until your 2 week follow up in clinic.

- If drainage occurs from your incision, leave the Sylke in place, and cover the draining area with a Band-Aid or a gauze dressing. Change this dressing daily until the drainage has stopped.
- You can shower with this dressing in place. There is no need to cover it for showering.
- Trim the Sylke dressing if it loosens from the skin, but do not try to pull it away from the skin.
- Wash your hands with soap and water for at least 20 seconds before and after you remove or change your bandage (if you cannot use soap and water, use hand sanitizer)
- Do not use any lotions, ointments, or adhesives around the incision
- NO SOAKING (bathtub, pool, hot tub, etc) for a minimum of 3 weeks after surgery



DRIVING AFTER SURGERY

Driving after Surgery

When you are no longer taking narcotic pain medication and you demonstrate enough flexibility and strength in your leg to safely drive, you will be allowed to drive again. It is generally recommended to avoid driving until your two-week post-operative office visit. Please keep in mind, these guidelines are monitored and directed by your orthopedic team.

Handicap placard: Complete the included form in your packet and take it to the DMV or fax it to the number listed on the form.



Getting into and out of the car:

- Position the passenger seat all the way back...recline the back.
- Back up to the car until you feel it touch the back of your legs.
- Hold onto the car seat or dashboard...slowly lower yourself to the car seat.
- Swivel and move your legs close to the door jamb of the car.
- Slowly lift your legs one at a time into the car.
- Raise the car seat from reclined before the car starts moving.
- Reverse the process to get out of the car.

AFTER SURGERY

Complications

Call the office if you experience any of the following

- Fever (>100.4°), Shaking Chills, or Drenching Night Sweats
- Increased redness, swelling, and warmth of the skin around incision/dressing
- Increasing pain at the surgical site
- Red streaks in the leg
- Cloudy or foul-smelling drainage from the incision

Decreased appetite

You may notice a decrease in appetite after surgery. This is due to various factors such as anesthesia, pain and the healing process. Be sure to drink plenty of fluids to keep you from becoming dehydrated. Try to eat enough protein and calories as this will help in the healing process. Eventually your appetite will return.

Swelling

It is normal to have swelling and/or bruising for up to a few months after your surgery. Controlling it as much as possible will help with soreness and muscle weakness.

Tips to reduce swelling:

- Keep your leg elevated above the level of your heart when lying down (Toes above nose).
- Use ice on your incision site for 20-30 minutes at least 4 times a day, particularly after activity/exercise.
- Creams such as Ben Gay, Icy Hot, and other such products are NOT recommended.

Sleep after Joint Replacement:

Sleep can be difficult after joint replacement. Pain, swelling, limited mobility, medication side effects, and anxiety can all interfere with your normal sleep cycle after surgery. These can make it hard to fall or stay asleep at night.

A few strategies to help with sleep:

- Sleep where you are comfortable: your bed, couch, or recliner. You may change locations throughout the night depending on your comfort.
- It is best to sleep on your back initially with your leg elevated and knee as straight as possible (avoid bending the knee at night to prevent stiffness and difficulty with extension).

IF IT IS AFTER HOURS OR ON THE WEEKEND, PRESENT TO THE NEAREST EMERGENCY ROOM FOR EVALUATION WITH ANY CONCERN

- Stick to your pain medication schedule. Take pain medication 30-60 minutes before bed.
- Maintain a good sleeping environment
- Cool room: temperature between 60-67° F
- Black out curtains or eye mask to keep the room dark
- Reduce noise with ear plugs or white noise
- Avoid screens
- Gentle activity before bed with light stretching. Avoid strenuous activity/exercise right before sleep.
- Take a warm shower and then ice the knee for 20 minutes before bed if needed.

Sleep can be difficult for several weeks, if not months, after surgery. Be patient. As healing progresses, swelling and mobility improves, leading to better, more restful, sleep.

Constipation

Constipation is where your stool becomes too dry or large to pass easily. It can also mean stools that are too infrequent or irregular. Some medications, like opioids, can cause constipation.

Simple Steps to Reduce the Risk of Becoming Constipated

- Increase fiber intake.
- Drink plenty of liquids.
- Take a stool softener nightly while taking opioids.
- Consider adding a stimulant laxative such as MiraLax if you are feeling constipated.
- If you are constipated and develop severe abdominal pain or vomiting, go to the nearest Emergency Room.



Blood Clots

Surgery can cause blood flow to slow and coagulate in the veins of your legs; this could create a blood clot. A blood clot can form in either leg after surgery.

Signs of a blood clot include:

- Swelling in the thigh, calf, or ankle that does not improve with elevation
- Pain, heat, and tenderness in calf, back of knee or groin area

How to Prevent Blood Clots:

- Perform ankle pumps regularly.
- Walk for 10-15 minutes every hour that you are awake.
- Take your blood thinner as directed:
- Aspirin 81 mg twice daily x 6 weeks or another medication as prescribed
- Return to your regularly prescribed blood thinner (Warfarin/Coumadin, Eliquis, Xarelto, etc)
- Wear thigh high compression stockings (Ted hose) on both legs for 6 weeks post op as recommended.

Pulmonary Embolus

If a blood clot is unrecognized and breaks off from the vein, it can travel to the lungs. This is called pulmonary embolism.

**THIS IS AN EMERGENCY, AND YOU
NEED TO CALL 911 AS SOON AS
POSSIBLE!**

Signs of a Pulmonary Embolism

- Sudden chest pain
- Shortness of breath or Difficult and rapid breathing
- Fainting
- Cough that may include bloody mucous
- Excessive Sweating
- Confusion
- Lightheadedness or dizziness

If you suspect you may have a blood clot in your leg, please call the orthopedic clinic immediately. If a blood clot is suspected, you will be given further instructions for evaluation and management.

**IF IT IS AFTER HOURS OR ON THE WEEKEND,
GO TO THE NEAREST EMERGENCY ROOM.**

LIFE AFTER KNEE REPLACEMENT

Exercise and Physical Activity

It is important to maintain a healthy and active lifestyle after joint replacement. Once you are three months out from your surgery, it is important to get regular exercise three to four times per week lasting for 20 to 30 minutes.

High impact activities such as running, heavy weight lifting, basketball, tennis, racquet ball or other contact sports may put too much stress on your new joint and are not recommended. Low impact activities such as golf, skiing on groomed trails, swimming, pickle ball, and gardening are encouraged.

Dental Care

You must take care to prevent an infection in your total knee replacement. Be sure that you maintain good oral health and go to the dentist for your routine dental care. Antibiotics must be taken prior to any dental procedure, including cleanings, for two years after surgery. Be sure to notify your dentist that you have a prosthetic joint.

Travel

When traveling long distances, in a vehicle or on an airplane, you should change positions or stand every 1-2 hours. When sitting for any length of time, do ankle pumps regularly to keep blood flowing in your legs.

It is not recommended to do any extensive travel for 3 months after surgery. If you do need to travel following surgery, be sure to discuss this with your orthopedic team.

Your new knee may set off the security systems at the airport. You do not need any special documentation to fly with your prosthetic joint. Just be sure to notify airport security that you have had a joint replacement.

Lifetime Follow-Up Visits are Extremely Important

We ask that anytime you have concerns or severe pain that you reach out to the office for guidance or schedule an appointment to be evaluated. It is recommended that you follow up every two years after the one-year follow-up appointment.



FREQUENTLY ASKED QUESTIONS

How soon can I get back to my regular activity?

Typically after six weeks, you can begin to get back to regular activity as your affected leg allows you to. Monitor pain and swelling to help you decide when you need to stop an activity, rest, elevate and ice.

How long do I have to use my front wheel walker?

There is no set time frame that you must use a walker. Once you have functional strength and coordination in your affected leg, you may advance to crutches, cane or no assistive device.

Can I use a cane and/or crutches?

The first few days after surgery, it is typical to use a front wheel walker for safety and balance. Once you are able to walk without significant pain, you can transition to a cane.

What if I need more pain medication?

To get a refill of a prescription, you will need to contact the clinic office at (406) 846-1722. We require a 48-hour turn around time to manage these requests. Due to DEA regulations, we cannot fax them to your pharmacy; they are sent electronically.

DO NOT run completely out of medication prior to calling for a refill.

Why can't I wear make-up?

We evaluate your color during surgery. Your eyes will also be taped closed; eye make-up could cause damage to your eye.

Why do I need to remove my jewelry/body piercings?

You need to remove all jewelry prior to surgery to prevent injury during your surgery. Also, all jewelry harbors bacteria, and you need to do all you can to prevent infection.

Why can't I wear my dentures, wig, etc. during surgery?

Some anesthesiologists need your dentures out during surgery. These will be removed right before you go to the OR.

How long will my legs be swollen?

Most of the swelling will be gone in 6-8 weeks.

When will I be able to get back to work?

When you will be able to go back to work depends on several factors, your job duties, i.e. standing or sitting, and how well you recover from your surgery. Your orthopedic team will help you with your decision.

What should I expect for pain?

Surgery is painful. You should expect some level of pain after surgery. Some patients have very little to no pain when you come out of surgery, some patients have significant pain. The first 2-3 days after surgery are usually the worst. Pain should improve as time passes. We do our best to control your pain after surgery so that you can go home and prescribe medication to help with pain when you are home. It is important to take these medications as instructed for the best outcomes.

Will I bruise?

Most people bruise to some degree; how much depends on the individual.

When can I have sexual intercourse?

You can enjoy sex after surgery, but will have to make a few changes to protect your new joint while it heals. Most patients feel comfortable resuming sex 4-6 weeks after joint surgery. You should begin sexual activity when you feel physically and mentally ready.

How often will I need to be seen by my doctor following the surgery?

You will be seen 2 weeks after your surgery to have a checkup and then at six weeks post-op and again at one year.

I don't know what to expect after I leave the hospital. Should I be okay to be home alone?

After your surgery and during your recovery, the post-operative staff will be working with you so that you will be able to walk safely and manage your daily activities. You will go home with a front wheel walker. In addition to your other medications, you will receive pain medications to take. As you plan for this elective surgery in advance, you need to arrange for someone to drive you home and be with you when you first return, at minimum for 48 hours after surgery, ideally for the first 5-7 days.

I live alone but have relatives who might be able to help, but I just want to go to rehab so I don't bother them since they are busy. Can I do that?

A joint replacement surgery is considered 'elective', meaning it is not an emergency and can be planned for in advance. You will need to contact relatives or friends prior to scheduling your surgery so that you can line up assistance at home in anticipation of being released after surgery. If necessary, home health PT/OT or transitional care can be arranged for after surgery. There are also in-home care agencies that DLMC can put you in contact with in case you want to hire some help at home. This would be an out-of-pocket expense not covered by insurance or Medicare.

Transitional care is a hospital stay that helps patients bridge the gap between their surgical procedure and a safe discharge home. Rehabilitation staff work

closely with patients to build strength and mobility, facilitating a smooth transition home. DLMC's transitional care coordinator can be reached at 406-846-7730 to assist with any questions or to help plan a stay following your surgery.

Will I have a scar?

You will have a scar after surgery. Your surgeon will make the incision no longer than necessary. To help scars heal after surgery, maintain adequate hydration and eat protein-rich foods. After the incision has healed completely after surgery and all the scabs are gone, you can apply lotion, over the counter scar creams, or Vitamin E to minimize scarring. It is also important to keep the scar covered or apply sunscreen to prevent hyper-pigmentation of the scar.

How long will my new knee last and can a second replacement be done?

Your new joint will have a limited life expectancy. The expected life of the new joint will depend on your age, weight, activity level, and medical conditions. Your surgeon will direct you in best practices to help extend the life of the new joint as much as possible. There is no guarantee that your joint will last for any specific length of time. Typically, we expect a joint to last around 20 years.



APPENDIX

- 32 | Recovery Zones
- 33 | CHG instructions
- 34 | Home Safety Checklist
- 35-36 | DME
- 37-40 | PT Exercises
- 41 | Medication Tracker
- 42 | Map of Campus

Total Joint Recovery Zones

Whom to Call When

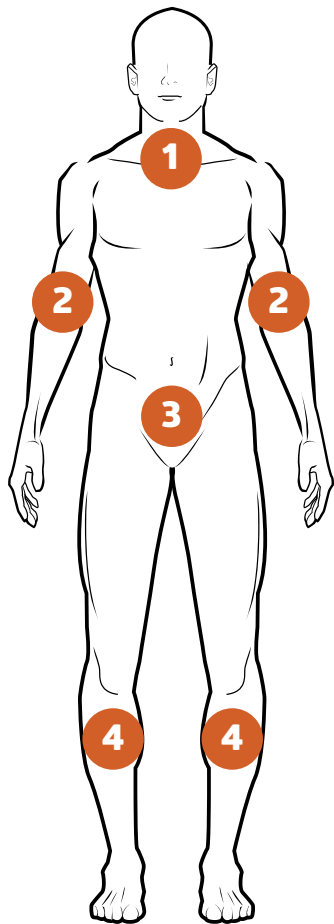
<p>GREEN ZONE "You are in the Clear"</p>	<ul style="list-style-type: none"> • No problems with the incision • Feel better with each day • Pain is acceptable • Appetite is normal • Activity level is returning • Able to do the recommended exercises • Able to go to Physical Therapy (PT) and scheduled appointments 	<p>Your recovery is on track Please call your Orthopedic Nurse Navigator if you have questions</p>
<p>YELLOW ZONE "You have concerns"</p>	<ul style="list-style-type: none"> • Pain is not under control • Bleeding or more drainage from the incision • Incision infection signs: <ul style="list-style-type: none"> ○ Fever > 100.4° ○ Drainage has a smell ○ Drainage is yellow/green ○ New or worsening redness, warmth, and/or pain around the incision ○ Incision separates • Blood clot signs: <ul style="list-style-type: none"> ○ Increased calf pain ○ Increased swelling/redness of the leg or foot 	<p>Call your surgeon's office or Go to Urgent Care/ER</p>
	<ul style="list-style-type: none"> • Nausea or vomiting that won't go away • Constipation • Skin rash 	<p>Call your Primary Care Provider</p>
<p>RED ZONE "Time to act"</p>	<ul style="list-style-type: none"> • Worsening signs of infection: <ul style="list-style-type: none"> ○ Fever with chills and shaking ○ Worsening redness, warmth, and/or pain around the incision ○ Purulent drainage from the incision 	<p>Call your surgeon's office or Go to Urgent Care/ER</p>
	<ul style="list-style-type: none"> • Chest pain • Shortness of breath 	<p>Go to Emergency Room or Call 911</p>



HOW TO USE.

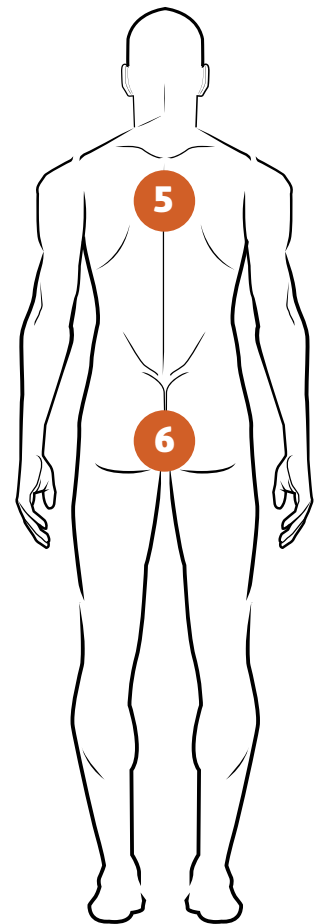
2% CHG SKIN CLEANSING KIT

Use one dry wipe to cleanse each of the following 6 areas of the body. Discard used cloths in trash.



Front

- 1 Wipe your **neck and chest**.
- 2 Wipe **both arms**, starting each with the shoulder and ending at fingertips. Be sure to thoroughly wipe the arm pit areas.
- 3 Wipe your **right and left hip** followed by your **groin**. Be sure to wipe folds in the abdominal and groin areas.
- 4 Wipe **both legs**, starting at the thigh and ending at the toes. Be sure to thoroughly wipe behind your knees.
- 5 Wipe your **back** starting at the base of your neck and ending at your waist line. Cover as much area as possible. Assistance may be required.
- 6 Wipe the **buttocks**.



Back

TIP:

When using this product, repeated general skin cleansing of large body areas should not be done except when the underlying condition makes it necessary to reduce the bacterial population of the skin.

WARNING

- » Keep out of eyes, ears, and mouth
- » Do not use in the genital area
- » If solution should contact these areas, rinse out promptly and thoroughly with water
- » For external use only
- » Call your doctor for medical advice about side effects

HOME SAFETY CHECKLIST

Throughout the Home

- Traffic pattern established...evaluate your usual walkways around your home
- Furniture out of the way...avoid tricky corners, if possible
- Wide enough for walker...hallways, door frames
- Adequate lighting...replace burned-out bulbs, add nightlights
- Sturdy rail for stairs...reaches every step, not loose
- Firm seating with arms...for your recovery resting spot, not cushioned couch
- Necessities within reach...phone/phone charger, remote control, tablet/book
- Sleeping area on 1st floor...if possible, to avoid so many stairs temporarily
- Mail/trash/recycling not piling up...have someone keeping up with this

Floors

- Rugs removed...small area rugs, runners, and warped corners of larger rugs
- Cords/cables out of way...lamp, charging, or extension cords
- Pets not underfoot...also toys and beds
- Clutter removed...newspapers/magazines, mail/packages, shoes, laundry
- Uneven spots repaired...evaluate lifted floorboards, loose carpeting

Bathroom

- Raised toilet seat...preferably with handrails
- Non-skid strips or mat for shower/tub...adhesive decals or mat with suction cups
- Shower stool/tub transfer bench...sturdy, adjustable, and with drain holes in seat
- Grab bars...professionally installed with screws, not suction mounted
- Nightlight...preferably automatic so no bending down to switch on
- Bathing items within reach...shelf for soap, shampoo, washcloth, handheld nozzle

Durable Medical Equipment (DME)



Front Wheeled Walker



Raised Toilet Seat



Bathtub Transfer Bench



Shower Stool



Bathroom Grab Bar



Reacher



Long Shoe Horn



Sock Aid

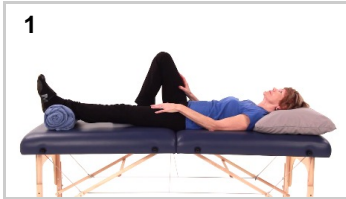


Compression Stocking Aid

**These are examples.
Products vary per vendor.**

Supine Knee Extension Stretch on Towel Roll

SETS: 1	REPS: 3-5	HOLD: 1MIN	DAILY: 2-3
WEEKLY: 7			



Setup

Begin lying on your back with one leg bent, and your other leg straight with your heel resting on a rolled towel.

Movement

Lay in this position with your leg relaxed and knee straight.

Tip

Make sure to keep your back flat on the bed during the exercise.

Long Sitting Calf Stretch with Strap

SETS: 1	REPS: 10	HOLD: 10	DAILY: 2-3
WEEKLY: 7			



Setup

Begin sitting on the floor with one foot stretched in front of you, your other knee bent, and a strap secured around your foot.

Movement

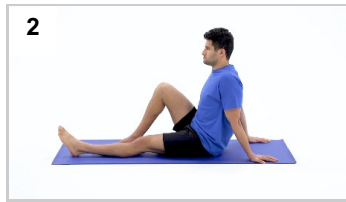
Slowly pull your foot towards you with the strap until you feel a stretch in your calf.

Tip

Make sure to keep your knee straight during the stretch.

Long Sitting Quad Set

SETS: 1	REPS: 10	HOLD: 5	DAILY: 2-3
WEEKLY: 7			



Setup

Begin sitting upright on the floor with one leg laying straight and your other knee bent.

Movement

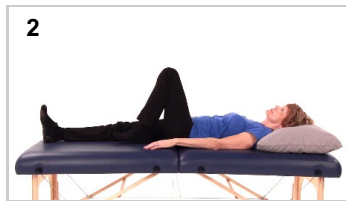
Straighten your leg, pushing your knee toward the floor, and hold.

Tip

Make sure to keep your back straight during the exercise.

Supine Heel Slide

SETS: 1	REPS: 10	HOLD: 5	DAILY: 2-3
WEEKLY: 7			



Setup

Begin lying on your back with your legs straight.

Movement

Slide one heel toward your buttocks, bending your knee as far as is comfortable, then slide it back to the starting position and repeat.

Tip

Make sure to keep your back flat against the bed during the exercise.

Supine Active Ankle Pumps

SETS: 1	REPS: 10	DAILY: 2-3	WEEKLY: 7
----------------	-----------------	-------------------	------------------



Setup

Begin lying on your back with one leg bent and your other leg straight.

Movement

Press your foot away from your body, then bend it back in the opposite direction and repeat.

Tip

Make sure to keep the rest of your leg relaxed and focus the movement on your ankle.

Seated Heel Slide

SETS: 1	REPS: 10	HOLD: 5	DAILY: 2-3
WEEKLY: 7			



Setup

Begin sitting upright with your surgical leg straight forward, foot resting on the floor.

Movement

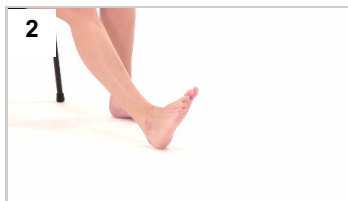
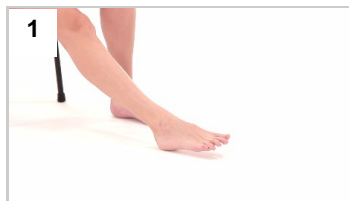
Slowly slide your heel backward, bending your knee as far as you can. Hold briefly, then return to the starting position and repeat.

Tip

Make sure to keep your foot in line with your leg and do not let your foot rotate outward or inward during the exercise.

Seated Ankle Pumps

SETS: 1	REPS: 10	DAILY: 2-3	WEEKLY: 7
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Setup

Begin sitting upright with one leg straight forward.

Movement

Slowly pump your ankle, bending your foot up toward your body, then pointing your toes away from your body, and repeat.

Tip

Make sure to move your foot in a straight line and try to keep the rest of your leg relaxed.

Walk with Walker

DAILY: 3	WEEKLY: 7
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5min/3-4x per day



For Surgery

Enter the Deer Lodge Medical Center campus on Hollenback Road and follow around to the back of the main building. Park in the lot and enter the building through the Emergency Department entrance.

For the Total Joint Replacement Education Class

Follow Hollenback Road to the Lee Jewel Conference Center located adjacent to the east side of the main building.



DEER LODGE
MEDICAL CENTER