KNEE REPLACEMENT

OTTO J. SCHUECKLER M.D.

CENTRAL COAST ORTHOPEDICS

FOREWORD

OTTO J. SCHUECKLER M.D.

It is my pleasure to help you navigate the process of treating your knee arthritis. I have compiled the information in this booklet to help you understand knee arthritis and its treatment. I have been treating patients with varying degrees of knee arthritis in my practice for approximately 20 years. Over that time, the understanding of this disease has advanced and research has shown what treatments are typically most effective.

We have seen improvements in surgical techniques and materials allowing for more durable and predictable results.

I encourage you and your family or friends to read this booklet . I have tried to anticipate the questions that you may have about knee arthritis and knee replacement. Certainly, if there are questions you have, please feel free to bring those up at our appointments. Also, I will be updating this booklet intermittently so please feel free to offer suggestions concerning content that you feel might be useful. I hope you find this booklet useful!

Sincerely,

Otto J. Schueckler

M.D.

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INTRODUCTION

This manual is to help you understand what knee arthritis is and the treatment options available including knee replacement. I have tried to place the most relevant information in this manual in one convenient place for you and your loved ones to review.

THE KNEE JOINT

The knee is a complex joint made by the end of the femur (thigh bone), the tibia (shin bone) and the patella (kneecap). The end of each of the bones is covered with a smooth, slippery and cushioning tissue called cartilage. These three bones articulate together to allow the knee to flex (bend) and extend (straighten) with walking, squatting and during other activities of daily living. Interestingly, the knee joint is not a simple hinge joint.

There is rotation and gliding that naturally occurs with normal range of motion at the knee. When healthy, the knee joint moves smoothly, absorbing stress and gliding easily. Abnormalities in alignment, injury or simple wear and tear can significantly alter the mechanics of the knee causing pain, restrictions in motion and / or poor function. Arthritis is a common cause of knee pain and dysfunction.

WHAT IS ARTHRITIS

A joint is where bones join and move in relation to one another. At the joint, each bone is covered by a specialized tissue called cartilage. Cartilage provides a smooth, guiding surface. Arthritis is the description of the loss of cartilage at the joint. Causes of arthritis include:

Osteoarthritis - is the most common cause of arthritis at the knee. This is the "wear and tear" type of arthritis. Osteoarthritis affects over 27 million individuals in the United States alone.

Inflammatory arthritis - This includes Rheumatoid arthritis. These disorders are due to an autoimmune disease where the body attacks its own cartilage.

Post-traumatic arthritis - Occurs after trauma such as a fracture or ligament injury.

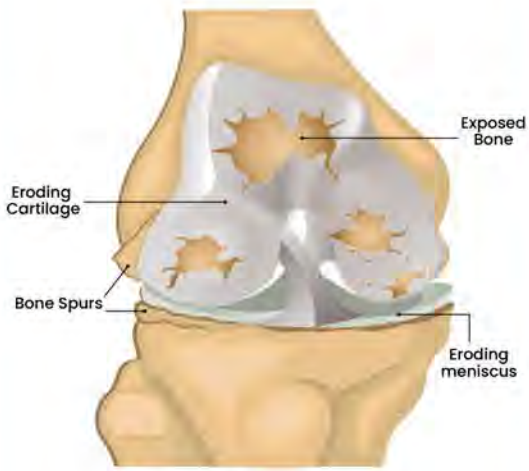
Avascular necrosis - Arthritis may develop if the blood supply to the bone and cartilage is disrupted.

Post-traumatic arthritis - Occurs after trauma such as a fracture or ligament injury.

Avascular necrosis - Arthritis may develop if the blood supply to the bone and cartilage is disrupted.

When the cartilage is lost or destroyed, the underlying bone becomes exposed. As the disease progresses, more cartilage is lost andeventually bone rubs against bone within the joint. The disease is generally progressive and often results in pain , deformity, and stiffness. These problems can have a major impact on your quality of life and activity level.

NORMAL KNEE



ARTHRITIC KNEE

Arthritis of the knee joint is usually easily diagnosed with standing, weight bearing -X-rays. Radiographs (x-rays) findings.

- **Joint space Narrowing**
- **Bone spurs (osteophytes)**
- **Bone cysts**
- **Sclerosis (increased density of bone directly under the joint)**

Occasionally, arthritis is diagnosed from a MRI. In some cases, further imaging of the thigh, hip or back may be performed to look for other possible causes of knee pain.

IMPORTANT! Inform your doctor if you are having pain radiating from your back or hip down the leg, or pain at the groin. This may be a sign of sciatic or hip arthritis which can be mistaken for knee problems.

(X-ray of Normal and worn knee Joint)

TREATMENT

Many patients with knee arthritis are well treated with non-operative measures including

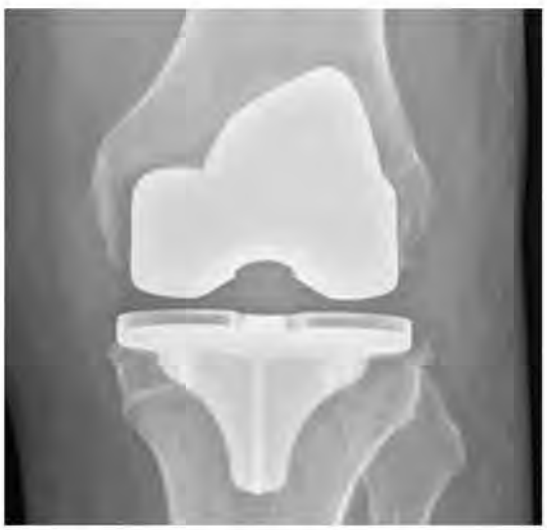
Activity Modification	Over the Counter Medications
Physical Therapy	Topical Treatments
Injections	Braces
Weight loss	Arthroscopy - (Rarely indicated unless there are symptoms of a loose body in the joint)

Narcotic medication - Rarely indicated due to poor control of pain and addiction Patients that have persistent symptoms after non-operative management may consider knee replacement. A course of non-operative treatment is required prior to proceeding with knee replacement.

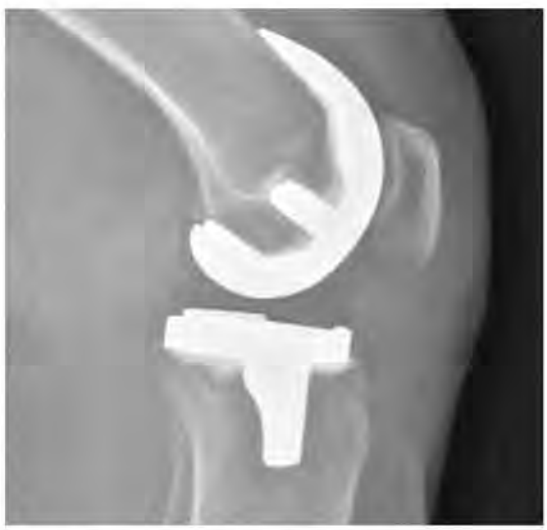
TOTAL KNEE REPLACEMENT

Total Knee Replacement (TKR) is the gold standard when conservative treatment for arthritis of your knee has failed. This procedure involves resecting the ends of the bones of the knee and replacing them with a combination of metal and plastic. The procedure is one of the most successful of all surgical procedures.

- On average, TKR provides 90-95% pain relief.
- Approximately 90% of replaced knees will be functioning twenty years after surgery.
- Better for the more severely affected patient.
- May always have artificial knee feel.
- Patients in poor physical or mental health may not be best for this surgery.



X-ray Knee Replacement-AP view (front view)



X-ray Knee Replacement-Lateral view (side view)

Cemented Implant **Uncemented Implant**

Total Knee Implants

KNEE REPLACEMENT SURGERY

The procedure is performed in the operating room usually under spinal anesthesia with sedation, so you are asleep and do not feel or hear anything . The knee is replaced through an incision in the front of your knee. This incision is made just large enough to see the joint, protect the important structures around the knee and place the implants correctly.

The worn surfaces of the end of the femur, tibia and often the undersurface of the patella are removed and replaced with a combination of metal (Cobalt-Chromium Alloy-CoCr as well as Titanium-Ti) and high-grade medical plastic (polyethylene). The implants are most often secured with bone cement (methyl methacrylate-MMA) however in some cases an uncemented option is chosen. I will order a pre-operative CT scan to help guide the positioning of your knee implants during surgery. At French Hospital Medical Center, I will use the Mako robot during surgery. The advantage of the Mako robot assisted.

Surgery is that I can utilize the pre-op CT scan and laxity data from your knee intra-operatively to determine the best functional position of the knee implant PRIOR to making any bone cuts. This will help me to align the knee replacement to optimize function, range of motion and stability. Also, the robot assisted allows for more precise resection of bone over traditional instrumentation. Even though this is referred to as robotically assisted, I will be controlling the instruments throughout the entirety of the procedure. The CT scan will need to be obtained prior to surgery. Surgery will take approximately 2 hours.

RISKS OF SURGERY

All medical intervention involves risk and benefits . Knee replacement is considered a major surgery. Risks of surgery include risks associated with anesthesia, infection, injury to nerves or vessels , bleeding , blood clots , persistent pain , stiffness , instability , wear or breakage of implants, fractures , need for further surgery , loss of life or limb etc. Fortunately , major complications are rare. I have included an example of the consent form in Appendix C for you to review.

GOING HOME AFTER SURGERY

In most cases knee replacement surgery is done in the hospital setting. I prefer this as my patients may spend one night in the hospital if needed. If you wish to be discharged home the same day as your surgery, please let me know at our pre-operative appointment. You will need to meet certain criteria prior to being released , including a family member or friend that will stay with you overnight , pain reasonably controlled with oral medication , be able to safely ambulate (walk) with a walker or crutches , navigate stairs if you have them in your home and be able to urinate.

In the past many patients were discharged to inpatient rehab facilities after total knee replacement . Studies reveal that there is a higher rate of infection , readmission to the hospital, wound complication and poorer outcomes in patients who went to inpatient rehab. This may be due to intrinsic factors at the rehab facilities or that patients that required inpatient rehab were not good candidates for surgery. Recovery from knee replacement requires the most work on the part of the patient compared to hip or shoulder replacement.

As mentioned previously I will prescribe physical therapy as a non-operative treatment option for knee arthritis but also have the physical therapist perform certain pre-operative functional tests to assess your appropriateness for surgical treatment including a timed up and go test and sit to stand test. We will discuss the results of these assessments in the office as one of the factors influencing the decision to proceed with surgery and the appropriateness of discharge to home.

Post-op Medications : You will be prescribed medications post-op to control pain, decrease the risk of blood clots and control nausea .

DECISION FOR SURGERY

The decision to proceed with surgery is always individual. I will review your symptoms, physical exam findings and imagining with you in the office. The severity of symptoms will dictate the decision to proceed with surgery, however many patients will comment after surgery that they should not have waited as long. There is never a rush. Some people will know right away that they want to pursue surgery as soon as we discuss the presence of arthritis. However, many people will take time to read this manual, talk with family and friends prior to making the decision. If you have significant medical issues or medical history, we will need input from your primary care provider. Ultimately, you will decide when it is time to proceed with surgery.

SCHEDULING SURGERY

Once you have decided that you want to proceed with scheduling your knee replacement, I will provide a Surgical Scheduling Order to my medical assistant. They will provide you with a copy of this manual , as well as paper work to be given to your primary care provider and dentist for pre-operative medical clearances. You will also be provided with a list of due dates for the necessary evaluations/clearances , tests, and visits for surgery.

Once you have scheduled your medical clearance appointment, please contact my medical assistant with the date. Ideally, your medical clearance should be scheduled within 30 days of your preferred surgical date, but the clearance will be valid for six months. You will need to be seen in the office by your physician for the clearance appointment in advance of the due date provided on the due date form.

You will need to schedule a preoperative medical clearance appointment with your primary care provider as well as your dentist and any specialty care physicians, such as your cardiologist; we will contact your primary care physician to alert them that you will be contacting them to schedule pre-operative clearance.

If your medical evaluation is not completed well in advance of your pre-operative appointment with Dr. Schueckler, your surgery will be postponed. At that time, a new date will not be scheduled until all your clearances have been completed and the paper work received by my staff. My staff will call to confirm the date of surgery and schedule the post-operative appointment for 1-2 weeks after your surgery. Our staff will contact your insurance companies and get authorization for surgery.

This manual should contain everything you need to know about your surgery and recovery. However, if you have any questions for me or my staff, you can reach my medical assistant at :

805-541-4600 x 128

IMPORTANT! Knee replacement is a major surgery. You will need to identify family or friend or other care giver to ensure you have someone dependable to help you after surgery. Identify that person or persons now...prior to surgery scheduling!

PREPARING FOR SURGERY 4 WEEKS PRIOR TO SURGERY

PRE-SURGERY PHYSICAL / OCCUPATIONAL THERAPY

I recommend that you attend a one-time physical/occpational therapy appointment prior to surgery. During this appointment, you will meet one on one with a physical therapist who will assess your mobility and physical/occupational therapy needs. Your physical therapist will discuss equipment you may need at home and provide home safety tips. The therapist will also review post-operative range of motion goals and use of crutches or walker. Caregivers are encouraged to attend this appointment to better assist you at home.

PRE-ADMISSION TESTING

Medical clearance is required for surgery. Your pre-admission testing appointment must be completed within 30 days of your surgery to be considered current . Medical clearance may be done with your Primary Care provider. Pre-admission testing will include a medical history and physical exam, blood work (Hemoglobin A1c for diabetics), EKG, and possible X-ray.

CARDIAC PATIENTS/PACEMAKER PATIENTS

If you have a cardiologist, we will need a clearance/risk assessment from that provider. If you have a pacemaker or any implanted electrical cardiac device, please check with your cardiologist to see if this needs to be tested or if any special precautions are necessary before, during or after your surgery.

ITEMS TO BRING TO PRE-ADMISSION TESTING APPOINTMENT:

List of Current Medications –
Detailed list of your current medications, including dosage and frequency. Include respiratory inhalers, hormones, vitamins, herbal supplements, and over the counter medications.

Allergies - List any medication, environmental and/or metal allergies you may have. Please tell me specifically if you have any metal allergies. If these are significant, pre-operative testing may need to be done. Include reactions to anesthesia or blood transfusion restrictions.

Medical History – List of past/current medical issues and surgeries

IMPORTANT!

Please be sure to tell us if you have had a blood clot or bleeding disorder in the past!

Medications- It is important for us to have an accurate list of your current medications.

ARRANGE FOR A CAREGIVER

Most patients will need assistance in their home for the first 1– 2 weeks following surgery. A caregiver should be available to help with meal prep, transportation, medications, housekeeping and initial bathing. You will likely need someone to drive you for several weeks after surgery to physical therapy, doctors' appointments etc. If you are unable to secure a caregiver, please call your surgeon's office to discuss.

PREPARE YOUR HOME

Setting up your home for your return before you have surgery will help keep you safe, make your life easier, and aid in your recovery. Consider the following to help prepare your home for recovery. Prepare a room on the first floor with all the needed supplies so that you can rest during the day Clear pathways into the house and remove clutter around your home. Move obstacles such as throw rugs, extension cords, and footstools. Consider using double-faced tape to secure carpet edges. Make sure you have adequate and accessible lighting throughout the house, especially at the top and bottom of stairs.

Make sure a phone is always accessible and close by. Find someone to help care for your pet if needed. Make meals and ice packs in advance.

DENTAL PROCEDURES

It is important that you have no infections, tooth decay, or dental abscess in your mouth. If you need dental work, you will want to complete this and allow time for healing prior to surgery. You will need a clearance letter from your dentist stating that you have had a recent dental exam and are cleared for surgery.

IMPORTANT!

Inform your surgeon if you have any skin infections, open wounds, dental infections, or urinary infections. These may cause a delay in your surgery. Please tell your surgeon if you have a metal allergy or sensitivity. Inform your surgeon if you are allergic or unable to wear metal or jewelry.

PRE-OPERATIVE MEDICATION INSTRUCTIONS

Unless you have specific instructions from your physician to continue, stop these medications 48 hours before surgery : **Please see Appendix E at the end of this book.**

Chronic Anticoagulants:

Chronic blood thinners, such as Coumadin®, Pradaxa®, Eliquis®, Xarelto®, Plavix® must be stopped prior to surgery. You MUST discuss specific instructions with your prescribing physician prior to surgery.

10 DAYS PRIOR TO SURGERY

Stop aspirin. If you have a cardiac history and have been instructed by your physician to take aspirin, you MUST discuss holding this medication with your prescribing physician. Your cardiologist may instruct you to continue your aspirin regimen. If so, please let me know in advance.

7 DAYS PRIOR TO SURGERY

Stop all NSAIDs , herbal supplements, and vitamins.This includes all ibuprofen and naproxen products, Advil®, Motrin®, Nuporin®, Aleve®, Naprosyn®, Voltaren®, etc. You may take Tylenol® (acetaminophen) for pain up until the day of surgery as needed.

WEIGHT LOSS/DIABETES MEDICATIONS AND SUPPLEMENTS

Check with your primary care physician to adjust your diabetes medications the night before your surgery, as needed. This is especially important if you are on a medication such GLP-1 as these may need to be discontinued a week prior to surgery due to delayed stomach emptying. These medications include:

- Dulaglutide (Trulicity®)
- Exenatide (Byetta®)
- Exenatide extended release (Bydureon®)
- Liraglutide (Victoza®)
- Lixisenatide (Adlyxin®)
- Semaglutide injection (Ozempic®)
- Semaglutide tablets (Rybelsus®)
- Tirzepatide (Mounjaro®)

In addition, there are several supplements that can also cause excessive bleeding. These, too, should be discontinued 7 days before surgery. They include :

Arnica Fish oil Flaxseed Ginkgo Biloba Ginseng Melatonin Saw Palmetto Vitamin E Wintergreen

Your physician(s) will provide instructions regarding medications you should or should not take the morning of surgery.

TWO DAYS PRIOR TO SURGERY

PRE-OPERATIVE SKIN PREP BEFORE KNEE REPLACEMENT SURGERY

Morning: Shower and use anti-bacterial soap Hibiclens on the affected knee, front and back

- DO NOT get hibiclens in your eyes or ears!
- DO NOT use hibiclens on your face or genitals!

ONE DAY PRIOR TO SURGERY

Morningt: Shower and use anti-bacterial soap Hibiclens on the affected knee, front and back.

DO NOT use hibiclens on your face or genitals! I DO NOT get hibiclens in your eyes or ears!

PREVENT CONSTIPATION

Anesthesia and pain medications are both very constipating. Consider taking a stool softener 2 to 3 days before your surgery. Continue with stool softeners for the duration of time that you are taking pain medication. Stool softeners (Senocot-S®, Colace®, Docusate®) are available over the counter.

TIME OF ARRIVAL

The hospital will contact you prior to your surgery and will tell you what time you need to

TRANSPORTATION

Confirm you have transportation available for your discharge.

MEDICATIONS

Follow your specific instructions regarding medications to take and not take the morning of surgery.

SHOWER

Shower with anti-bacterial soap before going to bed the night before your surgery. DO NOT use lotions, perfumes, powders, or cosmetics after your shower.

CONTACTS AND GLASSES

Remove contacts prior to surgery. Bring your glasses to wear, if needed.

FOOD/DRINK

Do not eat or drink anything after midnight unless you have specifically, been told otherwise.

DAY OF SURGERY

WHAT TO BRING WITH YOU

- ✓ Photo ID or driver's license | Insurance card(s) and any co-payments
- ✓ **Medication list** – A detailed list of your medications including the dosage and frequency for each medication. Include prescription and over the counter hormones, herbal supplements and inhalers. Rescue respiratory inhalers, as needed.
- ✓ CPAP/sleep apnea machine, if you use one. Please bring it clean and labelled with your name.
- ✓ Toiletries, as needed.
- ✓ Copy of your Advanced Directives (Living Will) and Durable Power of Attorney and this notebook.

BEFORE DEPARTING FOR THE HOSPITAL OR SURGERY CENTER

Shower – Shower with hibiclens soap on the morning of your surgery.
Dress – Wear comfortable, loose-fitting clothing and non-skid shoes. Do not wear jewelry or cosmetics - Wear glasses (not contact lenses) as needed.
Medication – If you were told to take any medication prior to surgery, do so with a small amount of water.
Packing – Do not bring any jewelry, valuables or cash.
Arrival – You will arrive at instructed time two hours prior to your surgery time.

YOUR FAMILY AND CAREGIVERS

Family members may wait in the surgical family waiting area or leave a phone number where I can contact them after your surgery. I will talk with your family after surgery is completed. Please note that the entire surgical process takes approximately 3 – 5 hours before you see your family.

MAIN GOALS IMMEDIATELY FOLLOWING SURGERY

Pain Control - We want you to be as comfortable as possible following your surgery. Make nursing staff aware if you are uncomfortable so they can help keep your pain well managed. Make sure you understand your discharge instructions. Pay close attention to medication instructions. If you do not understand, please ask questions.

MEDICATIONS

Medications will be given to: Control pain, reduce swelling, help with constipation and nausea. If you have nausea or upset stomach after surgery, please tell your nurse. Other medicines that you normally take may be restarted . Talk with the clinicalcare team about any needs or concerns.

DIET/NUTRITION

Clear liquids and solid food will be started slowly following your surgery. Your diet will be advanced to regular food.

WOUND CARE

You will be instructed on dressing care. If there is no bleeding and the bandage stays sealed the bandage can remain in place until the follow up appointment with me in the office.

BREATHING EXERCISES

Cough and breathe deeply 10 times per hour to keep your lungs fully expanded. This is important to keep your lungs clear and avoid complications such as pneumonia. Bed rest, sleepiness, anesthesia and pain medications often keep you from taking normal, deep breaths.

HOME CARE OVERVIEW

TOTAL KNEE REPLACEMENT

Post-Operative Recovery

A physical/ occupational therapist will evaluate you and provide instructions on ambulation with a walker or crutches. The therapist will also review exercises to be done at home as well as help instruct you on ways to complete activities of daily living. If you stay overnight in the hospital, the therapist will often work with you the following day before you are discharged. Our early goals are safe ambulation, pain control, avoidance of excessive swelling and return to light activities.

Plan on limiting ambulation to your home for several days. It is important to keep swelling and pain down during this time. This will allow you to move the knee easier and hopefully avoid stiffness.

The best way to decrease swelling at the knee after knee replacement is elevation of the knee above the heart. Ice packs or a cold therapy machine may help with this, but the elevation is more important.

You will need to attend outpatient physical therapy 1-2X / week after you are discharged home. Please review the exercises in Appendix B at the end of this booklet.

1 – 2 Weeks After Surgery

Your first post-operative visit will be 10-14 days after surgery. The incision will be inspected, and sutures/staples will be removed. After sutures/staples are removed you may use soap and water to clean incision. Do not use creams or lotions immediately after the sutures are removed. I will evaluate your range of motion.

5 – 6 WEEKS AFTER SURGERY

You will have a follow-up appointment in the office to assess your progress. Physical therapy will continue to work on range of motion, strengthening and conditioning. Exercises and activities will be advanced per therapist instructions.

3 MONTHS AFTER SURGERY

Additional physical / occupational therapy may or may not be given at this visit depending on your progress. Most people can return to most normal activities of daily living at about 3 months after surgery without difficulty; however, it can take 6 months to a year from surgery to fully maximize strength and range of motion.

POST SURGERY & RECOVER-INCISION CARE

DISCHARGE INSTRUCTIONS

Your skin is your first line of defense against infection. It is important for your incision to heal as quickly as possible. The Aquacel (tan colored) dressing was placed over your incision in the operating room. This dressing is intended to be used until you follow up with me in the office. This is waterproof and you may shower with this bandage in place as long as it is well adherent to your skin. No further dressing should be necessary. If the center pad of the dressing shows bleeding or staining to the edge of the pad extending from one side to the other, it should be changed. Please call the office if this is the case. After the dressing is removed, you may shower provided the wound is sealed and not draining.

CLEANING INCISION

- ✓ Do not immerse your incision in water.
- ✓ No tub baths, swimming pools, or hot tubs until your surgeon has evaluated your incision in the office.
- ✓ Do not apply alcohol, peroxide, Neosporin® or any lotions or creams to your incision, unless you are directed by your surgeon. (*A small amount of blood-tinged drainage from your incision is normal after. If your drainage increases, persists or becomes foul smelling, please contact your surgeon's clinic).*

BRUISING & SWELLING

Bruising in the operative extremity is very common after surgery. Sometimes bruising worsens before it improves. Gravity may pull bruising down to your calf, ankle and foot. If you have been elevating your knee as directed, the bruising will tract up the thigh and even to the groin.

NUMBNESS

You will feel some numbness around your incision, particularly at the lateral (outer) aspect of the knee. This is expected and will decrease but will always feel a bit numb.

WARMTH

It is normal to feel warmth or heat in the incision area. Your operative knee may feel warmer than your non-operative knee for months following your surgery. This is part of the healing process and not alarming.

CONTROLLING SWELLING

Ice – Use ice on the wound 4 – 6 times a day for 20 – 30 minutes. Use a barrier such as a thin, clean towel to protect your skin from the cold.

HOME-MADE ICE-BAG RECIPE

Two freezer zip bags, one inside the other.

-Three parts water to one part 70% rubbing alcohol.

-Place mixed liquids in inner bag, freeze and wrap in a towel or cloth\before placing on your skin.

-Bag of frozen vegetables secured inside another freezer zip bag works well.

-Refreeze after each use.

GAME READY OR ICE MACHINE

You may purchase or rent an ice machine. These machines are not required but are an option to assist in swelling and pain control.

MEDICATIONS AND PAIN MANAGEMENT

ANTIBIOTICS

An infection in another part of your body (lungs, kidneys, mouth, skin, etc.) could possibly spread to your new joint. Contact your family doctor and surgeon with any type of infection. To protect your joint, you will need to take antibiotics before any dental visits for 1 year after surgery and prior to invasive dental work such as fillings, root canal or implants for life. Please share your surgeon's antibiotic recommendations with your dentist and other healthcare providers before any dental or surgical procedure .

EXISTING MEDICATIONS

Review your discharge instructions. Pay close attention to what medications are to resume after surgery. Changes to your pre-surgery medication may have occurred. If you have any questions, call the prescribing physician. Review instructions regarding medications such as Mobic®, Motrin®, aspirin, vitamin E and fish oil. Anesthesia and pain medications are both very constipating. We advised you to start taking a stool softener 2 to 3 days before your surgery to prevent constipation. Continue with stool softeners for the duration of time that you are taking pain medication.

Women should not resume hormone replacement or birth control medication for 30 days after surgery. If you have questions, contact your prescribing physician for alternative forms of birth control.

Prescribed Medications/Over the counter medications needed for after Surgery

Tylenol 1000mg by mouth every 8 hours

Celebrex 100mg by mouth every 12 hours

Oxycodone 10mg by mouth every 4-6 hours as needed

Zofran (ondansetron) 4mg by mouth every 8 hours as needed for nausea

Aspirin 81mg by mouth every 12 hours or **Eliquis** 2.5mg by mouth every12 hours

PAIN CONTROL

Pain is expected after joint replacement surgery. Our goal is to control pain so that you can participate in therapy, walk and return to light activities. We use regional anesthesia, nerve blocks as well as local infiltration of local anesthetics around the knee at the time of surgery. We like to use over the counter medications such as acetaminophen (Tylenol) and Meloxicam as the first line of pain medication and then use stronger medicine, such as narcotics if and when needed. We hope to use the lowest dose of narcotic medication for the shortest time to avoid the side effects of these medications such as nausea, dizziness, sedation as well as decrease the risk of longer dependence and addiction to these medicines.

- **Acetaminophen 1000mg by mouth every 8 hours**
  - Avoid if you have a history of liver disease such as cirrhosis
- **Celebrex 100mg Take one tablet by mouth twice per day as needed**
  - Avoid if you have kidney disease, renal failure, bleeding ulcers
- **Oxycodone 10mg- Take one or two tablets by mouth as needed for pain every 4 to 6 hours**
  - Please tell us if you are currently taking narcotic medication or previously have had problems with narcotics in the past.

Blood clot prevention

- Blood clots may occur after lower extremity surgery, particularly joint replacement
- **Aspirin 81mg- Take one tablet by mouth twice per day to decrease risk of blood clots Use for 4 weeks post-op**
  - Avoid if you have had a bleeding ulcer or intolerance to aspirin in the past
- **Eliquis 2.5 mg- Take one tablet by mouth every 12 hours for 12 days**

Call your surgeon's office with questions at any time.

MANAGING SIDE EFFECTS

NAUSEA AND LOSS OF APPETITE

Patients may experience nausea and loss of appetite associated with surgery. Nausea is not unusual, and pain medications may play a part. It usually resolves after several days at home. I will prescribe Zofran, an anti-nausea medication, along with your other medications pre-op.

- Drink plenty of fluids.
- If you are vomiting, please contact your surgeon's office.
- If you are not eating well, you may add a serving of a high protein diet supplement beverage such as Boost®orEnsure®. These can be purchased at most pharmacies and grocery stores.
- **Zofran 4mg- Take one tablet by mouth as needed for nausea every 8 hours**

SLEEP

Difficulty sleeping at night is not unusual after total joint replacement. Many factors can affect the quality of sleep including narcotic use and discomfort due to pain. Overall, sleep deprivation after total joint replacement is manageable through pain management and activity modification.

If you have persistent difficulty sleeping, it is advisable to call your primary care provider who may have other options to help manage sleep disturbances during the post-operative period.

I do not prescribe sleeping pills. If you anticipate difficulty sleeping after surgery, please inquire about obtaining a prescription for a sleep aid from your primary care provider prior to surgery.

DEPRESSION

Mood changes following a major surgery are not unusual. Major surgery is a stress factor both physically and emotionally. Some medications may have depressive side effects as well. Lack of sleep also has an impact on your overall outlook. If you should experience symptoms of depression, reach out to your family physician for assistance.

CONSTIPATION

Constipation can be a problem after surgery and with the use of narcotic pain medication. I recommend starting the stool softener (colace) a day or two prior to surgery and take every day that you are using the narcotic medication. I recommend taking Milk of Magnesia, Magnesium citrate or Dulcolax oral pills or suppository (all available over the counter)if you do not have a bowel movement by 1 or 2 days after the surgery

Colase 100mg- Take one tablet by mouth every 12 hours

Milk of Magnesia- One tablespoon as needed for bowel movement

Miralax- Take One capful with 8oz glass of water

Dulcolax oral or suppository - Take one pill by mouth

PHYSICAL THERAPY AND REHABILITATION

Successful joint replacement rehabilitation starts with a good understanding of the requirements of the parties involved in the process.

I recommend a pre-operative assessment with outpatient based physical therapy to evaluate your ability to undergo the therapy required after knee replacement surgery. The therapist understands what is required to recover meaningful improvement after knee replacement. Outcomes after total knee replacement are better in those patients that attend therapy in the outpatient setting. Surgery may not be a good option for patients that do not feel that they can attend outpatient therapy. You will also need to identify who is able and willing to help you at home during your recovery after surgery. You will not be able to do everything for yourself so identifying what needs you have prior to surgery is important.

You will need to attend therapy 2X /week and perform exercises 3-4X/day after surgery. This is to maintain the motion of the knee that was achieved in the operating room. Also, physical therapy will help you return to a more normal level of function, achieve greater independence with activities of daily living and improve strength and endurance. Most people will be actively doing therapy for 3 months or so after surgery.

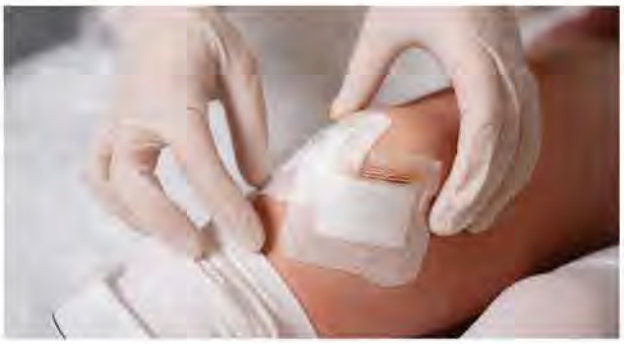
WOUND CARE

Knee replacement is performed through an incision from just above the kneecap to slightly below the knee. This incision is made carefully and just as long as needed to perform your surgery safely. At the end of the surgery your incision is closed and a sterile Aquacel dressing is placed over the incision. I typically leave this on until I see you in the office for your first post-operative visit. This dressing is waterproof for showers (no baths) if it stays attached to your skin. Please contact the office if the bandage appears to be coming off, significant redness surrounding the dressing, progressive bleeding under the bandage or other concerns.

SWELLING/BLOOD CLOTS/PULMONARY EMBOLISM

Swelling of the knee and calf is common and expected after surgery. In most cases, elevation of the operative knee above your heart will greatly reduce swelling. The best way to do this is to lie flat on a bed or couch with the leg elevated on 12-24 inches with pillows, blankets or even a box padded with pillows or a blanket. Generally, a recliner chair does not get the knee high enough. Gradually, you will be able to elevate for less time as swelling resolves. Avoid standing or walking for any longer than 10-15 minutes for the first week or so after surgery.

If you have progressive swelling and pain especially in the calf, this may be a sign of a blood clot. These are rare but can be quite serious. If you have questions, please call the office for direction. If you have pain and swelling associated with difficulty breathing, chest pain or shortness of breath you will need to go to the emergency room to be evaluated for a pulmonary embolism. This is where a blood clot from the leg can dislodge and travel to the lungs.



POST SURGERY & RECOVERY

MEDICATION & PAIN MANAGEMENT CONT'D

WHEN TO CONTACT YOUR PHYSICIAN
WHEN TO CALL THE SURGEON

- Drainage or bleeding from the incision (a small amount of clear drainage is normal immediately following surgery).
- Edges of the incision are separating.
- Increased redness, pain or swelling on or around the incision.
- Pain unrelieved by medication, ice and rest.
- Fever, oral temperature 101° F or greater.
- Swelling that does not improve over a 24–48 hour period with ice, elevation, and rest.
- Persistent nausea or vomiting.
- Inability to urinate for more than 8 hours.
- Fainting or dizziness or severe headache that does not go away.
- Constipation, if none of the steps provided in the Constipation Section on page 11 have been effective within 24 hours.
- Shortness of breath or chest pain could indicate a serious medical emergency. Call 911 and/or go to the nearest emergency room.

FREQUENTLY ASKED QUESTIONS

Q. Is smoking OK after a joint replacement?

A. NO

Tobacco hurts the function of cells in the body that help wounds to heal and fight infection. Smoking for even 10 minutes lowers the amount of oxygen in the body for up to one hour. The more tobacco is used, the less oxygen is available in the body for health and healing. Wound dressings absorb cigarette smoke. This makes it harder for wounds to heal after surgery. It is advisable to quit smoking prior to surgery. Please contact your primary care provider for advice on smoking cessation.

ALCOHOL AND SURGERY

Q. Is it OK to drink alcohol after surgery?

A. Alcohol should be avoided after surgery and especially while you are taking pain medications. Alcohol will seriously increase serious side effects of narcotics and other medications. Alcohol will increase your risk of falling and decrease wound healing.

It is important to be honest with your health care providers about your alcohol use. Tell your surgeon how many drinks you have per day (or per week).

If you drink more than 3 drinks a day, you could have a complication, called alcohol withdrawal, after surgery. Alcohol withdrawal is a set of symptoms people have when they suddenly stop drinking, after alcohol use for a long period of time. During withdrawal, a patient could have symptoms such as mild shakiness, sweating, hallucinations and other more serious side effects. Untreated, alcohol withdrawal can cause potentially life-threatening complications after surgery. If you or your family are concerned about your alcohol use, please review with your primary care provider and your surgeon prior to scheduling surgery.

Q. When can I return to work?

A. Returning to work depends on your individual recovery and how much demand or stress your job puts on your knee. In most cases, patients return to work somewhere between 6 weeks to 6 months after surgery.

Those who have desk jobs will be able to return to work sooner than someone who does a lot of standing, walking, lifting or physical labor.

You may return to work on a part time basis at first and slowly increase your hours to full time. You may also be sent back to work with limitations such as sedentary work only, limited standing and walking and/or lifting restrictions.

Q. When can I return to sexual activity?

A. You may resume sexual activity when you can do so comfortably.

Q. When can I drive?

A. You cannot drive while still taking narcotic pain medications. Also, you will need good pain-free use of your right leg prior to driving so those patients who undergo left knee replacement may be able to safely drive earlier than someone undergoing right knee replacement.

Q. Can I return to activities/sports?

A. Do not use exercise equipment, whirlpools or spas without discussing this with your surgeon first. Talk with your surgeon about the type of sports in which you participate. We will need input from your physical therapist regarding your progress, strength and endurance in deciding when to return to activities. Walking, hiking, golf, doubles tennis, pickle ball are generally well tolerated. I do not recommend running, skiing or martial arts after a knee replacement due to the increased risk of catastrophic ligament injury, loosening or fracture.

Q. What if I live alone?

A. Arrange to have a caregiver with you for the first week or two following your surgery. Only medically eligible patients will be discharge to a skilled facility for further therapy and recovery.

Additional Questions

This booklet was designed as a comprehensive guide to take you full circle through every aspect of your knee replacement surgery. If there are any questions you have or you need further clarification on anything, please do not hesitate to call our office.

APPENDIX A

SHOPPING LIST/PHARMACY

1. **Acetaminophen** extra-strength 500mg
2. **Meloxicam** 7.5mg
3. **Aspirin** 81mg
4. **Oxycodone** 10mg
5. **Colace** 100mg
6. **Zofran** 4 mg
7. **Optional**- for constipation
    a. **Milk of Magnesia-** One tablespoon as needed for bowel movement
    b. **Miralax** - 1 Capful with glass of water
    c. **Dulcolax** oral or suppository: Take one pill by mouth
8. **Ice packs gel type or ice machine**

APPENDIX B

HOME EXERCISES

The following exercises are basic movements designed to help restore range of motion and encourage muscle function in the early post-operative period. You should attempt to perform these exercises several times a day after surgery, without over doing it! Gentle range of motion is more important than walking great distances. We want to obtain range of motion while trying to limit swelling. Your physical therapist will help guide your progress. Feel free to practice these exercises before surgery so you can find where in your home you are most comfortable and if you may need to modify any of the exercises due to other physical limitations.

HEEL SLIDES

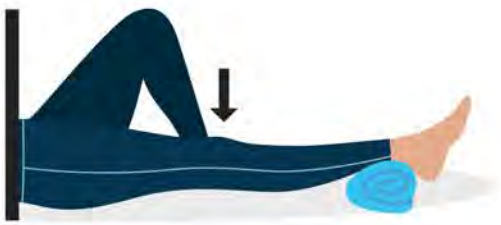
Slide heel toward the buttocks while lying down, flex the knee to 90 degrees, then straighten the leg.

STRAIGHT LEG RAISES

Lying flat, keeping the operative leg straight, raise the leg off of the floor or bed 6-12 inches. Hold for 1-3 seconds.

KNEE EXTENSIONS

Roll up a towel and place under the ankle. Then tighten your quadriceps (thigh muscle) trying to push the back of your knee down to the floor or bed.

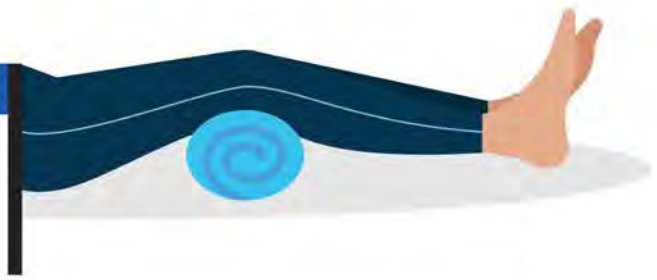


ANKLE PUMPS

Pull your toes and foot back and forth to pump the muscles in your calf.

QUAD SETS

Place a rolled towel behind your knee and lift the heel off of the floor or bed.



SEATED EXTENSIONS

Sitting with the knee bent, extend the knee straight.

APPENDIX C

SURGICAL DISCLOSURE AND CONSENT

Total Knee Arthroplasty

Surgical Disclosure and Consent

TO THE PATIENT : You have the right to be informed about your condition, the alternative methods available to treat it, and the risks associated with treatment and non-treatment. In that way you may make the decision whether or not to undergo the treatment I have recommended after knowing the risks and possible complications involved. This disclosure is not meant to frighten or alarm you; it is simply an effort to make you better informed so you may give or withhold your consent to the procedure. Please do not hesitate to ask any questions you may have about your condition or about the methods that can be used to treat it.

I understand that Dr. Schueckler may discover other or different conditions which require additional or different procedures than those planned. I authorize him, his associates, technical assistants, and other health care providers to perform such other procedures as are advisable in their professional judgment. I authorize such use of blood or blood products and x-ray and laboratory services as are advisable in their professional judgment. Other persons in attendance during surgery for the purpose of providing other specialized professional services may include equipment and implant representatives. Also in attendance may be students or other observers required to be in attendance as part of their professional education. I understand that no promise or guarantee has been made to me as to the result of the treatment or that I will be cured. I understand that my condition may be the same or worse after the treatment proposed. Just as there are risks and complications in not treating my present condition, there are also risks and complications related to the performance of the total knee replacement planned for me. I realize that the risks and possible complications of a total knee replacement include, but are not limited to:

Risks and Possible Complications of a Total Knee Arthroplasty

- ✓ Infection
- ✓ Injury to nerves or blood vessels
- ✓ Bleeding
- ✓ Anesthetic Complication
- ✓ Allergic Reactions
- ✓ Wound Healing Complications
- ✓ loss of motion
- ✓ Failure of the Prosthetic Components
- ✓ Persistent Pain
- ✓ Failure of Component Fixation
- ✓ Ligament Injury
- ✓ Need for Repeat Surgery
- ✓ Paralysis
- ✓ Scarring
- ✓ Hemorrhage
- ✓ Heart Problems (myocardial infarction) and even Death
- ✓ Foot Drop
- ✓ Blood Clots in the Veins or Lungs

DEEP VEIN THROMBOSIS (DVT)/PULMONARY EMBOLUS

I understand that the use of anesthesia to put me to sleep during surgery and/or the use of a spinal anesthetic to relieve and protect me from pain during the knee replacement proposed also involves risks and possible complications. I understand that the use of any anesthetic may result in lung and respiratory problems, heart problems, drug reaction, paralysis, brain damage, or even death. Other risks and complications, which may result from spinal and epidural anesthetics include headaches, chronic pain, and infection. I have been given the opportunity to ask questions about my condition, alternative forms of anesthesia and treatment, risks of non-treatment, procedure to be used, and the risks and complications involved, I believe that I have sufficient information to give this informed consent. I certify this form has been fully explained to me, that I have read it or have had it read to me, that the blank spaces have been filled in, and that I understand its contents. I consent to proceed with the procedure.

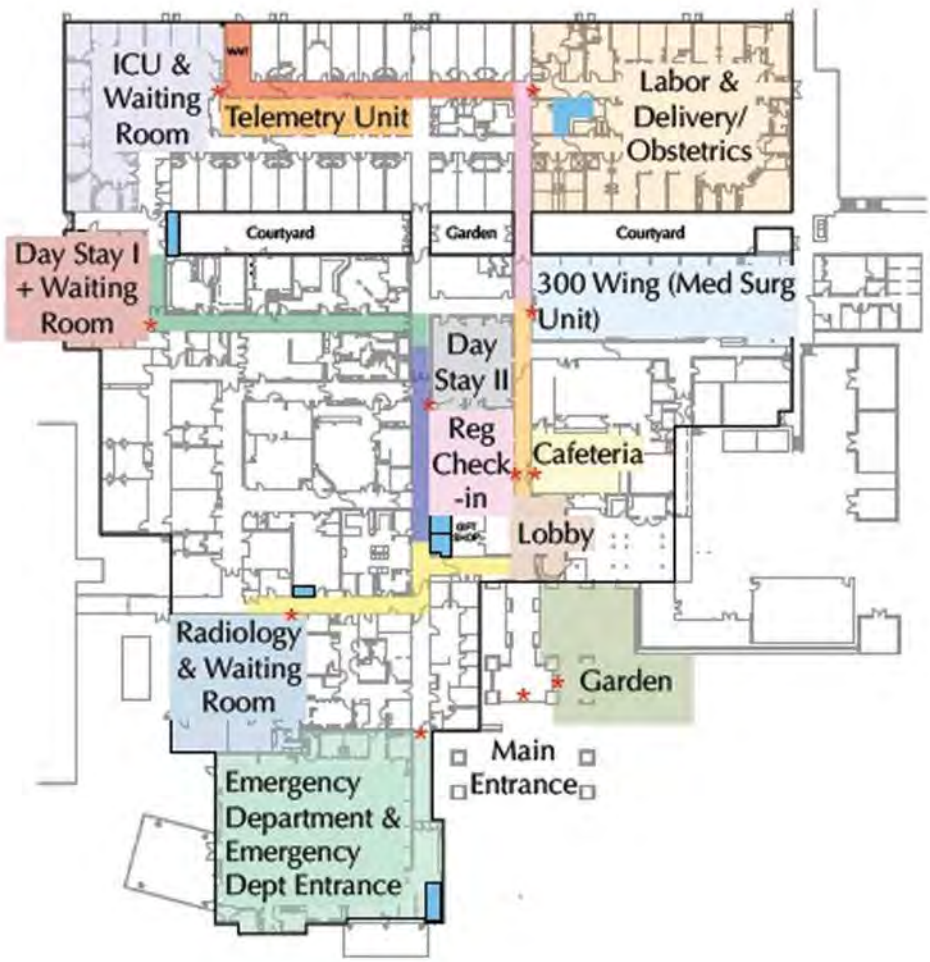
Witness Signature _____

Patient / Agent / Guardian Signature _____

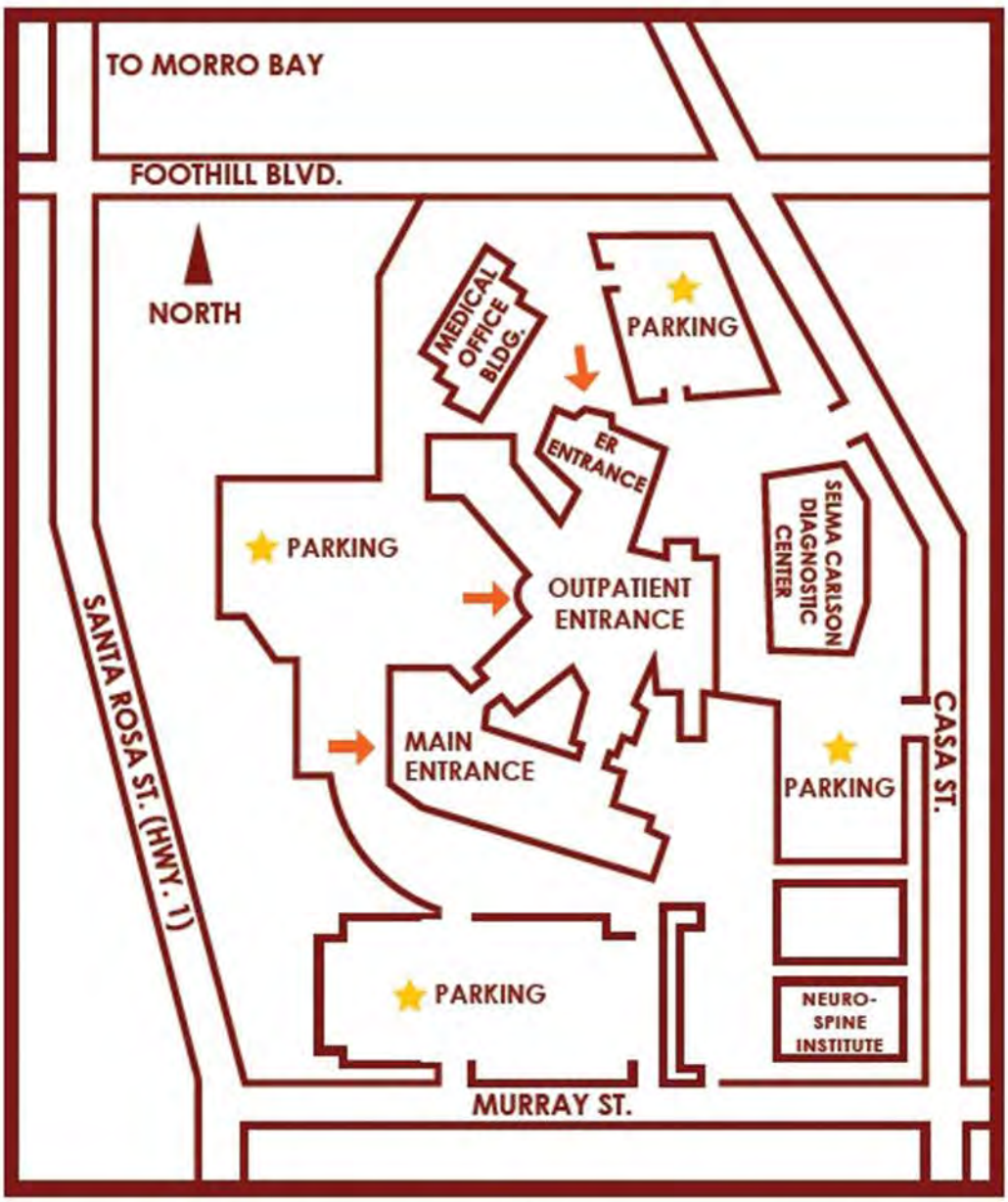
Provider Signature _____

APPENDIX D HOSPITAL MAPS

FRENCH HOSPITAL CAMPUS



SIERRA VISTA REGIONAL MEDICAL CENTER



Sierra Vista Regional Medical Center: 1010 Murray Avenue, San Luis Obispo

Medical Office Building: 35 Casa Street, San Luis Obispo

Selma Carlson Diagnostic Center: 77 Casa Street, San Luis Obispo

Sierra Vista Neuro-Spine Institute: 1064 Murray Avenue, San Luis Obispo

APPENDIX E

Patient Name: _____ Date of Surgery: _____

Pre-Op Medication Instructions

CARDIAC MEDICATIONS:

ACE-I/ARBS: Hold for 24 hours prior to surgery (skip morning of surgery and evening before)

- ☐ Benzopril (Lotensin)
- ☐ Captopril (Capoten)
- ☐ Enalapril (Vasotec)
- ☐ Lisinopril (Zestril)
- ☐ Losartan (Cozaar)
- ☐ Valsartan (Diovan)

DIURETICS: Hold on day of surgery

- ☐ Eplerenone (Inspra)
- ☐ Furosemide (Lasix)
- ☐ Hydrochlorothiazide (Microzide)
- ☐ Metolazone (Zytanix)
- ☐ Spironolactone (Aldactone)

PAIN MEDICATIONS:

NSAIDS: Hold for 1 week prior to surgery.

- ☐ Aspirin
- ☐ Celecoxib (Celebrex)
- ☐ Diclofenac (Voltaran)
- ☐ Etodolac (Lodine)
- ☐ Ibuprofen (Advil, Motrin)
- ☐ Indomethacin (Indocin)
- ☐ Ketorolac (Toradol)
- ☐ Meloxicam (Mobic)
- ☐ Nabumetone (Relafen)
- ☐ Naproxen (Aleve, Naprsyn, Anaprox)
- ☐ Oxaprozin (Daypro)
- ☐ Piroxicam (Feldene)
- ☐ Rofecoxib (Vioxx)

PSYCHOTROPIC MEDICATIONS:

STIMULANTS: Extended release formulation: Hold for 24 hours (i.e. Focalin XR, Adderall XR, etc.); otherwise, hold the morning of surgery

- ☐ Dexmethylphenidate (Focalin)
- ☐ Dextroamphetamine (Adderall)
- ☐ Lisdexamfetamine (Vyvanse)
- ☐ Methylphenidate (Concerta)
- ☐ Methylphenidate (Ritalin)

Other Medications:

DIET MEDICATIONS:

- ☐ Phentermine - hold for 4 days prior to surgery
- ☐ Contrave (Naltrexone/bupropion) - hold 24-48 hours prior to surgery

ANTICOAGULANTS: Hold prior to surgery, UNLESS OTHERWISE INSTRUCTED BY A CARDIOLOGIST

- ☐ Apixaban (Eliquis) - hold 24-48 hours prior to surgery
- ☐ Clopidogrel (Plavix) - hold 5-7 days prior to surgery
- ☐ Rivaroxaban (Xarelto) - hold for 24 hours
- ☐ Warfarin (Coumadin) - hold 5 days prior to surgery

BIGUANIDES: Hold for the night before and morning of surgery.

- ☐ Metformin

GLP1-AGONISTS: Weekly Injectables: Hold for one week prior to the surgery; Daily injectables: Hold day of surgery and IF POSSIBLE, 24 hours prior to surgery

- ☐ Semaglutide (Ozempic, Wegovy)
- ☐ Liraglutide (Victoza, Saxenda)
- ☐ Tirzepatide (Mounjaro, Zepbound)

SGLT-2 INHIBITORS: Hold for 3 days prior to day of surgery if feasible, > 24 hours minimum

- ☐ Canagliflozin (Invokana)
- ☐ Dapagliflozin (Farxiga)
- ☐ Empagliflozin (Jardiance)
- ☐ Ertuglifozin (Steglatro) - hold 4 days prior to surgery

HERBAL SUPPLEMENTS: Hold for 7-14 days prior to surgery; **VITAMINS can be continued as normal**

- ☐ Ephedra - hold for 24-48 hours
- ☐ Fish Oil - hold for 7 days
- ☐ Garlic - hold for 7 days
- ☐ Gingko- hold for 36 hours
- ☐ Ginseng - hold for 7 days
- ☐ Kava - hold for 24 hours
- ☐ Turmeric - hold for 24 hours
- ☐ Kratom - taper to lowest possible date of surgery before day of surgery
- ☐ Ma-Huang - hold for 24-48 hours
- ☐ St. John's Wort - hold for 7 days
- ☐ Valerian - taper to lowest possible dose before day of surgery

OVER THE COUNTER MEDICATIONS: Continue allergy medication; hold for 24 hours prior to surgery

UROLOGIC: Hold for 24 hours prior to surgery

- ☐ Sildenafil (Viagra)
- ☐ Tadalafil (Cialis)

****FOR ALL OTHER MEDICATIONS PLEASE CONTINUE AS NORMAL, UNLESS OTHERWISE INSTRUCTED BY YOUR PRIMARY CARE OR TREATING PROVIDER****

Medication Name:	Date of Last Dose:

CONTACT US

805-541-4600

WWW.CENTRALCOASTORTHO.COM

862 MEINECKE SUITE 100
SAN LUIS OBISPO, CA 93405

SCAN QR CODE TO SHARE THIS BOOK WITH FAMILY, CARE TAKERS AND FRIENDS