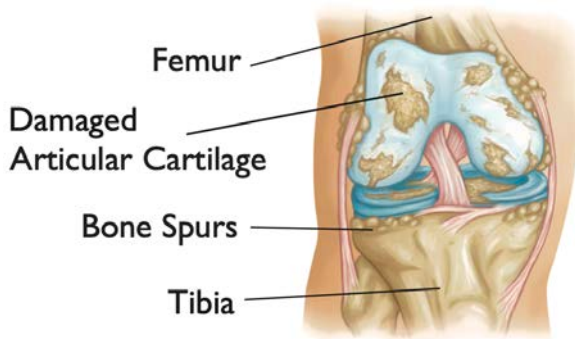
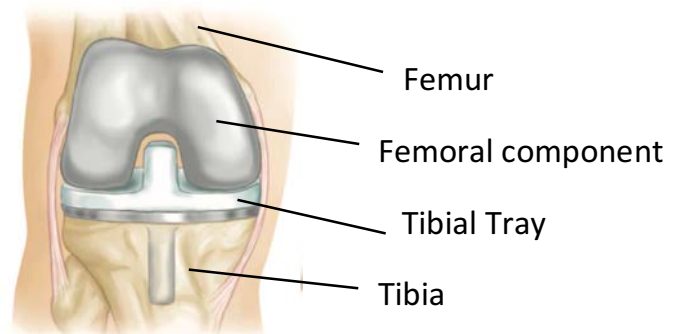


Your Knee Replacement with Dr. Jesse Chrastil



An osteoarthritic knee



A knee after knee replacement

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Important Phone Numbers for Your Surgery with Dr. Chrastil

Clinician Liaison:

Alex Hoffman

Clinic line – (720) 497-6191

720-497-6704 – Fax

Email – drchrastilpc@panoramaortho.com

Surgery Scheduler:

Destiney Smith

Surgery Scheduling Phone line – (303) 274-7311

Email – dsmith@panoramaortho.com



Physician's Assistant:

Cody Vann, PA-C

Clinic line – (720) 497-6191

Email – drchrastilpc@panoramaortho.com

Triage:

Medical questions or concerns requiring immediate attention

7:00 am – 5:00 pm

Triage Line – (303) 233-1223; Option 3; Extension 1100

Clinic Appointment Scheduling:

(303) 233-1223; Option 2, Option 1

Non-medical related questions:

Billing office, worker's compensation, privacy office, etc.

(303) 233-1223

Important Phone Numbers for Your Surgery with Dr. Chrastil

Lincoln Surgery Center:

Main Line – (720) 542-6700

www.LincolnSurgeryCenter.com

Sky Ridge Medical Center:

Main Line – (720) 225-1000

Schedule preoperative class – (720) 225-2229

www.skyridgemedcenter.com

Centennial Hospital:

Main Line – (303) 699-3000

OrthoColorado Hospital:

Main Line – (720) 321-5450

Preoperative Class – (720) 321-5618

Total Knee Replacement Surgery

Overview

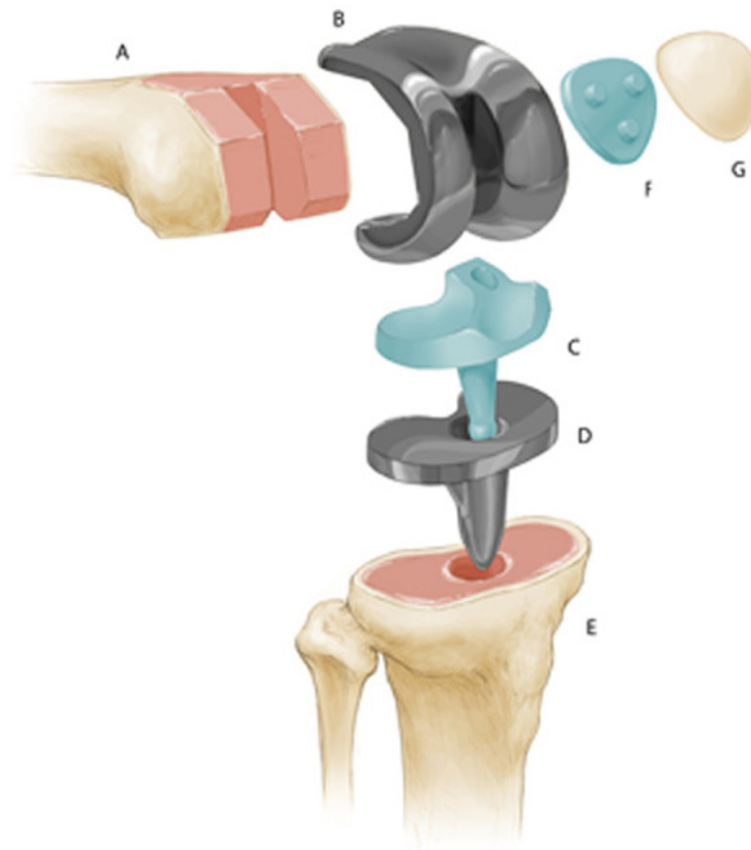
The wording of total knee replacement surgery is a bit of a misnomer. It is much more of a “knee resurfacing” procedure than a true “replacement”. Very little bone is removed during the procedure and only the damaged arthritic bone is removed. It is only the bony surfaces that are replaced with metal and plastic not the entire joint.

To find out more watch Dr. Chrastil’s videos at:

<https://www.panoramaortho.com/find-a-doctor/jesse-chrastil/>

Or an animation from the American Academy of Orthopaedic Surgeons:

<https://orthoinfo.aaos.org/en/treatment/total-knee-replacement-animation/>



Components of knee replacement surgery. The femur is cut (A) to fit the femoral component (B); the tibial plate (D) inserts into the hollowed-out tibia (E); the spacer (C) sits between the femoral and tibial implants; the patellar implant (F) fits onto the underside of the knee cap (G).

An overview of what to expect:

- The surgery itself takes 60-90 minutes.
- We usually do the surgery with a spinal anesthetic minimizing the amount of sedating medications you need during surgery (*but yes, you are still sleeping through the surgery*).
- You will wake up in the recovery room.
- You will be able to place as much weight as you would like to on the knee following surgery (once the anesthesia has worn off).
- Physical therapy will start almost immediately after your surgery.

Surgery at Sky Ridge Medical Center, OrthoColorado, & Centennial Hospitals:

- Most hip and knee replacements done in the hospital setting will stay overnight and will be discharged to home the next day. We can discharge you the same day if you would like, but this is a conversation to have with Dr. Chrastil and your team.

Surgery at Lincoln Surgery Center & other Panorama Associated Surgery Centers:

- Knee replacement in a surgery center is safe and Dr. Chrastil does them routinely. The benefit is you are able to go home the same day as surgery. If you do need to stay overnight for a medical reason, we can provide that level of care at the surgery center.

Physical Therapy usually starts 4-7 days after surgery.

You will follow up with Dr. Chrastil and his team at 2 weeks and ~6 weeks following surgery

Scheduling Surgery

- After you have decided with Dr. Chrastil it is time to proceed with knee replacement you will be given information (including this booklet), you will fill out some paperwork, and sign a consent form stating you understand the risks and benefits of the surgery.
- Destiney Smith, Dr. Chrastil's surgical scheduler, will contact you within a week of signing up for surgery. IF you have *not* heard from us within a week reach out to Destiney (see page 3 for contact information) to schedule.
- For financial guidance and what your insurance plan covers please call our Business office (see page 3 for contact information) and speak with one of our preauthorization specialists.
- ***Prior to surgery, you will NEED medical clearance from your primary care provider. If you do not have a primary care provider please let us know and we will arrange medical clearance for you.***
- Avoid any injections of the operative knee **3 months** prior to surgery

Preparation for Your Knee Replacement Surgery

6 weeks prior to surgery:

Dr. Chrastil and his team recommend you identify a friend or family member as your “**total joint care provider.**” This person can:

- Attend education sessions with you
- Stay with you for the first 2-3 days following surgery
- Help with medications, care, transportation, etc.
- Take you home from hospital/surgical center
- Help you manage stress & anxiety following surgery

Arrange a Surgical Clearance Visit with your primary care provider:

- This is important, **surgery cannot proceed without prior clearance**
- Please schedule this visit to take place 20-30 days prior to surgery
- If it occurs too close to surgery (less than 10 days) then any tests that may need to be ordered might not get done in time and surgery will have to be postponed
- If you do not have a primary care provider or they are unable to clear you for surgery, contact us at (720) 497-6191 or drchrastilpc@panoramaortho.com, and we will arrange clearances

Pre-surgery Dental Screening:

- You should have a dental exam within 6 months of surgery to ensure there are no major issues
- Dental issues could lead to increased risk of infection in your new knee joint
- Major dental work must be completed at least 1 month prior to surgery
- Non-urgent dental work should be postponed 3 months following surgery

- Antibiotics for dental procedures are no longer recommended after knee replacement for “routine cleanings” unless underlying health concerns (immunocompromised patient) or major dental issues are encountered (active dental infection). Please contact us with questions about this.

Tobacco use:

Tobacco cessation is important in the recovery following a knee replacement. Use of tobacco immediately prior to surgery or during recovery increases risks of infection and post-operative complications. Speak with Dr. Chrastil or his team with any questions about tobacco cessation.

2 weeks prior to surgery:

Physical therapy:

- It is helpful to have therapy set up and arranged prior to your surgery date.
- It is often helpful to set up a therapy session PRIOR to surgery doing an initial “*Pre-hab*” visit showing you exercises to do in preparation for surgery.
- You should have your first formal therapy visit 4-7 days after your knee replacement surgery

Obtaining canes and walkers:

- Purchase or borrow a two-wheeled walker (often used for 1-2 weeks)
- A cane is a nice transition piece from the walker (additional week)
- Optional purchases are: shower chair, toilet seat riser, hand-held shower sprayer

1 week prior to surgery:

- Contact Dr. Chrastil if there is any change in your medical condition prior to surgery (illness, infection, cuts/scrapes, etc.)
- Do not shave legs the week of surgery to avoid cuts or nicks
- Make sure your “total joint care provider” is still available and prepared
- If you have pets arrange for care as they may be tripping hazards and they should be kept away from your incision to minimize infection risk
- Remove small rugs or tripping hazards throughout your home

1 day prior to surgery/Day of surgery:

- Stay well hydrated the day before the surgery (water, juice, Gatorade)
- Do NOT eat or drink anything after midnight the evening prior to surgery. If you eat the morning of surgery, your surgery will have to be cancelled
- The night before and morning of surgery, wash with a Chlorhexidine Gluconate (CHG) wipe/solution or the solution prescribed by the facility where you are having your surgery (see attached for more information & instruction). This will help prevent infection.
- The morning of surgery, only take medications as instructed by your primary care provider or by Dr. Chrastil
- Bring your glasses, hearing aids, dentures to the hospital with you
- Bring your photo ID and insurance card to the hospital
- Wear loose fitting clothes and supportive easy to slip-on shoes
- Do not apply lotions, deodorant, perfumes
- Leave valuables and jewelry at home
- Make sure your contact information is up to date and be available the day of surgery in case the hospital or someone on Dr. Chrastil's team needs to contact you.

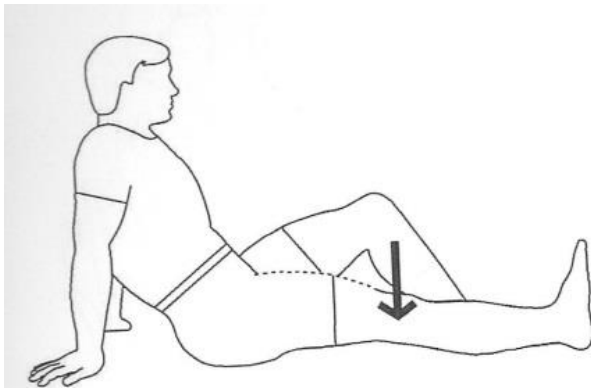
Anesthesia:

- On the day of surgery your anesthesiologist will discuss the anesthetic plans with you.
- Most patients receive a spinal anesthetic with sedation so you will be numb from the waist down until this wears off.
- You will be sleeping and unaware of the surgery but with less medication administered than a general anesthetic would require.

Pre-Operative Exercise

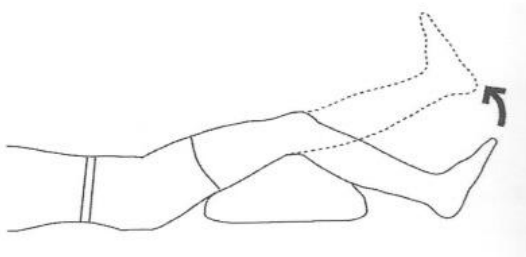
- If you are currently performing an exercise program, continue to do so.
- If you are not currently performing an exercise program, you may incorporate exercises as directed on the handouts in this booklet.

Quad Set



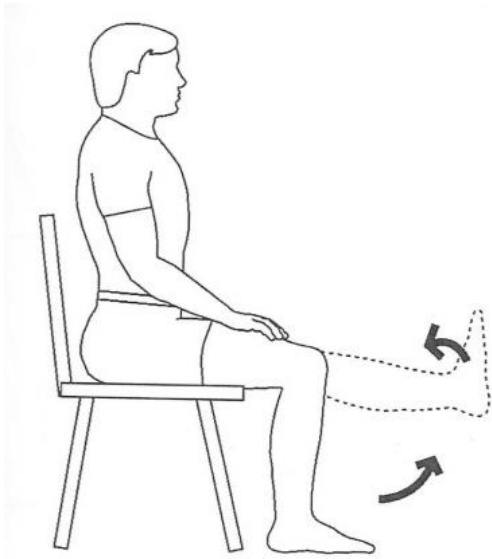
- Sit with involved leg extended
- Tighten quad muscles on front of leg, trying to push the back of the knee downward.
- Do not hold breath.
- Perform 1 set of 10 repetitions, once a day. Hold muscle contraction for 10 seconds.

- Supine Knee Extension



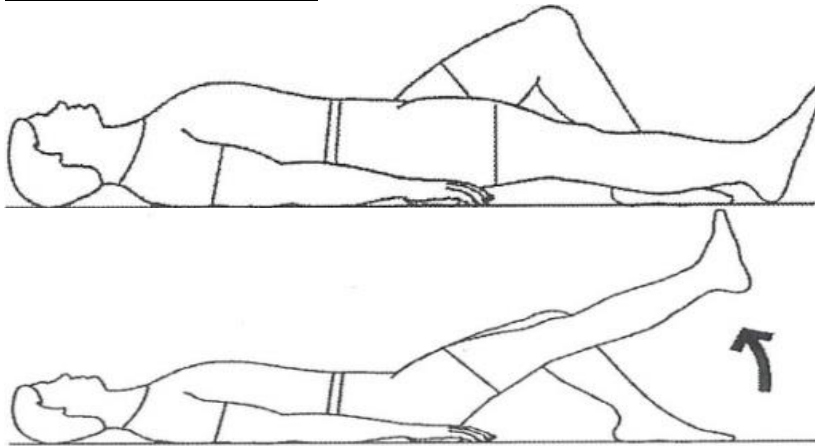
- Lie on back, with involved leg bent to 45 degrees, supported with a pillow, as shown.
- Straighten leg at knee.
- Return to start position.
- Perform 1 set of 10 repetitions, once a day. Perform 1 repetition every 4 seconds.

Seated Knee Extension



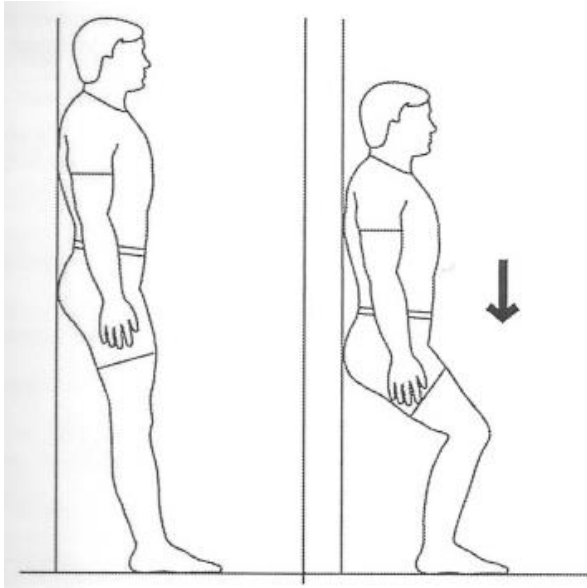
- Sit against a wall, chair, or on firm surface, knee bent.
- Keep a proper curve in low back, as shown.
- Flex foot upward, while straightening knee.
- Repeat stretch with other leg.
- Do not allow low back to lose the curve. It is common to experience shaking in the leg. Perform 1 set of 4 repetitions, once a day.
- Hold contraction for 20 seconds.

Straight Leg Raise



- Lie on back with uninjured knee bent as shown.
- Raise straight leg to thigh level of bent leg.
- Return to starting position.
- Perform 1 set of 10 repetitions, once a day. Perform 1 repetition every 4 seconds.

Mini Wall Squat



- Lean on wall, feet approximately 12 inches from the wall, shoulder distance apart.
- Bend knees to 45 degrees.
- Hold 5 seconds.
- Return to starting position.
- Special Instructions:
- Perform 1 repetition every 4 seconds. Perform 1 set of 10 repetitions, once a day.

Medications before Surgery

Stop at Least 7 Days Prior to Surgery

Stop all Aspirin* containing products such as:

Coated ASA	Uncoated ASA	Ecotrin	BC Powder	Disalsid
Salsalate	Dolobid	Diflunisal	Alka-Seltzer	Goody Powder
Norgesic	Pepto Bismol	Percodan		

*If you have Heart Stents and take Plavix and Aspirin, DO NOT STOP ASPIRIN

Stop all Antiplatelet* Medications such as:

Aggrenox (aspirin + dipyridamole)	Plavix (clopidogrel)	Pletal (cilostazol)
Trental (pentoxil)	Ticlid	

*If You Have Heart Stents: DO NOT STOP PLAVIX DIRECTED BY A CARDIOLOGIST PRIOR TO SURGERY

Anticoagulation Medications such as Coumadin need a plan with your provider care provider (i.e. need for Lovenox bridging etc.)

Stop birth control pills & any male or female hormone (including creams or patches) such as:

Estrogens	Estradiol	Estraderm	Premarin	Prempro
Estrace	Estratest	Ogen	Emcyt	Testosterone

All herbal & weight loss medications such as:

Alpha lipoic acid	Cinnamon	Chamomile	Creatine	Echinacea
Acetyl L-carnitine	Ephedra	Fish oil	Garlic	Ginkgo
Milk Thistle	Glutamine	Goldenseal	Licorice	Kava
L- carnosine	Ginseng	Skullcap	Saw Palmetto	St. John's Wort

Stop all vitamins and joint supplements containing products such as:

Vitamin A	Vitamin C	Vitamin E	Vitamin K	Fish Oil
Omega 3,6,9	CoQ10	Juice Plus	Krill Oil	Glucosamine
Chondroitin	MSM			

Stop all non-steroidal anti-inflammatory (NSAID) medications such as:

Ibuprofen	Advil	Nuprin	Ketoprofen	Oruvail
Orudis	Relafen	Nabumetone	Arthrotec	Voltaren
Tolectin	Tolmetin	Cataflam	Clinoril	Sulindac
Oxaprozin	Daypro	Diclofenac	Etolodac	Mobic
Meloxicam	Naproxen	Naprosyn	Indocin	Indomethacin
Celebrex	Celecoxib	Aleve	Anaprox	Ansaid
Feldene	Piroxicam	Naprelan	Lodine	Meclomen
Meclofenamate	Mediprin			

Contact your primary care provider for instructions if you take any of the following medications:

Humira	Remicade	Imuran	Enbrel	Rituxan
Actemra	Kineret	Cosentyx	Stelara	Benlysta
Xeljanz	Cimzia	Orencia	Librium	Librax
Cytoxan	Adderall			

Your prescribing physician should help with monitoring these medications

You may continue taking the following medications:

- Cholesterol medications
- Psychiatric medications
- Gabapentin
- Tylenol (regular, extra strength, arthritis)
- Ultram (Tramadol)
- Thyroid medications
- Ultracet
- Iron supplements
- Blood pressure medications – see additional instruction below regarding your blood pressure medication:

You should **NOT** take the following blood pressure medications on the day of surgery:

- ACE Inhibitors. Common ACE Inhibitors include:
 - benazepril (Lotensin), captopril (Capoten), enalapril (Vasotec), lisinopril (Prinivil, Zestril), quinapril (Accupril)

- Angiotensin Receptor Blockers (ARBs). Common ARBs include:
 - losartan (Cozaar), olmesartan (Benicar), telmisartan (Micardis), valsartan (Diovan)
- Diuretics. Common diuretics include:
 - hydrochlorothiazide (HCTZ, Microzide), furosemide (Lasix) spironolactone (Aldactone), triamterene (Dyrenium), chlorthalidone, bumetanide
- Pills that contain combinations of ACE Inhibitors, ARBs or diuretics

It is **OK** to take the following blood pressure medications on the day of surgery:

- Beta blockers. Common beta blockers include:
 - atenolol (Tenormin), metoprolol (Lopressor, Toprol), carvedilol (Coreg), propranolol (Inderal), acebutolol, bisoprolol, nadolol, penbutolol, pindolol
- Calcium channel blockers. Common calcium channel blockers include:
 - amlodipine (Norvasc), diltiazem (Cardizem, Tiazac), nifedipine (Procardia), verapamil (Calan, Verelan, Covera-HS, nicardipine (Cardene SR), felodipine
- Vasodilators. Common vasodilators include:
 - hydralazine, minoxidil, clonidine (Catapres), doxazosin (Cardura)

Preventing and Treating Opioid-Induced Constipation:

2 DAYS BEFORE SURGERY:

- For constipation start Senna-S (Senna + Docusate)
(can substitute with Senna and Docusate as separate medications)
- Take 2 tablets, twice a day starting 2 days before surgery - if you experience loose or watery stools, STOP using the Senna-S and resume it the night of surgery
- Drink at least eight 8 ounce cups of water daily
- Be active
- Eat foods high in fiber

Post-Operative Medications:

Blood thinning medication to prevent blood clots

Either Aspirin or Eliquis will be used as a blood thinner based on your medical history. In certain cases, other blood thinners (Lovenox or Coumadin) will be substituted.

Aspirin: 81mg tablet to be taken twice a day for 30 days after surgery, to help prevent blood clots. *(Ok to stop after 30 days)*

Protonix (Pantoprazole): Stomach protector: Take 1 tablet daily, in the morning to protect your stomach. You should continue to take this medication for 30 days while you take aspirin.

Eliquis (Apixaban): 2.5mg tablet to be taken twice a day for 10 days total after surgery to help prevent blood clots

Narcotic pain medications “as needed” for pain control

Oxycodone (Percocet): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4 hours.

Hydrocodone/Acetaminophen (Norco or Vicodin): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4-6 hours. The daily limit is 12 pills /24 hours.

Hydromorphone (Dilaudid): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4 hours.

Tramadol: Short-acting pain pill to be used as need. You may take 1-2 tablets every 4-6 hours. ***(May Combine with Above Narcotic Pain Medications)***

Prescription non-steroidal anti-inflammatories

Meloxicam (Mobic): Anti-inflammatory, take 15 mg once a day for a total of 6 weeks after surgery. Make sure you take this medication with food.

Celecoxib (Celebrex): Anti-inflammatory, take twice a day for a total of 6 weeks after surgery. Make sure you take this medication with food.

Constipation prevention

Senokot-S (SennaPlus): Stool softener/laxative for constipation. Take 2 tablets twice a day starting 2 days before surgery until you are off all narcotics after surgery.

Other over the counter alternatives: Miralax, Exlax, Milk of Magnesia

Surgery and Hospital Course

The Day of Surgery

- With this minimally invasive knee replacement and contemporary pain control methods, most of Dr. Chrastil's patients will go home the same day or the day after surgery.

Preoperative Unit:

- You will arrive at the front desk of the hospital 2-3 hours prior to your surgery.
- You will be taken to the preoperative area where you meet with nurses, anesthesiologists, and Dr. Chrastil.
- An IV will be placed in preparation for your procedure.
- Any remaining questions or concerns that you have will be addressed.
- You will be taken to the operating room for your surgery.
- Surgery takes approximately 1 hour.

Recovery Unit:

- After surgery, you will spend approximately one hour in the recovery room, where nurses will monitor you as you recover from anesthesia.
- If you are to be admitted to the hospital, after approximately one hour in the recovery unit the nurses will contact your family/friends to let them know the room number.
- IF you are planning on discharging the same day you will be in the recovery unit longer.
 - You will be required to get up and move, use the restroom, and will be determined to be safe to discharge to home by therapy and nurses in the recovery unit.

- You can spend most of the day in the recovery area so please coordinate with your “***total joint care provider***” so they can plan appropriately.

Hospital Unit (“The floor”):

- If you plan on staying the night at the hospital you will be admitted to a private room on the floor, where the nursing staff will care for you.
- Your pain will be monitored and controlled.
- It is impossible to be completely pain free after a knee replacement surgery.
- On the day of surgery, you will walk with a walker, which is Dr. Chrastil’s preferred assistive device. It is stable and reduces risk of falls in the post-operative period. Unless otherwise instructed, you will be allowed to put full weight on the operated leg.
- Early walking is good for your new knee replacement. Walking is the most important thing you can do to prevent blood clots. Moving your leg is more important than medications we give to prevent clotting.

The day after surgery (post-operative day #1), if you stay in the hospital:

- Labs will be drawn in the morning.
- The physical and occupational therapists will continue to work with you on walking, stairs, bathing, getting dressed, and other activities required for daily living.
- Most patients who stay in the hospital will be discharged to go home on postoperative day #1.

Post-operative day #2:

- If you are still in the hospital on postoperative day 2, you will work with physical and occupational therapists to help you regain independence. You will go home after you fulfill the goals of therapy.
- If it is determined that you require extra assistance, or that going home will not be ideal for your recovery, then our case managers will arrange for you to be transferred to a skilled nursing facility or rehabilitation until you are ready to go home.
- Please note that Dr. Chrastil does not make the determination on whether a rehab facility is the ideal placement. This decision is made in the hospital by the recovery team and case management arranges with insurance.

What to Expect After Surgery:

- EXPECT to have some pain after surgery. Knee replacement surgery is a major operation, and operations hurt.
- The first 2 weeks after surgery you should expect to have pain and require narcotic level pain medication regimens.
- After the first 2 weeks, the pain will start improving and you will notice there does seem like there is “light at the end of the tunnel”.
- It takes about 6 weeks until your pain level and functionality is to the level as you were prior to surgery.
- Dr. Chrastil’s goal is to keep you comfortable, but being “pain free” is not realistic after any knee replacement.
- A reasonable goal is to keep your pain at 3 out of 10 or less while you are at rest. This is accomplished by providing you with the appropriate pain medications. You may have pain that is greater than 3 out of 10 while you are walking and moving your knee in the first several weeks. This is a normal part of the healing process.

- It is important that you stay “ahead of your pain,” meaning you should adjust your pain medications when you are feeling greater than 3 out of 10 pain while at rest.
- It is important to monitor your progress and wean off your pain medication as you get further out from surgery.
- Knee pain and thigh pain are particularly common after surgery.
- You will have bruising and swelling initially that will start at the surgical site.
- Bruising and swelling are normal after surgery and vary from person to person. This can be quite severe and it should not worry you as it is completely normal.
- Bruising and swelling will continue to increase over the first 2 weeks after surgery, especially after you have been up and standing/walking for prolonged periods.
- Bruising may travel up as high as your groin area and may move down to your toes within the first 2 weeks.
- In the first week or two, expect significant swelling in your entire leg and foot. Wearing the compression stockings (TED hose) as instructed during the first 2 weeks after surgery will decrease your swelling. These will be provided in the hospital.
- Elevating the operative leg also helps decrease swelling. The swelling will eventually resolve with time.
- Sleeping may be difficult in the first several weeks to months. This is due to the physiologic burden of surgery, the new medications you are on, and a change in your activity level. This is common and not abnormal.
- Napping during the day may make sleeping at night difficult.
- It is also important that your pain is well controlled at night.
- Fatigue is common following surgery. This is due to sleep disturbance (see above), medication effects, changes in your daily activity level, and the physiologic burden of surgery on the body.

- Eventually you will get your energy back, but this may take several weeks or even several months for some people.
- Physical Therapy is an essential component of the recovery process.
- Physical Therapy typically lasts for 6 weeks, and is the most important thing you can do to optimize your outcome.
- You will get a prescription for Physical Therapy from Dr. Chrastil at the time that you consent for surgery.
- You will begin Physical Therapy about 4-7 days after your surgery (you will go to a physical therapy clinic).
- A list of recommended physical therapy clinics has been provided in this booklet for your convenience.

Post-Operative Follow Up

- We will ask you to return to the office at routine times after your discharge from the hospital.
- You will be seen in our office approximately two weeks from the time of surgery for your first post-operative visit.
- Please bring ALL of the post-operative medications that you are currently taking (either written down or in a bag) so Dr. Chrastil or someone from Dr. Chrastil's team can review and adjust them as needed.
- The two-week appointment includes an incision check, standard physical examination and medication check/refill.
- We will ask you to return to the office again approximately six weeks from your surgery.
- The six-week appointment includes a physical examination, medication check, and at this visit there will be x-rays.
- ***Telemedicine visits for the postoperative follow-ups are available if you prefer.***

- Further follow-up visits will occur at 4-6 months, 1 year, 3 years, 5 years, and every 5 years thereafter, or as determined by your surgeon.
- It is important to come in for routine evaluations and X-Rays, even if you are feeling great, to monitor the implant for any signs of loosening, wear, or early failure that should be addressed.
- Should you desire to schedule a visit for any reason whatsoever, you are always welcome to do so.

Frequently Asked Questions:

1. I need a refill of my medication. Who do I call?

- If you need a refill of your medication at any point, you need to call Panorama's Prescription line. Call the **main office line** (303-233-1223) and follow the prompts for PATIENT/CARE TEAM/MEDICATION REFILLS. This ensures speedy answers as this line is answered the same business day as long as you call before 3PM. If you call our clinician liaison's direct line (see page 3), you will get an answer, but we cannot guarantee same day service as we are often in clinic.

2. I went home with oxygen; how long do I need it and how do I get rid of it?

- Occasionally, patients are sent home from the hospital with oxygen to help improve breathing for a few days or weeks. The decision to put you on oxygen is made by the internal medicine doctors and respiratory therapists at the hospital. To stop home oxygen and to have your oxygen tank picked up by the company, contact the number given to you at the time of your hospitalization to arrange the time and place to pick up the oxygen tank.

3. What is the healing process like after a knee replacement?

- Expect to go home the same day of surgery (if prearranged) OR be in the hospital for one night. On the day of surgery you should expect to put full weight on, as well as walk on the leg with your new knee! Initially, you may use a cane or walker to help you walk. You can eliminate these walking aids whenever you feel comfortable doing so. When you first begin to ambulate on your new knee, you may have pain. Pain generally improves dramatically in the first several days and weeks after surgery. The

first 2 weeks are generally the most difficult. Calf and thigh soreness is especially common in the first few weeks. On average, by week 6 most patients are about 75-80% recovered (“healed”) from surgery. By 3 months most patients are about 90% recovered. Complete recovery, including maximal pain relief and function, takes about 1 year. Patients generally begin driving and returning to work between 1 and 6 weeks after surgery.

4. What will my knee feel like when I am completely healed?

- Having a realistic expectation about your knee replacement will ultimately lead to your satisfaction with the surgery. The goal of knee replacement is to improve your pain and your function. Hopefully 90% of your knee pain will resolve and you will have excellent motion in your knee. However, even a perfectly done knee replacement may have residual stiffness or discomfort. I like to say that if you would be satisfied knowing that your knee will feel at least 80-90% better than it felt prior to surgery, then you will likely be very happy with your knee. If you get to 90-100% (which is what we are aiming for), consider that a bonus. In my experience 1 or 2 out of 100 people would say that their knee feels bad enough (pain or stiffness) that they would not do the operation again if they had the choice. That means about 99% are satisfied!

5. How long will my knee last?

- This is a difficult question to answer as many factors determine the longevity of a knee replacement. With the new advances in the materials we are now hoping for 25-30 years.

6. Is swelling common after knee replacement?

- Yes. In fact, you should anticipate quite a bit of swelling from your thigh to your foot after surgery. Your operative leg may swell to as much as 30% larger than your other leg. The swelling peaks at

about 7-10 days after surgery and gradually diminishes. Sometimes the leg can have substantial bruising as well. This bruising is not dangerous. Elevating your leg and wearing a support stocking help decrease the swelling. It may take months for all the swelling to resolve. Occasionally, patients get blistering on the operative leg. This is from excessive swelling. While blisters look alarming, they generally resolve without issue. If you blister please contact our clinic to let us know.

7. Why do I have to take all these medications after my surgery?

- Medications after surgery are prescribed to help ensure a safe and comfortable recovery. Blood thinners are necessary to help avoid developing blood clots. Pain medications help decrease your discomfort after surgery. Dr. Chrastil uses “multi-modal” pain control, which has been clinically proven to be effective after total knee replacement. Multi-modal pain control uses different types of medication, which can decrease the need for opioids. In general, patients are given an anti-inflammatory medication (Meloxicam/Celebrex) for 6 weeks, a short acting “as needed” opioid medication (oxycodone, hydrocodone, or hydromorphone), and a moderate, as needed, pain medication (Tramadol). The most common side effects from these opioid medications are nausea, constipation, and itching. As such, you may be given an anti-nausea medication (Zofran or a Scopolamine patch), stool softeners (Senokot, Docusate, Senna-S), and anti-itching medication if needed (Benadryl, Atarax). If your insurance does not pay for a particular medication or if you do not wish to take a particular one you do not need to take it. Most of these are on an “as-needed” basis.

8. Is it normal to feel or hear clicking or clunking in my knee after surgery?

- The short answer is yes. The ligaments in a normal (non-replaced) knee allow for subtle motion of the knee in many directions. When a normal (non-replaced) knee moves it has soft cartilage and other soft tissues that cushion this movement. In a knee replacement, this normal motion still occurs, but instead of soft tissues, there are metal and plastic parts that touch each other. When this happens, you may feel (or less commonly hear) a click or clunk in the knee. This is normal and should be expected.

9. Is it normal to have numbness around the incision after surgery?

- Yes. Knee replacement requires an incision to be made in the front of your knee. In most people, this incision cuts through the superficial nerve that provides sensation to the outside part or “lateral part” of your knee. Most people will notice an area of numbness on the outside part of their knee. This area of numbness may be as big as several square inches, in some cases covering an area as big as the palm of your hand. In some people, this area of numbness will diminish or resolve over time. In other people, the numbness will be permanent. Eventually the numbness becomes less and less noticeable.

10. Can I kneel on my knee after surgery?

- Yes. There is a common misconception that you cannot kneel directly on a total knee after surgery, or that kneeling will damage a total knee. In reality, kneeling on a total knee is completely acceptable. Many patients, however, report that kneeling on their knee feels strange, uncomfortable, or even painful. Even so, kneeling is not bad for the knee. Knee pads or cushions can make kneeling more comfortable.

11. What should my activity level be after surgery?

- Every patient is different. Each day you should be increasing your activity level, but let pain and swelling be your guide. The first 2 weeks are associated with the most pain. On average, you will make 75-80% of your recovery by week 6 and 90% by 3 months. At some point, most patients overdo it with activities and therefore take a few steps back in their recovery temporarily. You may have increased swelling or discomfort if this happens. This is your body telling you to take it easy and let your knee rest for a few days.

12. When can I shower or bathe?

- You can shower the day after surgery, and let water run over your knee. Your dressing is waterproof. Leave it in place. We will remove the dressing at the two-week visit. You should avoid soaking in a bath or pool for at least 5-6 weeks after surgery, when your incision is completely healed.

13. I just had a knee replacement. What positions can I sleep in?

- You may sleep in any position you are comfortable in. Try to keep your leg as straight as you can. Although you can sometimes put a pillow under your knee for comfort, constantly sleeping with a pillow under the knee may lead to the inability to straighten your knee completely. A pillow should be avoided if possible.

14. I am having difficulty sleeping after my knee replacement. Is this normal? What can I do about it?

- Patients often experience difficulty falling or staying asleep in the first few weeks to months after knee replacement. Some even describe restless leg-like symptoms. Sleep may be disrupted for many reasons. This is likely related to changes in your daily routine, medications you are taking, and changes to your body's metabolism during the healing process. Your sleeping patterns

will eventually normalize. To improve sleep at night, remain active during the day and avoid excessive napping. Sleep medications are sometimes useful short term and you could start with over the counter sleep aides such as Tylenol PM, Advil PM, Melatonin, Valerian root, etc.

15. Why am I so tired all the time?

- It is normal to experience fatigue after knee replacement. This is due to a combination of the effects of pain medication, disrupted sleep patterns, and the physiologic toll that the surgery takes on your body while you are healing. You will regain your energy and stamina. In some cases, it may take up to 3 months to get past the fatigue.

16. When can I restart the medications I was told to stop prior to surgery?

- Usually, as soon as you are discharged from the hospital, but check with Dr. Chrastil or your primary care provider if there are any medications in question. You will be informed which medications you should resume when you leave the hospital.

17. What should I do to avoid or alleviate constipation?

- You should start taking your stool softener (Senna-S) two days before surgery and continue it twice daily until you have a normal bowel movement or while taking narcotic pain medication. Stop the stool softener if you start to experience loose or watery stools. If you continue to have constipation you can take Milk of Magnesia, which is a mild oral laxative, or use Magnesium Citrate, which is much stronger. In addition, you can also try Dulcolax suppositories or a Fleets enema. All of these medications can be bought over the counter at your pharmacy.

18. What are the major risks of knee replacement surgery?

- **Infection:** Infection is the biggest risk after knee replacement and can occur anywhere from days to years after surgery. An infected total knee replacement requires surgery (sometimes multiple surgeries), and great measures are taken to help avoid infection. The national infection rate after knee replacement is about 1 in 100 (1%).
- **Blood clots:** A blood clot, also known as deep vein thrombosis (DVT), may occur after surgery and can be potentially life threatening if it travels to your lungs. The risk of death from blood clots has been greatly reduced in recent years by the use of anticoagulants (blood thinners) and early mobilization (walking, moving, etc.). The symptoms of DVT are new or extreme swelling or a sudden increase in pain in the leg or calf. (Note that substantial swelling is normal and expected, as is some moderate calf and thigh pain. Most instances of swelling and pain are *normal*.)
 - If you or your physical therapists are concerned with the amount of swelling in your leg, call my clinician liaison (see page 3).
 - Chest pain or shortness of breath are possible signs of a DVT that has moved to the lungs (called a pulmonary embolus or “PE”). If you experience chest pain or shortness of breath, go to the ER immediately.
- **Continued pain or stiffness:** As noted above, in rare cases people will continue to have significant pain after a total knee replacement. Often the cause of this pain can be determined, but rarely it may be difficult to tell why a knee still hurts. Fortunately, this is uncommon. Some people’s knees may become stiff after surgery. It is important to diligently perform your physical therapy exercises after surgery in order to prevent stiffness.
- **Need for more operations:** Most knee replacements last many years. Early reoperation may be required in rare cases.

- **Nerve or blood vessel injury:** Major nerve or blood vessel injury is exceedingly uncommon after knee replacement surgery.

Post-Operative Medication Guide:

Blood thinning medication to prevent blood clots

Either Aspirin or Eliquis will be used as a blood thinner based on your medical history. In certain cases, other blood thinners (Lovenox or Coumadin) will be substituted.

Aspirin: 81mg tablet to be taken twice a day for 30 days after surgery, to help prevent blood clots. (*Ok to stop after 30 days*)

Protonix (Pantoprazole): Stomach protector: Take 1 tablet daily, in the morning to protect your stomach. You should continue to take this medication for 30 days while you take aspirin.

Eliquis (Apixaban): 2.5mg tablet to be taken twice a day for 10 days total after surgery to help prevent blood clots

Narcotic pain medications “as needed” for pain control

Oxycodone (Percocet): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4 hours.

Hydrocodone/Acetaminophen (Norco or Vicodin): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4-6 hours. The daily limit is 12 pills /24 hours.

Hydromorphone (Dilaudid): Short-acting pain pill to be used as needed for breakthrough pain. You may take 1-2 tablets every 4 hours.

Tramadol: Short-acting pain pill to be used as need. You may take 1-2 tablets every 4-6 hours. (**May Combine with Above Narcotic Pain Medications**)

Prescription non-steroidal anti-inflammatories

Meloxicam (Mobic): Anti-inflammatory, take 15 mg once a day for a total of 6 weeks after surgery. Make sure you take this medication with food.

Celecoxib (Celebrex): Anti-inflammatory, take twice a day for a total of 6 weeks after surgery. Make sure you take this medication with food.

Constipation prevention

Senokot-S (SennaPlus): Stool softener/laxative for constipation. Take 2 tablets twice a day starting 2 days before surgery until you are off all narcotics after surgery.

Other over the counter alternatives: Miralax, Exlax, Milk of Magnesia

These are the most common medications prescribed postoperatively. You can use the following chart to document your medication usage. If you like the chart and would like to print off more please go to my website

<https://www.panoramaortho.com/find-a-doctor/jesse-chrastil/>

Follow the link to Extra Medication charts to print more and keep track of your medications.

Daily Medication Schedule [AM]						
Today's Date: _____/_____/_____						
Medication Taken:	Time medication taken (use military time)					
	0200	0400	0600	0800	1000	1200
Blood Thinner						
Anti-inflammatory						
Protonix						
Constipation Med						
Narcotic Med						
Tramadol						

Daily Medication Schedule [PM]						
Today's Date: _____/_____/_____						
Medication Taken:	Time medication taken (use military time)					
	1400 (2pm)	1600 (4pm)	1800 (6pm)	2000 (8pm)	2200 (10pm)	2400 (MN)
Blood Thinner						
Anti-inflammatory						
Protonix						
Constipation Med						
Narcotic Med						
Tramadol						

Please take notes here: _____

Example Medication Schedules

This form is to be used as an example ONLY

Daily Medication Schedule [AM]						
Today's Date: ____/____/____						
Medication Taken:	Time medication taken (use military time)					
	0200	0400	0600	0800	1000	1200
Blood Thinner				ASA81		
Anti-inflammatory				Mobic		
Protonix				X		
Constipation Med			X			
Narcotic Med (using Oxycodone)		1 tab		2 tabs		1 tab
Tramadol			1 tab			

Daily Medication Schedule [PM]						
Today's Date: ____/____/____						
Medication Taken:	Time medication taken (use military time)					
	1400	1600	1800	2000	2200	2400
Blood Thinner				ASA81		
Anti-inflammatory						
Protonix						
Constipation Med			X			
Narcotic Med		1 tab			2 tabs	
Tramadol			1 tab			1 tab

Physical Therapy

Panorama Physical Therapy – Highlands Ranch	1060 Plaza Dr STE 110, Highlands Ranch, CO 80129	720-497-6173
Panorama Physical Therapy – Highlands Ranch Town Center	1265 Sergeant Jon Stiles Drive Suite D Highlands Ranch CO 80129	303-274-7332
Panorama Physical Therapy – Littleton	5005 S Kipling Parkway, Unit A-4, Littleton CO 80127	303-274-7331
Panorama Physical Therapy – Lakewood	437 S Wadsworth Blvd, Unit G Lakewood CO 80226	303-274-7310
Panorama Physical Therapy – Golden	660 Golden Ridge Road, Suite 130, Golden, CO 80401	720-497-6616
Panorama Physical Therapy – Westminster	8510 N Bryant St, Suite 130 Westminster CO 80031	720-497-6666
Panorama Physical Therapy – Westminster at Bradburn	4550 Main Street Suite #200 Westminster CO 80031	720-497-6162
Rocky Mountain Spine & Sport PT – Lone Tree	9218 Kimmer Dr, Lone Tree, CO 80124	303-792-7377
Rocky Mountain Spine & Sport PT – Castle Rock	4284 Trail Boss Dr, Castle Rock, CO 80104	303-663-8086
Rocky Mountain Spine & Sport PT – Littleton	10268 W Centennial Rd, Littleton, CO 80127	303-948-2999
Rocky Mountain Spine & Sport PT – Parker	19964 Hilltop Rd, Parker, CO 80134	303-840-4667
Rocky Mountain Spine & Sport PT – Centennial	6202 S Parker Rd Unit 500, Centennial, CO 80016	720-361-2304
Rocky Mountain Spine & Sport PT – South Lakewood	3255 S Wadsworth Blvd STE A-2, Lakewood, CO 80227	303-993-4438
Rocky Mountain Spine & Sport PT – DTC	5139 S Yosemite St, Greenwood Village, CO 80111	303-284-3523
Rocky Mountain Spine & Sport PT – Evergreen	1262 Bergen Pkwy, Evergreen, CO 80439	303-674-7889
Rocky Mountain Spine & Sport PT – Arvada	15530 W 64th Ave, Arvada, CO 80007	303-424-4589

Chlorhexidine Gluconate (CHG) Pre-Op Instructions

Skin bacteria are the most common cause of post-operative surgical wound infections. These wipes will clean your skin before surgery and help prevent infection at the surgical site. The wipes contain an anti-septic called Chlorhexidine Gluconate (CHG). CHG kills bacteria on skin that could cause a wound infection.

Directions:

- You will do two skin cleansings at home: one the evening before surgery and another the morning of surgery.
- Do not shave any areas of the body at least 5 days prior to surgery except the face, if desired.
- Avoid contact with eyes, ears, mouth, genital and rectal areas, and colostomy if you have one.
- Closed packages containing wipes may be warmed by soaking in warm water. Do not microwave wipes.
- Use wipes on cool and dry skin.

Gently wipe skin as described below.

- Allow area to air dry one minute. DO NOT rinse. It is normal for the skin to have a temporary “tacky” or mildly itchy feel for several minutes after the antiseptic solution is applied.
- Dress in freshly laundered nightwear. Sleep on freshly laundered sheets.
- Throw wipes in garbage. DO NOT flush in the toilet.

Preparing the skin the *evening before surgery*:

- Shower or bathe and shampoo your hair as usual the evening before surgery. Wait one hour after your shower before using the wipes.
- Use one cloth to wipe each area of the body for 20 seconds in the following order:
 - Start with your operative knee. Be sure to thoroughly wipe behind your knee as well.
 - Wipe your neck, chest and abdomen – *not the face*.
 - Wipe both arms, front and back, starting with the shoulder and ending at the fingertips. Be sure to thoroughly wipe the arm pit areas.

- Wipe your right and left hip followed by your groin. Be sure to wipe folds in the groin area.
- Wipe the remainder of both legs, starting at the thigh and ending at the toes.
- Wipe your outer buttocks – not the rectal area.
- Once you use the wipes do not shower, bathe or apply lotions, moisturizers, or makeup.
- Do not rinse your skin.

The *morning of surgery*:

- DO NOT shower, bathe, or shampoo in the morning.
- Repeat the same skin cleansing process as outlined above.
- Wear freshly laundered, clean clothes to the hospital.

CHG Pre-Operative Skin Preparation: Frequently Asked Questions

Q: Why does my skin feel itchy or tacky after using the CHG wipes? Is that a reaction?

A: You may experience a very mild itching sensation as the CHG dries on the skin. Avoid rubbing the skin too vigorously to minimize the itching. There will be a tacky feeling for a little while afterwards as well. This is normal. However, if a rash or skin irritation develops, do not do the second skin cleansing and notify the staff in the pre-operative area the day of surgery.

Q: Why does the skin need to cool off before applying the CHG?

A: It is ok to apply the CHG if your skin temperature is normal or cooler. When the skin is warm the pores are open and you are more likely to develop a skin irritation.

Q: What if I already have a rash, burn, cut, open wound or other irritation of the skin? Should I still use it?

A: No do not use it if the skin is not intact.

Q: Why do we need to apply it so many times and over most of the body?

A: The protocol we are using to prepare your skin takes advantage of a “stacked effect” of repeated usage. Each preparation lasts for at least 6 hours before bacteria start to grow back. Each subsequent preparation

decreases your whole body's skin bacterial levels prior to surgery, which then decreases your chances of developing a post- operative infection.

Cold Therapy Unit

Dr. Chrastil **highly** recommends a Cold Therapy Unit. Panorama Orthopedics and Spine has contracted pricing with DonJoy and can assist in obtaining a therapy unit. These units are not covered by insurance, but have been found to improve post-operative pain and swelling with the ultimate goal to speed patient recovery and rehabilitation. Pricing can be discussed with our medical supply shops or vendors.



ICEMAN with dual pump recirculation technology. The DonJoy® IceMan® features a recirculation system that allows water warmed after flowing through the cold pad to be preserved and remixed with cooler ice water at a constant flow rate, providing consistent cool water distribution throughout the cold pad.

COMPETITORS Other versions restrict or pinch water flow to the cold pad, causing variable flow rates and inconsistent cold pad temperatures.

DONJOY® ICEMAN® CLEAR²

The IceMan® CLEAR² cold therapy unit helps reduce pain and swelling, speeding up rehabilitation and recovery. The IceMan helps provide extended cold therapy to aid in a variety of indications and protocols as directed by a medical professional. It utilizes DonJoy's recirculation system, which helps maintain more consistent and accurate temperatures than other competitive cold therapy units, in a pre-set configuration.

PROVEN PERFORMANCE

- Time tested with over 20-years of experience delivering industry leading cold therapy solutions
- Developed through direct customer interaction and feedback

TECHNOLOGY ADVANTAGE

- Recirculation system helps deliver consistent cold therapy throughout the cold pad, eliminating freezing inlet temperatures

PATIENT CONVENIENCE AND EASE-OF-USE

- Clear cooler design for easy refill indication
- Self-priming, plug-n-play operation
- Designed for easy portability and storage
- A complete line of cold pads to help deliver cold therapy to where it is needed the most

The use of cold therapy may reduce the need for narcotics and help accelerate rehabilitation and recovery.

STEPS:

1. Add ice to fill line inside the device.
2. Add cold water to fill line.
3. Place lid on the device making sure the lip inserts in groove. Then press front of the lid down to close and secure.
4. Connect the IceMan® CLEAR² hose to the cold pad hose. To ensure a reliable connection, "snap" or "click" hoses together into place so that the fit is tight and snug.
5. To turn device on, insert cord into the connection port on the back of the device and plug the power supply into the wall outlet.



PRODUCT SUPPORT (8:00 am – 6:30 pm CST)
+1.888.405.3251 | product.specialist@djglobal.com

WARNING!
THIS DEVICE CAN BE COLD ENOUGH TO CAUSE SERIOUS INJURY.
Please read and understand all warnings and instructions for use before using the device.
DO NOT use this device without a prescription and direction from a physician.