



Dr. Christopher George

Knee Replacement Playbook

Valley **Ortho**

 VALLEY VIEW

YOUR KNEE REPLACEMENT PLAYBOOK

Thank you for joining our team at ValleyOrtho. We feel you are the most valuable person in the surgery and recovery process. This Playbook is your guide to best prepare for and recover from your total knee replacement. Each member of your care team plays a valuable role and has been trained to assist you every step of the way.

Patient Name:

Date of Surgery:

My Discharge Plans:

- Same day surgery
*Must be discussed and planned with Dr. George before surgery
- Hospital stay

Pre-Op CT Appointment:

**First Post-Op Appointment at
ValleyOrtho**

Date:

Location:

**First Physical Therapy
Appointment**

Date:

Location:

Pain Goals

Activity Goals

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Meet Your Physician, Dr. Christopher George, MD

Dr. Christopher George has been providing Orthopedic care to patients in the Roaring Fork Valley since 2013. He specializes in sports medicine, hip arthroscopy, knee reconstruction, Mako certified robotic assisted anterior muscle sparing total hip replacement, and knee replacement. With minimally invasive and arthroscopic treatment options, Dr. George strives to return patients to the lifestyle and activities they desire.



Dr. George grew up in Iowa and attended college at the University of Iowa, where he was a member of the University of Iowa swimming team, elected as team captain for two seasons. He attended medical school at the University of Iowa Carver College of Medicine. He completed his Orthopedic surgery residency at the University of Illinois at Chicago where he served as chief resident in his final year. He then continued his training and specialization in Orthopedic sports medicine with the Aspen Sports Medicine Foundation.

His approach starts with conservative treatment options and only progresses to surgery when appropriate. Dr. George enjoys working with his patients to mutually develop a treatment plan to help them get back to their active lifestyles as efficiently as possible.

Outside of his time in the office, Dr. George enjoys spending time with his wife Marni and their children, Ryder and Avelyn.

Meet Your Physician Assistant, Rachel Mazza PA-C

Rachel Mazza graduated with her Master of Physician Assistant Studies from the University of Colorado in 2015, after which she worked at the Orthopedic Centers of Colorado and the UCHHealth Steadman Hawkins Clinic practicing in sports medicine, joint replacement, and treating orthopedic trauma.



She attended UC on the school's Rural Track, where she focused on treating and servicing smaller communities like the Roaring Fork Valley. In orthopedics her focus is to keep people active. As a very active person herself, she tries to impart that love of the outdoors and exercise into her patients

In her spare time, Rachel enjoys reading and spends a lot of time with her dog. She also enjoys hiking, backpacking, camping, and has climbed a few fourteeners around Colorado. "I enjoy the backcountry, but I also like frontcountry camping closer to civilization," she says. "As long as I'm outside, I'm happy."

Meet Your Medical Assistant

Michelle Gorton, PCT

Growing up in the Roaring Fork Valley, Michelle is happy to serve the community she has loved since she was young.

Michelle received her Associates of Science degree in 2009; then earned her Associates Degree in Applied Science in Veterinary Technology. She has worked at a local animal hospital as a veterinary nurse and practice manager since 2012. She joined the ValleyOrtho team in October 2022.

As a Coloradan, Michelle enjoys hiking or traveling for extended backpacking trips in the summer with her dogs, cross country skiing during the winter season, reading or spending time with family.



Meet Your Primary Athletic Trainer

Jackie Brey ATC

Jackie was born and raised outside of Milwaukee Wisconsin; she earned her Bachelor's in Kinesiology from the University of Wisconsin – Eau Claire with an emphasis in Athletic Training and Sports Rehabilitation. She always had a yearning for the “West” and found her way to the Roaring Fork Valley in 2004 as the Athletic Trainer for Rifle High School. Come 2007 she transitioned to a clinical position with Aspen Orthopedic Associates. Throughout her tenure with Aspen Orthopedics she worked her way into management of the practice until she relocated to the Front Range to follow her husband's career change in 2015. Jackie recently found her way back “home” to the Roaring Fork Valley where she now works as an Athletic Trainer in ValleyOrtho.

In her downtime she's a BLS instructor for the American Heart Association. When away from work she enjoys golfing, hiking and camping with her husband and fur baby.



Meet Your Surgery Coordinator

Roslyn Bernstein, MA

Roslyn has worked in orthopedics since 2011 and with ValleyOrtho specifically since 2017. She graduated Colorado Mountain College's medical assistant program and state certification. Roslyn will work with you to help schedule any surgeries, procedures, imaging or follow up appointments to best manage your care at ValleyOrtho.

Outside of the clinic she helps promote smoking cessation programs and facilitating student health fairs at Glenwood High School. She has a unique passion for roller derby and all forms of mountain adventuring that keep her busy in her off time.



ANATOMY & TOTAL KNEE REVIEW

Let's review what is bothering your knee and how we can help get you back to what you love doing.

What is "The Knee" Exactly?

The knee is the largest joint in the body. It is made of 3 bones: The thigh bone (femur), the shin bone (tibia) and the knee cap (patella, not pictured). Ligaments connect and stabilize the femur and tibia together.

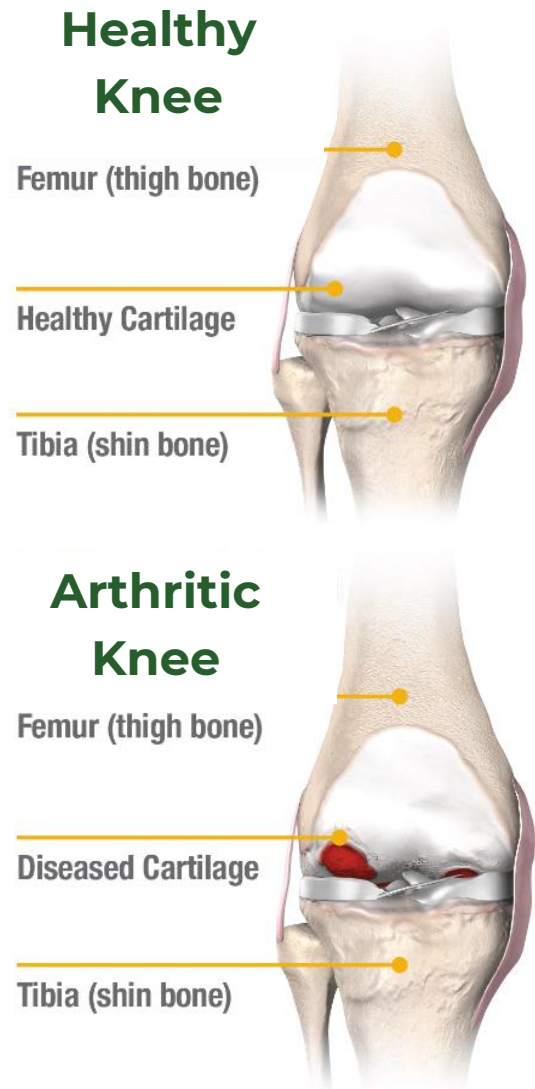
A healthy knee has smooth cartilage at the contact points between the three bones. This cartilage allows for smooth, pain free motion of the knee.

What Does it Mean to Have Knee Arthritis?

Knee Arthritis occurs when the cartilage that lines the contact points become worn or torn. In the early stages of the condition, small pits develop in the smooth cartilage. Eventually, small protrusions of bone, or 'bone spurs' develop at the edges of the joint surfaces. Joint fluid may also accumulate under the cartilage, forming cysts, which can put pressure on the bone and may contribute to pain. In the late stages of the condition, the cartilage can wear away completely, allowing bone-to-bone contact.

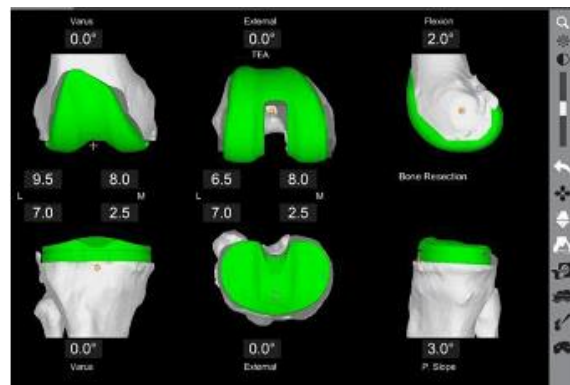
Reparative, Restorative, and Reconstructive Options:

Dr. George has reviewed your x-rays and knee pain history with you at this point. Depending on the severity of your arthritis you may have tried medications, injections, and physical therapy to improve or manage your condition. Unfortunately there is no way to regenerate the cartilage that is damaged in your knee. The options listed above have either been ineffective or deemed inappropriate by Dr. George making you the ideal candidate for a knee replacement utilizing the Mako Total Knee Replacement System.



What is Different with a Mako Total Knee Replacement?

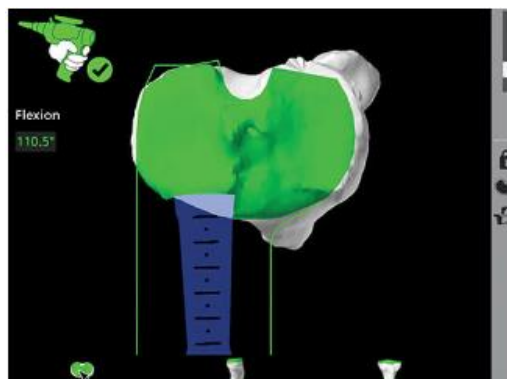
Before surgery a CT scan will be taken to create a 3D model of your knee. Your specific model will be loaded into the Mako software and used by Dr. George to create a personalized surgical plan. This plan will calculate the best alignment and position possible for your new knee.



The Mako Robotic-Arm doesn't actually perform the surgery. The surgery is performed by Dr. George. He will guide the Mako robotic-arm to remove diseased bone and cartilage using the personalized Mako surgical plan. Dr. George can make adjustments during the surgery to the surgical plan to optimize the implant's placement.



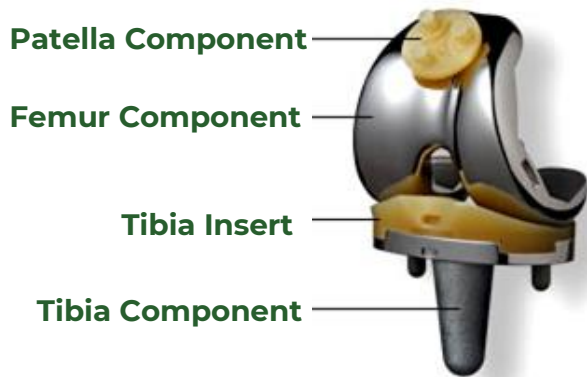
Mako Robotic arm and guiding system



Real time bone removal guide during surgery

What is Being Replaced?

Because your cartilage is worn at the ends of your femur, tibia and behind the knee cap, those surfaces are being replaced. Titanium and cobalt chrome pieces are used for the femur and tibia components. A plastic tibial insert is used to separate the metals and a plastic button is used on the backside of the patella. These changes will ensure full, smooth, and controlled movement of your knee.



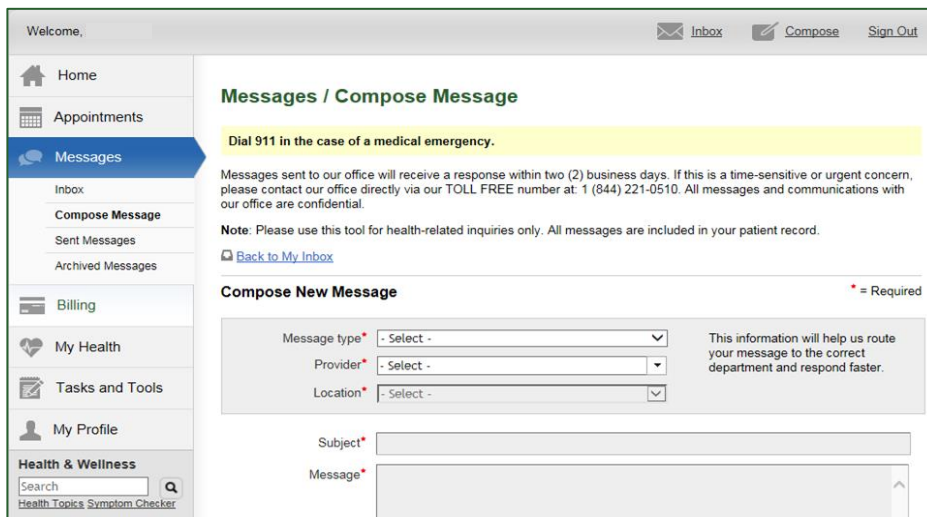
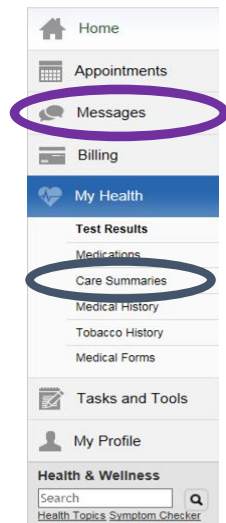
TWO+ WEEKS BEFORE SURGERY

□ **Set Up Your Valley View Patient Portal**

You should have received an email from us with a link to set up your patient portal account. If you cannot find the email, just let us know.

Benefits of the Portal

- Easily contact Dr. George and his team using the **Portal Messaging Center**
- Have access to your visit reports by clicking **“My Health”** on the left sided toolbar then click **“Care Summaries”**



□ **Download the VV Physicians App**

The VV Physicians App is available to you to improve communication regarding your appointments and procedures directly with ValleyOrtho.

Benefits of the VV Physicians App

- Receive reminders of upcoming appointments
- Complete necessary tasks prior to your appointment such as; updating your health history, reviewing medications & allergies, signing necessary forms, and paying any copays
- Perform telehealth visits with your provider
- Receive important reminders before and after your surgery



□ **Schedule Your Pre-Operative Clearance with Your Primary Care Provider**

With your safety and health in mind, you will be required to have a visit with your Primary Care Provider to ensure it is safe for you to proceed with surgery. This must be completed within 30 days of surgery.

If you take a prescription blood thinner, you will need to obtain specific instructions for these medications from your primary care provider or specialist.

If you are a smoker, please talk with your PCP regarding smoking cessation resources. Smoking has been linked to higher rates of complication after surgery.

Please note: If you have any medical problems that are managed by a specialist, you may need to obtain a surgical clearance from the specialist as well.

□ **Schedule Your Outpatient Physical Therapy Appointments**

Dr. George will talk with you about your initial physical therapy options following surgery. You may choose either to begin outpatient physical therapy or home health physical therapy initially. Schedule two visits a week for 6 weeks when you call.

- If you plan to start with outpatient therapy, schedule your first outpatient therapy appointment 3-5 days after your surgery date.
- If you plan to start with home health therapy or initially stay at a skilled nursing facility, schedule your first outpatient therapy appointment 10-14 days after your surgery date.

□ **Schedule a Dental Cleaning**

It is important to have a routine dental cleaning prior to surgery, as you will need to refrain from routine dental work for 3 months after surgery. If you need advanced dental work (root canal, crown, etc.) please have these completed 4 weeks prior to surgery.

NOTE: please **complete any urgent dental work**, especially if you have a dental infection, as this can further increase your risk of infection of your total joint. Bacteria in the mouth, teeth, or gums can travel into the bloodstream during dental work, causing an increased risk for infection of your total joint during the acute healing phase when blood flow to the new joint is increased.

After surgery, if you are otherwise healthy, you will not need antibiotics for advanced dental work after 6 months unless requested by your dentist. If a prescription is necessary your dentist, Dr. George or Rachel will fill it.

□ **Complete Your Pre-Operative Patient Reported Outcome (PRO) Survey**

Patient Reported Outcome (PRO) Surveys are a way for us to measure those things that matter most to you; decreasing your pain, restoring your function and productivity, and improving your quality of life. We want to know if we are meeting your needs during your recovery. By participation in the PRO surveys, you can help us understand how we are doing regarding your goals. This will allow us to best direct your care and the care we provide to your community.

What to Expect From Us:

- Prior to surgery, you will receive an e-mail or text link to a short survey to get your pre-operative baseline.
- You will receive this same survey (2-4 in total) by e-mail or text between 30 days and 1 year after your surgery.
- These new scores will be compared to your baseline score in order to evaluate your progress, as evaluated by the person that matters most – YOU!



ONE WEEK BEFORE SURGERY

☐ **Stop Taking These Medications That Increase Bleeding:**

- Aspirin, Ibuprofen (Advil®/Motrin®), Naproxen (Aleve®/Naprosyn®) or fish oil.
- Stop taking all supplements that are not prescribed medications.

☐ **Begin Pre-Surgery Constipation Prevention**

Constipation is one of the most common postoperative complaints, as it's a common side effect from anesthesia and narcotic pain medications.

Help keep your bowels regular by starting a pre-surgical laxative protocol and continuing after surgery.

- Take MiraLAX twice daily: one dose (17 grams) in the morning and again in the evening, each with an 8 oz. beverage of choice, especially while you are still taking narcotic pain medications
- Introduce foods rich in fiber (36g/day)
- Increase daily water intake: drink at least 8 cups
- Include fresh/dried fruits, vegetables, whole wheat/oat bran, prune juice, oatmeal

☐ **Practice Daily Tasks**

- You may temporarily need to use a walker or crutches to move about your home and it may be helpful to practice this prior to surgery.
- Before surgery, practice how you will get in and out of the shower with a stiff surgical knee that will not want to bend comfortably.
- You may also want to practice getting in and out of the passenger side of the car with a stiff surgical knee. Adjusting the seat position now could save you some trouble when it's time to go home.

☐ **Prepare Your Home for a Smooth Transition**

Make these changes to improve the convenience and safety of your home environment ahead of time.

- Create a clear path to the entrance of your home. Pick up throw rugs, tack down loose carpeting and remove electrical cords or other obstructions from walkways.
- Install a rubber mat, or non-skid adhesive, on the bottom of the tub or shower.
- Install night lights in bathrooms, bedrooms and hallways.
- Establish a support system to help you with everyday needs.
- Plan for someone to drive you to your outpatient physical therapy, the store, and other important destinations for the first 3-4 weeks.



☐ **Pre-arrange Your Finances to Reduce Stress**

Patient Financial Services is happy to help with questions about billing, insurance, financial assistance or charges for healthcare services. Please contact Patient Financial Services at (970)384-6890 if you have questions.

Pack for Your Surgical Visit

To stay comfortable during your hospital visit, we suggest you bring:



- Your Knee Replacement Playbook.
- Slip-on shoes with heel cup and rubberized soles.
- A short, lightweight bathrobe or pajamas.
- Underwear and socks.
- Comfortable elastic waistband pants or shorts.
- A “going home” outfit like a sweat-suit or other loose clothing that is easy to put on and take off over a likely swollen leg.
- Eye-glasses instead of contacts.
- A list of your daily medications, vitamins and herbal supplements, including the dosage and frequency, plus a list of medications you stopped taking in preparation for surgery.
 - Your own medication will be used **only** when the hospital pharmacy does not stock your specific medication and interruption in the use of that medication would compromise your care. Speak with Dr. George if you feel your medications may fit these criteria, otherwise do not bring any medicines with you.
- Driver’s license or photo ID, Insurance card/Medicare Card.
- Copy of your Advanced Health Care Directives.
- Cash or credit card to pay for discharge medications.
- Important telephone numbers (Include person bringing you home).
- Your Cell phone/charger, books, magazines or other portable hobbies.
- Hearing aid and batteries.
- Any helpful hand-carry equipment you may have such as a reacher, sock aid, and/or long handled shoehorn. Label these items with your name.
- A walker, crutches, or cane if you have them. These should be labeled with your name.
- **DO NOT** wear or bring any jewelry (this includes removing wedding bands and all piercings), or any other valuables.
- **Hospital Stay Only**
 - Toiletries such as a toothbrush, toothpaste, denture cleanser/cup, electric razor, comb, and deodorant. Please no powders.
 - The hospital provides complimentary toiletries if you happen to forget something.
 - If you have a CPAP machine, please bring the unit, tubes and settings.

THE DAY BEFORE SURGERY

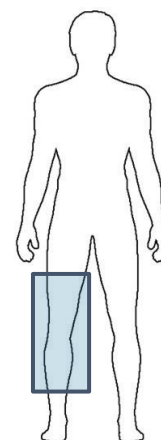
□ **Prep Your Skin to Discourage Bacteria**

Preparing your skin before surgery can reduce the risk of infection at the surgical site by reducing bacteria on the skin. You will receive scrub brushes with anti-bacterial soap from our clinic at your pre-operative appointment.

Please use the soap and mitt provided to wash before your surgery, following the steps below:

The night before surgery:

1. Wet your entire body with warm, **NOT** hot, water.
2. Wash hair with normal shampoo/conditioner. Wash your face and body with your normal soap, then rinse.
3. Wet the shower mitt. Turn off the water then apply CHG solution to the mitt.
4. Use the mitt to scrub your surgical knee from mid-thigh to mid-calf. Start with the front of your knee and work your way around to the back of your knee. Avoid your eyes, ears, mouth and directly on genitals. This process should take 3 minutes.
5. Wait 2 minutes after this application before turning the shower back on and rinsing off.
6. Rinse off all of the soap from your body with **warm** water.
7. Dry with a clean towel and put on clean clothes.



The morning of surgery:

Please shower and **repeat cleansing process** described above. Once you arrive at the pre-operative surgical area, the nursing staff will assist you in the final body cleansing process related to your surgery.

For best results, follow these additional instructions:

- Remove any nail polish so you can see any remaining dirt.
- **DO NOT** use moisturizers, lotions or oils on the skin after beginning the regimen.
- Sleep with clean sheets on your bed and in clean pajamas.
- **DO NOT** allow your animals to be in your bed with you.
- If you have persistent redness or itching, rinse the affected area, discontinue use of the wash, and call our office at (970)384-7140.
- If you swallow the wash, call Poison Control right away: (800)222-1222.

Special note about shaving:

We ask that you **DO NOT** shave around your knee **for four (4) days** prior to surgery. Dr. George will inspect your knee the morning of your surgery and it will be carefully shaved at that time. If there are any breaks in your skin, your surgery may need to be rescheduled due to a risk of infection.

NOTE: If you test positive for MRSA, a common skin bacteria, you will be notified by ValleyOrtho and you will be instructed in additional skin and/or bacterial preparations.

☐ **SURGERY INSTRUCTIONS SHEET**

The Day Surgery staff will call you the day before your surgery with instructions. Complete this worksheet during that phone call.

Patient calls begin at 2pm one business day before the scheduled surgery date. This means Monday's surgical patients are called on the Friday before. You may contact the day surgery staff at 970-384-7166 if you have not received your instructions before 5pm one business day before your surgery date.

Fill in Your Personal Instructions Below:

Date of Surgery: _____

Surgery Location: _____

Check-in Time: _____

If you are late it may affect your surgery time, or result in rescheduling your surgery.

Surgery Time: _____

Eating Allowed Until: _____

Do not eat any food after midnight before your operation unless otherwise instructed.

Approved Clear Liquids Allowed Until: _____

Do not drink anything after midnight before your operation unless otherwise instructed.

Approved Clear Liquids Include: Water, Sports Drinks, Sodas, and Strictly Black Coffee (**DO NOT add milk/cream/sugar/honey**).

Any Additional Eating and Drinking Instructions: _____

Medication Instructions: _____

Medications You are Told to **STOP Taking Below:**

YOUR SURGICAL & FACILITY CARE

The Day of Surgery Game Plan: Checking In

At the Hospital

The Valley View Valet is a free service. The Calaway-Young Cancer Center valet is open from 7:30AM to 5PM.

Stop at the hospital's registration desks by the Emergency Department 2 hours before your surgery time.

- Registration at the Emergency Department entrance is always open.

Valley View

Surgery Center at Basalt

Please use the onsite parking right outside the Mid Valley Surgical Center.

You will register at the front desk on the 2nd floor 2 hours before your surgery time.

Address:

1450 E Valley Rd Suite 202, Basalt, CO 81621

- Our nursing staff will begin preparing you for surgery by starting an IV and ensuring that you're comfortable.
- Dr. George will come and answer any additional questions you may have and mark the knee you are having repaired with a surgical marker.
- An anesthesiologist will meet with you to talk about general anesthesia and the nerve block you will receive for comfort.

Your Recovery in the Day Surgery Department

The duration of your stay will be based on your vitals, progress, and safety.

- Following surgery you will spend about an hour in the post anesthesia care unit (PACU) while your vitals normalize and your pain is controlled. Your family and friends will not be allowed to visit the PACU.
- You will return to where you were prepared for surgery to rest and meet your family and friends.
- A nurse or therapist will assist you while getting in and out of bed and into the bathroom. Do not try to get out of bed by yourself initially. They will help guide your movements, monitor pain and dizziness, and keep you safe from falls.

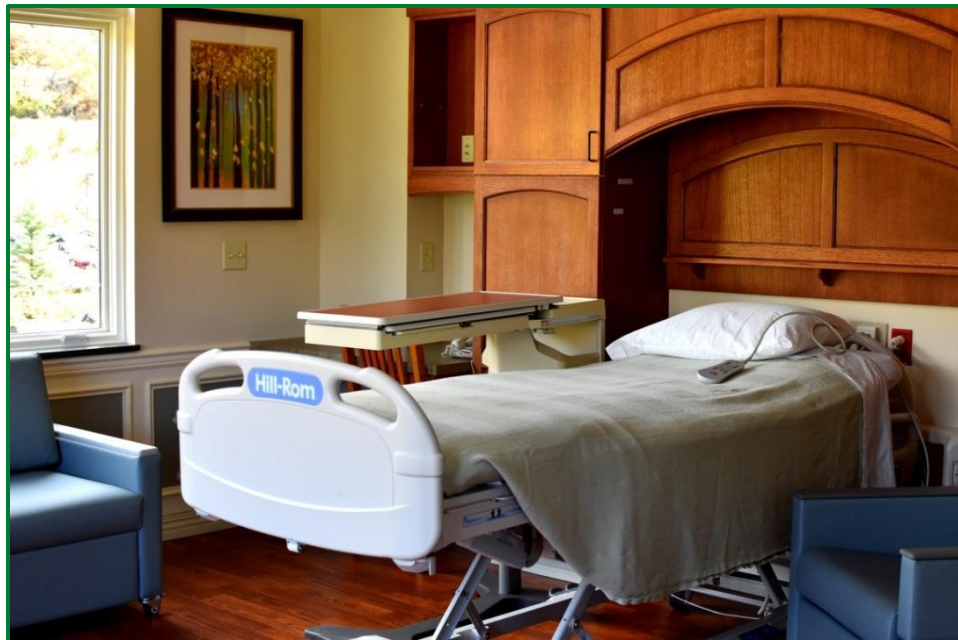
Same-Day Discharge Patients Only:

- If you are interested in going home the same day of your surgery, this must be discussed and planned with Dr. George before surgery.
- After surgery you will recover where you were prepared for surgery.
- A physical therapist will instruct you in your post-operative instructions that include your home exercise routine, swelling management and proper crutch walking progression.
- Your nurse will issue your prescriptions just prior to your check out.
- Discharge instructions will be reviewed by your nurse to ensure all of your questions have been answered prior to discharging home.

The Day of Surgery Into Over Night Care at VVH

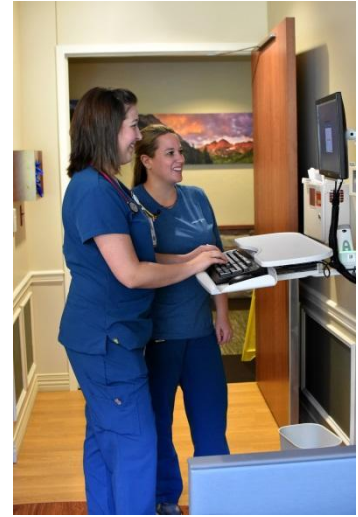
The duration of your hospital stay will be based on your progress, safety, and abilities. Most patients will be discharged the day after surgery.

- You will interact primarily with your nurse and patient care technician (PCT), who will be your advocates and care coordinators.
- Medications and tasks are scheduled and completed in specific blocks of time. If you have more urgent needs or need anything done at a specific time, communicate this with your nursing team.
- You will experience some pain. The goal is to reduce your pain enough for you to rest and take part in therapy.
- You will have ice packs on your knee for swelling and pain management; these should be changed every hour.
- To improve circulation and help prevent blood clots, you should perform ankle pumps/circles and walk with assistance as much as you can tolerate.
- Your nurse will give you a blood thinner to prevent blood clots postoperatively.
- Vital signs will be performed every four hours throughout the day and night. You can also expect other periodic interruptions while your care staff is working to keep you safe and healing well. The staff will work to cluster your care together to minimize these interruptions, but if you feel that you aren't receiving the rest that you need, your nurse can help to advocate for more quiet time.
- Visitors are welcome, however restrictions may change so check with your nurse.



The Day after Surgery

- A physical therapist and/or an occupational therapist will instruct and assist you in understanding the following:
 - Your home exercise program.
 - Proper use of your ice management.
 - Bathing, dressing and other functional activities.
 - Safe ambulation and functional mobility.
 - Preparation for your safe return home.
- Dr. George and/or Rachel Mazza will come and talk with you about how your surgery went and next steps.
- A nurse will remind you how to use your ON-Q pump and teach you how to remove its catheter.
- Your nurse will explain your discharge instructions and issue your prescriptions just prior to your check out. If you have any specific needs regarding transportation home or timing for leaving, please discuss this with your nurse.



When You Are Ready to Leave the Hospital:

If You Are Going Home:

- You cannot drive yourself and you are responsible for arranging a safe ride home.
- You will receive written discharge instructions including home medications, physical therapy, activity, wound/dressing care, etc.
- All medical equipment needed (ice packs, Ace Wrap etc.) will be arranged by the hospital staff.

If You Are Going To A Skilled Nursing/Rehab Facility:

- The decision to go home or to a skilled nursing/rehab facility will be made collectively by you, your surgeon, the physical/occupational therapist, and your case manager in the Hospital.
- Your case manager will help arrange for transportation.
- Although you may desire to go to a skilled nursing/rehab facility when you are discharged, your progress will be monitored by your insurance company while you are in the hospital. Upon evaluation of your progress, you will either meet the criteria to go to a skilled nursing/rehab facility, or your insurance company may recommend that you return home with other care arrangements.

AT HOME AFTER YOUR SURGERY

Monitor Your Healing

Healing after a total knee replacement can be uncomfortable but you need to know what signs of healing need immediate professional attention. An on call provider is ready to help you at all times, **immediately call 970-384-7140 if you experience any of the following:**

- A fever over 101.5 degrees
- An increase in bleeding from the surgical site
- Worsening pain that is not controlled by medication or position changes
- Worsening nausea or vomiting
- Increased swelling that is not controlled by cold therapy or position changes
- Increased redness around your incisions and/or cloudy fluid draining from the incision
- Or if you feel that something is just not right
- Call 911 with shortness of breath and/or chest pain symptoms



Wound Care

Bandage:

Your knee incision will be covered with a waterproof bandage that should be left on for 1 week. Underneath this bandage is a special bandage called a Zipline that maintains tension on your incision while it heals. The Zipline should be left on for 2 weeks. You are welcome to take it off yourself 2 weeks after surgery or wait until your first follow up appointment and we will remove it for you.

Compressive Stockings:

Compression stockings are used to reduce your risk of blood clots in the first 2 weeks after surgery. You may discontinue wearing your compressive stockings 2 weeks after surgery.

Showering:

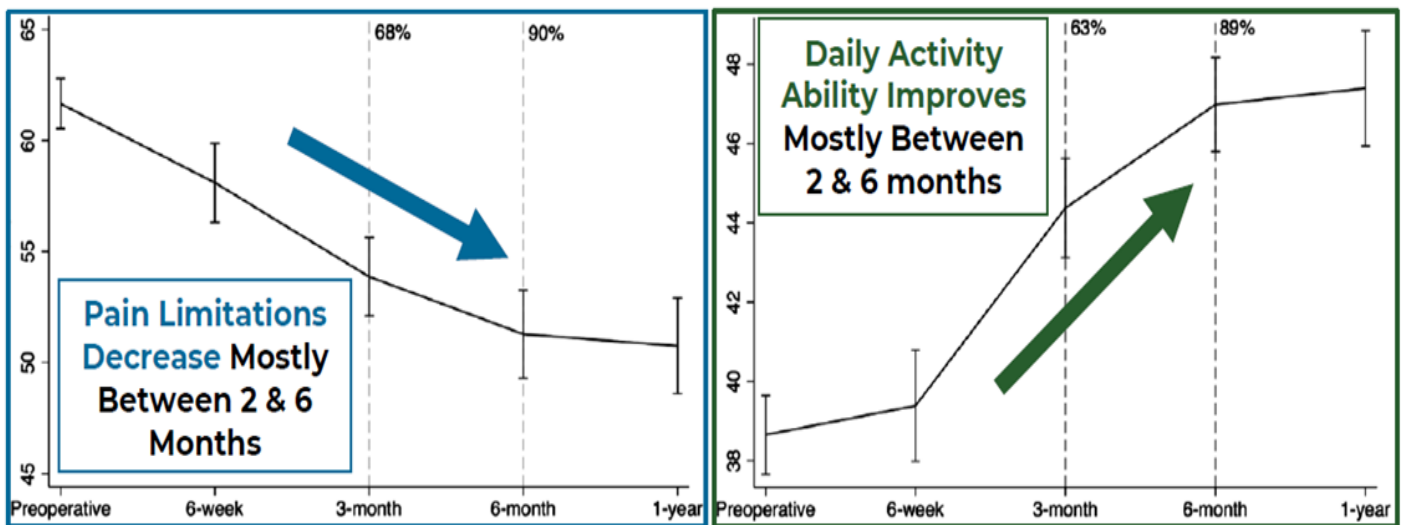
You may shower beginning 2 days after surgery. Your surgical dressings are water resistant so they can get wet, but do not submerge the knee in water.

After your bandage has been removed (1 week after surgery), you may continue to shower without covering your incision. You should not submerge your incision under water until it is fully healed. This usually takes 4-6 weeks, but should be evaluated by Dr. George or Rachel before deciding to submerge. Always use a clean wash cloth and do not scrub the incisions directly. Pat the incisions dry thoroughly after your shower.

Pain Education

Pain is an expected and necessary part of the healing process after a total knee replacement.

- It is normal to have pain when you awake from surgery.
 - It is also normal to feel an increase in pain 12-24 hours after surgery as the stronger medications used during surgery wear off.
- This early increase in pain does not mean there has been any damage to the replacement.
 - This is your nervous system becoming more efficient at sensing the healing that is taking place in your knee.
 - Your nervous system will become less sensitive over time. Participation in physical therapy with appropriate rest and medication use will help with this process.
- Rest assured that your new joint is in place and is nearly impossible to damage in your early recovery.



*Ryland Kagan, MD et al. The Recovery Curve for the Patient-Reported Outcomes Measurement Information System Patient-Reported Physical Function and Pain Interference Computerized Adaptive Tests after Primary Total Knee Arthroplasty. *The Journal of Arthroplasty*. 33 (2018): 2471-2474.

The ON-Q Pump

Dr. George may decide you are a candidate to use the ON-Q pump in addition to narcotics. It is a balloon type pump that delivers numbing medicine at a very slow adjustable flow rate.

- Turn the rate to 8ml/hr at 8pm the first night of surgery, even if you have minimal pain.
- The block will not remove all of the pain. The areas above the mid-thigh and the back of the knee cannot be covered by this block.

On-Q Tips:

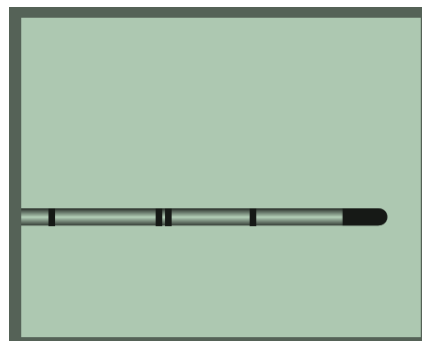
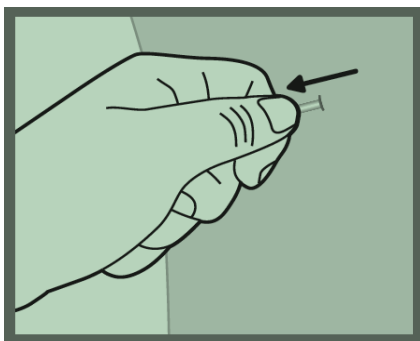
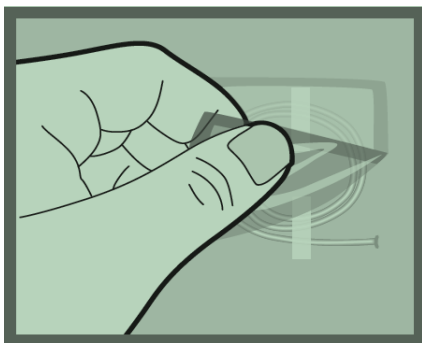
- Make sure the white clamp on the tubing is open and not pinching the line. Avoid any kinks in the tubing.
- The pump may be clipped to your clothing or it may be placed in a small carrying case
- Do not tape or cover up the circular filter near the pump
- It may take longer than 24 hours after your procedure to notice a change in the size and look of the pump
- You **will not** see fluid in the line or air space in the pump ball. The tubing will look clear and you **will not** see the medicine moving. Do not squeeze the pump.
- As the medicine is delivered, the outside bag on the pump will form wrinkles and the pump ball will gradually become smaller

How to Remove Your ON-Q Catheter:

You will need to remove your ON-Q catheter by day 5 or sooner if all of the medicine has been delivered (3-5 days).

Follow ON-Q manufacturer instructions:

- Wash your hands thoroughly with soap and warm water and dry them well
- Remove the dressing covering the catheter site. Remove any skin adhesive strips.
- Do not cut or pull hard to remove the catheter
- Grasp the catheter close to the skin, and gently pull on the catheter. It should be easy to remove and not painful.
- You can dispose of the entire kit in the regular trash



IMPORTANT: After you remove the ON-Q catheter, check the catheter tip for the black marking to ensure the entire catheter was removed. Call your anesthesiologist if you don't see the black marking.

On the day of surgery your anesthesiologist will give you their phone number in case you have questions or concerns about the ON-Q pump.

- You can write that number here as well: _____

Cold Therapy for Pain and Swelling

- Cycle the cold therapy 15 minutes on, then 15 minutes off day and night. After the first week you can choose to use cold therapy as needed to manage your pain and swelling just during the day.
- Apply your chosen cold therapy over a thin layer of clothing on the knee in a supported, straight, and elevated position.
- When using the Polar Care Wave:
 - Always apply and remove the device from your knee **only** when the knee wrap is empty and the hose is unattached.
 - Check every 2-3 hours that there is still ice in the unit so that your treatments are effective.
- Set the compression settings on the Polar Care Wave to your preference. If it is too uncomfortable you do not need to use the compression feature.
- When using cold packs, place them on the front and back of the knee with an ace wrap
- Remove cold therapy when doing your scheduled extension and flexion exercises or to shower and dress.



Polar Care Wave



Cold Packs

Pain Medication

Your goal is to be completely transitioned from opioids to your preferred over the counter pain medications 2 - 4 weeks after surgery. Keep in mind that the goal of taking pain medication is not to be pain free after a major surgery, but to be comfortable enough to get some sleep and participate in your physical therapy program. IMPORTANT NOTE: Please plan ahead as we need 24 hours to properly process any medication refill request and we do not refill medications over the weekend.

- **Anti-inflammatory Medication:** Take your prescribed dose of Meloxicam OR Celebrex. Do not take additional anti-inflammatory medications (i.e. Aleve, naproxen, ibuprofen, Advil, etc.) while on Meloxicam or Celebrex.
- **Tylenol:** You may take 650mg every 6 hours **OR** 975mg-1000mg every 8 hours. **DO NOT** take more than 3000mg in a single 24 hour period.

How to Wean Off of Narcotics: Be consistent with the medications above as you complete the following steps.

- Step 1: Increase the amount of time between doses.
 - Example: Take a dose every 5-6 hours for 1-2 days. Then take a dose every 7-8 hours for 1-2 days.
- Step 2: Start to reduce the dose amount.
 - Example: Decrease from 2 pills to 1 pill at each dose for 1-2 days.
- Cold therapy is very helpful in reducing pain in the first few weeks.

YOUR RECOVERY PROCESS

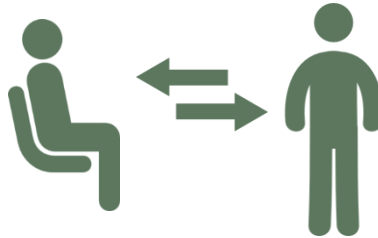
The ultimate goal of your total knee replacement is to get you back to work, functional activities and hobbies. Participation in your rehabilitation program is essential as your success is based in large part on you. The actual surgery is only a small portion of how well you will do when you return to your pre-injury activities.

Your therapist will likely release you to independent activities 6 to 12 weeks after surgery. Don't let anyone tell you that the rehabilitation portion of your recovery is easy. It will take hard work and dedication. We're here to encourage and guide you on to the best outcome possible.

Your therapists will help problem solve and address any challenges you may experience at home. Below are some tips to make life a little easier.

Moving Around with Your New Knee

- **Sitting to Standing:** Slide to the front edge of the chair. Bend each knee as much as possible, bringing your feet underneath you. Push up with both hands on the armrests. If sitting in a chair without armrests, place one hand on the walker while pushing off the side of the chair with the other.
 - If you are using crutches, put both crutches in the hand on the side of your operative leg. Push through the other armrest to stand up. Once you have your balance, move both crutches under your arms.



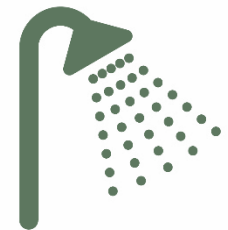
- **Standing to Sitting:** Back up until you feel the chair behind you. Bend slightly at your hip and reach behind you with one hand and grab the armrest or the side of the chair surface. Do the same with the other hand then lower yourself onto the front of the chair.
 - If you are using crutches, hold both crutches in the hand on the side of your operative leg.

- **Going Up and Down Stairs:** If you are using a walker, have someone take your walker to the top or the bottom of the stairs. Always hold onto the handrail. Have someone support you on the opposite side as needed. Go up starting with the good leg first (“Up with the Good”). Go down starting with the surgical leg first (“Down with the Bad”).
 - If you are using crutches, hold the handrail with one hand. Put both crutches in your other hand. Support your weight evenly between the handrail and your crutches and use “Up with the Good”, “Down with the Bad” sequence as above. Always move your crutches in conjunction with the surgical leg.



Activities of Daily Living

- **Dressing:** Initially your surgical leg will be larger as it heals; it will be easier to wear loose fitting pants or shorts early on. You will likely need to sit on the edge of a chair or bed to put on your pants and socks. Slip-on shoes with heel cup and rubberized soles are recommended as bending your knee to tie your shoes may be difficult.
- **Sleeping:** We suggest sleeping with the knee supported in a straight position elevated on pillows. Do not support the knee in a bent position as this will delay your recovery. Keep your pain medication nearby as you may need it during the night.
- **Transportation:** You will not be able to drive yourself until you are completely off of your pain medications. Before getting into the passenger side of the car, push the car seat all the way back and recline it if possible. Back up to the car until you feel it touch the back of your legs. Reach back for the car seat and lower yourself down. Duck your head so that you don't hit it on the door frame. Scoot back onto the seat and lift one leg at a time into the car. Use this sequence in reverse to get out of the car.
- **Getting In and Out of the Tub or Shower:** Have a family member help support you when stepping into and out of the tub.
 - If you do not feel comfortable standing in the shower we recommend placing a chair onto a non-slip surface in the tub so you can sit as you shower.
- **Additional Tips for Activities of Daily Living**
 - Don't place your crutches, walker, or cane too far ahead or they can slip.
 - Always keep walking device close when you sit down so it is easy to reach when you get up.
 - Sit in higher chairs with arms. It makes it easier to get up and down.
 - Rise slowly from a sitting or lying position so as not to get light headed.
 - Slow down. Plan extra time to get around. Stop and rest frequently.



Home Exercises

To get the most out of your exercises, be sure to breathe during all activity. The pain may make you want to hold your breath; do not hold your breath.

- 1. Ankle Pumps:** Ankle pumps help to reduce the risk of blood clots. While sitting in a chair or lying on your back in bed with your knees straight, slowly push your feet forward (like a gas pedal) then pull them backwards. Do this with **both feet frequently throughout the day.**



For Exercises 2-4 Perform 10 Repetitions 5 Times a Day.

- 2. Short Arc Quads:** Place a rolled up towel or object under your knee and slowly straighten your knee as you raise up your foot while increasing pressure on towel behind knee. Hold this for 3 seconds, and then relax foot back to surface.



- 3. Straight Leg Raise:** While laying down, squeeze the muscle above knee cap to straighten knee, then lift your leg up as high as pictured keeping your knee as straight as possible. Pause briefly at the top and slowly lower down.



- 4. Heel Slides:** While lying on your back in bed, bend your knee and slide your heel to your buttock as far as you can with minimal discomfort. Then slowly slide it back out straight.



Perform the Following 2 Stretches 5 Times a Day.

- 5. Propped Knee Straightening Stretch:** While sitting in a chair or lying down, place the foot of your surgical leg on top of another chair seat or towel, then rest in this position with the toes pointing to the ceiling for 15 minutes.



- 6. Knee Bending Stretch:** Option 1: While sitting in a chair use your non-surgical leg to help bend your surgical knee. Option 2: Keep surgical knee planted on floor and scoot body forward in chair. Perform either option until a firm stretch is felt, hold 30 seconds, and repeat it 5 times.



NOTE: The Physical Therapist that will follow you upon discharge will progress your exercise program as you heal. These are just the beginning!

Precautions During Rehab

- **For the First 4 Weeks:**

- Do not rest the leg in a bent knee position after surgery for greater than 30 minutes at a time.
- It is best to sleep with the knee supported in a straight position elevated on pillows. It may be more comfortable but **DO NOT** support the knee in a bent position (a pillow behind the knee) as this will delay your recovery.



- **Long Term:**

- No repetitive impact activity recommended.
 - Running, jumping, or contact sports.



Expected Phases of Recovery

Phase I: Weeks 1-3 —Motion and Quadriceps Control

- Your surgical knee will be painful during the early weeks of this phase. This is normal and expected as you heal from the surgery.
- Your knee is firmly secured in place and is very stable at this time. Although it is stable and healing well, you will not have normal use of your surgical leg in this phase.
- We expect that you will be able to bend and straighten your surgical knee with moderate difficulty and discomfort. Your goal is to be able to get your knee complete straight as soon as you can. We expect the motion to improve steadily if you put in the work.
- Prescribed exercises and hands on therapy will increase knee motion and help decrease your pain and inflammation. If the swelling in your knee increases you are working the knee too much or resting, elevating and icing too little.

Phase II: Weeks 4-6 — Functional Movement and Strengthening

- If you walked without a walker or cane before surgery, we expect you to walk without these devices at this time.
- We expect you to be nearing full range of motion as you return to normal household activities and stair management with mild discomfort.
- Even though discomfort may still be present, we expect you to significantly decrease or stop pain medication use during this phase.
- Additional exercises will be given to strengthen the muscles around the hip and knee.

Phase III: Weeks 7+ — Slow and Progressive Return to Activity

- We expect that you will have muscle soreness that does not require pain medication as you increase work to improve the strength and motion of your surgical leg.
- We expect you to have full motion of your new knee in this phase.
- Prescribed exercises will help maintain full range of motion, increase your balance and increase comfort with stairs and squatting tasks.
- You will slowly begin to return to full pre-injury function, excluding impact and pivot/twisting activities, under the direction of Dr. George, Rachel Mazza or your physical therapist.
- Prescribed exercises in this phase will get you on a path to the strength, power and endurance needed to return to the activities you love.
- You may not have full strength of your surgical leg at this time, but you will have a plan in place for continued training to meet your goals.

Phase IV: Weeks 12+ — Final Home Exercise Program

- We expect that you will have minimal to no discomfort at this time.
- You will not likely be in physical therapy at this point but you should still be working hard to get your strength back to normal.
- You will be able to return to more full-duty work and engage in more recreational activities
 - If you have a specific activity you are worried about returning to, Dr. George or Rachel will be able to give you the best recommendation.

FREQUENTLY ASKED QUESTIONS

Q. Can I work out after my surgery?

We encourage you to exercise as much as you feel able to without increasing the swelling or pain in your new knee. This may be difficult immediately after surgery and your physical therapist will direct you to the best exercises for each stage of your recovery.

Q. Will my new knee set off airport security alarms?

Your knee is made of titanium and cobalt chrome with a small amount of plastic. It will likely trigger an alarm, be ready to inform the TSA staff at security that you have a total knee replacement and follow their instructions.

Q. How long until I can drive myself?

You are not able to drive while taking your narcotic pain medications. Driving after a total joint replacement is a safety concern. The ability to drive depends on whether surgery was on your right leg or your left leg, and the type of car you have. If the surgery was on your left leg and you have an automatic transmission, you could be driving at two weeks. If your surgery was on your right side, your driving could be restricted as long as six weeks.

Q. What are my options if I am discharged to home alone?

You may qualify for Home Health Services. A nurse and physical/occupational therapist visit you at home several times a week. Discuss this option with your surgeon. We recommend that you have friends or family available to come to your house and assist you at home with meals and household tasks.

Q. How long should I expect my knee replacement to last?

Your knee replacement should last 20-30 years, depending on the health of your bone and soft tissue at the time of surgery and on your current activity level.

Q. When will I be able to get back to work?

We recommend that you take two to four weeks off from work. If your job is labor intensive, plan to take a few more weeks. A physical therapist can make recommendations for joint protection and energy conservation on the job.

Q. Will I be in pain after surgery?

You will likely be in some form of discomfort after surgery. This is normal. It is your body telling you to slow down to heal. Our team will work you through this process, taking your comfort into consideration in everything that we do. It is important to work through some discomfort to regain your knee range of motion. Dr. George, Rachel Mazza, and your physical therapist will show you how to do this most effectively.

Q. When will I see my doctor following the surgery?

Your first postoperative office visit will be scheduled for 10-14 days after surgery, then 2 weeks after that first follow up appointment. After that, plan for appointments at one-month intervals. Your physical therapist will communicate with Dr. George and his team regarding your progress.

Q. Do you recommend any restrictions after this surgery?

Be sure to follow all post-operative instructions, and you should enjoy full functional range of motion once you heal. You are encouraged to participate in low-impact activities such as walking, bicycling, dancing, golf, hiking, swimming, fishing, rafting, hunting and gardening. High-impact activities, such as running, jumping and contact sports are not recommended.

Q. How long will my recovery take?

With regular physical therapy, range of motion should be nearly restored within 4 weeks. With continued strengthening exercises, both strength and function of your knee should dramatically improve after three months. At six months to one year, you can expect to achieve a full recovery.

Q. Will I notice anything different about my new knee?

In many cases, patients feel that the new joint moves completely naturally. The most common patient comment is that they can sometimes feel or hear a clicking or clunking sound in the knee. Remember it may take up to a year to feel like yourself again. Discomfort in your foot and ankle is not unusual as they may have to adjust to the alignment of your new knee.

Q. How frequently will I have follow-up appointments?

Your first post-operative appointment will be 10-14 days after surgery. Your next appointment will be 1 month after surgery. You will continue with monthly follow-ups until discharge. We generally like to see you at one year after surgery and as needed based on your individual needs.

Dr. George, Rachel Mazza, and your physical therapist will be in constant communication regarding your progress. It is important to attend your ongoing care appointments to be certain that your knee replacement is performing properly. By conducting regular physical exams and reviewing X-rays, we can identify any problems that may be developing even before you develop physical symptoms.

ThankYOU!



At ValleyOrtho, we appreciate your confidence, and we'll do our best to keep earning it.

We're honored that you've chosen ValleyOrtho to help you regain your freedom of motion. And we'll be the first to wish you happy hiking, biking, skiing, gardening, and grandchild-holding with your new knee. In short, we'd like nothing more than to help you get off the bench and back onto the playing field of your life.