

Outpatient Total Knee Replacement

PATIENT GUIDE



PREPARE TO EXCEL!

MATTHEW DWYER, MD • CHRISTOPHER PHELPS, MD



Osteoarthritis is a progressive, degenerative disease in which the cartilage of the knee or hip slowly wears away. Cartilage serves as a cushion between the bones of the joint, and when the cartilage of the joint wears away due to osteoarthritis, the resulting pain and inflammation can be debilitating.

Your chances of osteoarthritis of the weightbearing joints of the knee and hip increase with age; the condition most often affects middle-aged and older people. Osteoarthritis may first appear between the ages of 30 and 40, though symptoms may not be present in the early stages. Later in life, many Americans will experience joint pain due to arthritis that can make enjoying life very challenging.

When traditional, non-surgical treatment options have failed to manage the pain from an arthritic hip or knee, joint replacement (arthroplasty) can be a valuable tool. The surgeons and staff at Orthopedic Performance Institute are dedicated to combating the effects of osteoarthritis and are determined to guide patients back to an active, enjoyable lifestyle.

We combine patient preparation with advanced surgical techniques, innovative pain management tools and enhanced rehabilitation strategies to revitalize the lives of patients every day.

Our outpatient total joint replacement program eliminates the need for overnight hospital stays and allows patients to return to an active, enjoyable life with minimal downtime. The foundation of our program is extensive patient education coupled with comprehensive support to ensure success from the beginning. Prepare to excel!

Table of Contents

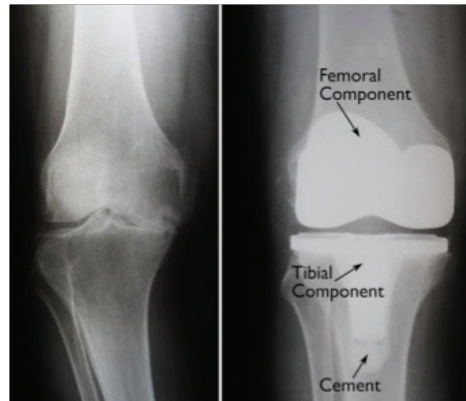
Total Knee Replacement FAQ	4
Preparing for Surgery	6
Pre-Surgery Exercises	8
After Surgery	11
Post-Surgery Exercises	13
After Surgery Recovery	14
Care and Concerns	15



A knee replacement (also called knee arthroplasty) might be more accurately termed a knee “resurfacing” because only the surface of the bones are actually replaced.

There are four basic steps to a knee replacement procedure.

- *Prepare the bone.* The damaged cartilage surfaces at the ends of the femur and tibia are removed along with a small amount of underlying bone.
- *Position the metal implants.* The removed cartilage and bone is replaced with metal components that recreate the surface of the joint. These metal parts may be cemented or “press-fit” into the bone.
- *Resurface the patella.* The undersurface of the patella (kneecap) is cut and resurfaced with a plastic button. Some surgeons do not resurface the patella, depending upon the case.
- *Insert a spacer.* A medical-grade plastic spacer is inserted between the metal components to create a smooth gliding surface.



(Left) An x-ray of a severely arthritic knee. (Right) The x-ray appearance of a total knee replacement. Note that the plastic spacer inserted between the components does not show up in an x-ray.

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

What is “outpatient” joint replacement?

The term outpatient means that we eliminate the traditional one- or even two-night hospital stay typically associated with joint replacement surgery and allow the patient to fully recover at home. This is accomplished through extensive patient education and preparation combined with minimally invasive surgical techniques, advanced pain management therapies and rehabilitative support. Surgery itself takes about 1.5 hours, patients should plan to spend about five to six hours total at the surgical center.

How is pain managed during surgery?

The anesthesiologist will discuss the use of a nerve block with you, this is an injection of numbing medicine that numbs the leg from the hip down. General anesthesia, given by IV, is used in conjunction with the nerve block. Oral medications and additional injectable medications may be given as needed for pain or relaxation.



How will I know I am ready to go home?

After surgery, plan to spend a few hours in recovery where nurses will monitor your vital signs and provide medication as needed for pain and nausea. You will also be discharged home with oral medications that, when taken as directed, typically provide excellent pain relief. A physical therapist will walk with you prior to discharge to ensure you are stable and comfortable. It is important to follow the discharge instructions that you will be provided after surgery. That will be discussed in detail in this booklet. Specifically, follow the instructions for post-operative pain management to ensure adequate pain relief once you are home.

Who is a good candidate for outpatient joint replacement surgery?

The success of outpatient joint replacement journey is dependent on several factors. One of the most imperative factors is appropriate patient selection followed by preparation and education of the patient. Our team is dedicated to ensuring our patients achieve their goals of returning to an active, pain free lifestyle but your understanding, participation and commitment are imperative to the success of your procedure. The guidelines below are the basis of our patient selection strategy for outpatient joint replacement and reflect the optimal characteristics of a good candidate.

• Age: < 65	• Good health	• Appropriate body weight (BMI <40)
• Stable home setting and support	• Non-smoker	• Health history negative for chronic pain and/or poorly controlled anxiety/depression

What are the risks associated with joint replacement surgery?

Our surgeons perform hundreds of successful joint replacement surgeries each year and our staff is dedicated to the safety of each of our patients. However, there are potential complications associated with any surgery. Below are some of the risks associated with joint replacement surgery and the precautions we take to minimize these concerns.

Infection. Prior to surgery, your pre-operative testing will help identify active infections and potential sources of infection. These will be treated appropriately. Surgery will not take place if there is any potential active infection present (ex. skin wounds, respiratory infections, bladder infections). During surgery, our team follows meticulous sterile technique. Patients are treated with IV antibiotics and the surgical site is thoroughly cleansed. Post-operatively, we provided detailed instructions regarding wound care and recommend avoiding dental procedures for 6 months including routine cleanings due to the increased risk of joint infection.



Blood Clots. Notify our staff prior to your surgery if you have a history of blood clots. After surgery, you will take Aspirin two times daily. We encourage early walking and regular activity. Compression stockings and foot/ankle pumps can also be helpful in decreasing clotting risk and improving lower leg swelling. We offer Sequential Compression Devices (SCD) for purchase (\$225). This simple, battery-powered device gently squeezes the lower leg to encourage blood flow and decrease the risk of clotting. Our knowledgeable staff will educate and fit you with this device prior to surgery.

Additional risks associated with every surgery do exist and include numbness, pain, blood vessel or nerve injury, and complications associated with general anesthesia. Expect to have a localized area of numbness near the incision that will remain indefinitely. This is a change in sensation due to the nature of the incision and does not lead to pain or a loss of function.

Preparing for Surgery — Scheduling

When the decision has been made to proceed with outpatient joint replacement surgery, our office will begin the process of scheduling the procedure. Our surgery coordinator will contact you to discuss available dates. We will then submit to your insurance company for pre-authorization of surgery. Once we have obtained this authorization and verified your benefits you will be contacted via email. Our experienced staff will communicate all of the details regarding surgical coverage and benefits with you prior to your procedure. We will also schedule any additional appointments that may be necessary and discuss medical testing that will be required to prepare you for surgery.

Pre-Operative Testing and Surgical Clearance — EKG and Surgical Clearance

- > 60 years old — Patient will contact their PCP or Cardiologist (if under care of one) to schedule an EKG and be evaluated for surgical clearance. Please request your records be faxed to our office at 210-545-7176.
- < 60 years old — Patient may have EKG done at surgical hospital along with additional pre-admission testing.
- All Patients — Regardless of age, and in addition to evaluation by your own PCP or cardiologist. Schedule pre-admission laboratory testing at the surgical hospital 15 days prior to surgery. Failure to complete this pre-admission testing and registration could result in cancellation of your procedure. Contact Legent Hospital at (210) 877-8066.
- Contact our office at (210) 545-7171 to determine if any additional x-rays or imaging are necessary prior to surgery date.



Pre-Operative Education/Total Joint Class

To ensure our patients are fully prepared for their journey to a more active and enjoyable lifestyle we recommend participation in our pre-operative education program or “joint class”. During this session, patients have direct access to one of our highly trained providers who will thoroughly review all of the details surrounding surgery. Topics include specifics of surgery day itself, description of the surgical procedure, pre-operative and post-operative instructions, and an open question and answer session. Plan to attend this essential class two to three weeks prior to your surgery date. Contact our office to schedule.

What YOU Can Do to Prepare

Your health. Our team is always available to provide patients with step by step guidance through the process of outpatient joint replacement surgery and recovery, but a successful outcome is dependent on patient preparation and participation.

- Assemble a packet of your medical and personal information, including copies of insurance, health directives, etc. This information can be brought with you to the hospital as well.
- Avoid alcohol use at least 48 hours before surgery.
- Avoid/quit tobacco use as soon as possible.
- If you are in need of any dental work, such as an extraction or periodontal treatment, schedule it well in advance of your surgery. Due to the risk of infection, no dental work is allowed, including routine cleanings, for six months after surgery.

Medication Instructions

STOP 7 DAYS PRIOR TO SURGERY	STOP 2 DAYS PRIOR TO SURGERY	CONTINUE TAKING AS PRESCRIBED
<ul style="list-style-type: none">• All blood thinners (Coumadin, Warfarin, Xarelto, aspirin) and anti-inflammatory medications (Advil, Motrin, Aleve, ibuprofen)• All vitamins and supplements	<ul style="list-style-type: none">• Metformin	<ul style="list-style-type: none">• CONTINUE to take remaining prescription medications regularly and on surgery day with a small sip of water
<ul style="list-style-type: none">• If you are under the care of a cardiologist and taking a blood thinning medication, consult with your cardiologist for specific instructions at least one week prior to surgery		<ul style="list-style-type: none">• Speak to our staff directly about medications you take for autoimmune conditions or any type of hormone replacement therapy



Your home. Consider prepping your home for your return after surgery. It is especially important to assess for fall risks such as loose carpets/rugs and cords. Remove these. If your bedroom is upstairs, it may be best to create a temporary living and sleeping space on the lower level because walking up or down stairs can be more difficult immediately after surgery. Below are some additional points to consider when preparing your home for your return.

- Secure handrails along your stairways.
- Add safety bars or a secure handrail in your shower or bath.
- Purchase or borrow a stable shower bench or chair for bathing.
- Have a stable chair accessible with a firm seat cushion (and a height of 18 to 20 inches), a firm back, two arms, and a footstool for intermittent leg elevation.
- Consider a toilet seat riser with arms to place over your existing commode.
- Place non-skid surfaces (strips, etc.) in showers and tubs.
- Remove loose carpets/throw rugs and long cords.
- Arrange for pet care as needed.
- Consider a portable phone or personal alarm if you will be home alone for periods of time.

Your body. A positive outcome from a total joint replacement is dependent on a patient's preparation and commitment in the weeks and months leading up to the procedure itself. Your physical condition prior to surgery has a significant impact on your ability to quickly and successfully recover. These pre-surgical exercises should be performed twice daily for approximately 15 minutes. Perform only the exercises you can comfortably do.

Straight Leg Raises



- Lie on the floor with your elbows directly under your shoulders to support your upper body.
- Keep your affected leg straight and bend your other leg so that your foot is flat on the floor.
- Tighten the thigh muscle of your affected leg and slowly raise it six to 10 inches off the floor.
- Hold this position for five seconds and then relax and bring your leg to the floor. Repeat.

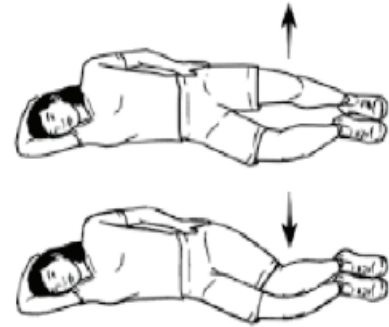
Side Lying Straight Leg Raise

- Lie on your side with your one leg on top and the bottom leg bent to provide support.
- Straighten your top leg and slowly raise it to 45°, keeping your knee straight, but not locked.
- Hold this position for five seconds.
- Slowly lower your leg and relax it for two seconds. Repeat.



Clamshells

- Lie on your side with the one knee pointed toward the ceiling.
- Keeping your heels together, open and close your legs like a clamshell.
- Perform up to three sets of five to 20 repetitions.

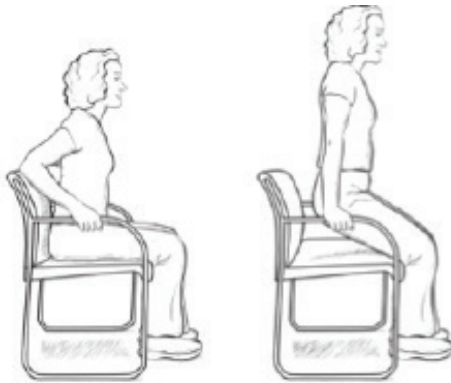


Seated Knee Bend

- Sit in a chair with your thigh supported, bend your knee as far as you can until your foot rests on the floor.
- With your foot lightly resting on the floor, slide your upper body forward in the chair to increase your knee bend.
- Hold for five to 10 seconds. Straighten your knee fully.
- Relax. Perform set of five to 20 repetitions.

Sitting Kicks

- Sit in a stable chair and raise your leg until it's straight.
- Hold the position for five seconds.
- Slowly lower your leg.
- Perform up to three sets of five to 20 repetitions.



Chair Push-up

- Sit in a sturdy chair with arms.
- Grasp the arms of the chair and push down on them while raising your body and straightening your arms and elbows.
- Slowly lower yourself back onto the chair. This will help strengthen your arms so they can hold you up when you don't have the use of both legs after surgery.

Supported One Leg Balance

- Place yourself in front of a countertop or waist-level bar.
- Hold onto the bar and stand on one leg for 30 seconds.
- Make sure to squeeze your gluteal muscles (in your butt) together to engage your abductors (outer thigh).
- Repeat with the opposite leg.



Two Weeks Prior to Surgery

- Complete your pre-admission testing/labs and registration at the surgical hospital.
- Confirm that necessary testing and clearance from PCP and/or Cardiologist has been completed.
- Purchase Hibiclens cleanser to be used prior to surgery. This can be purchased over the counter at any major pharmacy.
- Contact our office to determine the possible need for a specialized xray used for surgical planning and to plan for the purchase and set-up of the sequential compression devices (SCDs) that help to reduce blood clotting risk.

One Week Prior to Surgery

- Stop all blood thinning medications (Coumadin, Warfarin, Xarelto) including all anti-inflammatories (Advil, Motrin, ibuprofen, Aleve, Naproxen).
- Notify our office if you develop any signs of illness prior to surgery (fever, evidence of infection, sore throat, difficulty breathing or cough, skin rashes or wounds).
- Fill prescriptions for post-operative pain medications. Have these readily available at home.

One to Three Days Prior to Surgery

- Do not shave legs three days prior to surgery to avoid possible cuts that could postpone surgery.
- Stop Metformin two days prior to surgery.
- Wash with Hibiclens the night before and the morning of surgery, follow instructions provided on the bottle. Do not apply lotions, perfumes or deodorant.
- Do not eat or drink after midnight the night before surgery. Do not chew gum or use mints. You may brush your teeth.
- Take medications as prescribed and with a small sip of water the morning of surgery for the following:
 - High blood pressure
 - Thyroid disease
 - Reflux
 - Anxiety/depression
 - Asthma/COPD
 - DO NOT TAKE insulin or diabetes medications unless specifically instructed to do so



Surgery Day

- Take medications with a small sip of water as directed above.
- Arrive at the hospital two to three hours prior to surgery with a responsible adult driver.
 - Wear comfortable, loose-fitting clothes.
 - Bring ID, insurance cards, copies of health history, advanced medical directives.
 - Have cases for glasses, contacts, dentures, etc.
 - Leave jewelry, cash, and other valuables at home. You may not wear jewelry or any kind of body piercings for any surgery.
 - Bring all your medication in original bottles to the hospital for review.

At the Surgical Hospital

The hospital staff and pre-operative nurses will provide instructions upon your arrival at the hospital for surgery. They will guide you through signing consents for surgery and anesthesia and an IV will be started for pre-operative antibiotics and sedatives. The anesthesiologist will perform a nerve block for additional pain management. Your surgeon will meet you and your family in the pre-op area to discuss the planned procedure once again and answer any questions you may have. Once the surgical site has been confirmed by both you and your surgeon, you will be transferred into the operating room and your loved ones will be shown to the waiting area.

After Surgery

When surgery is completed you will be transferred to the recovery area where nurses will monitor your vitals and work to ensure pain is controlled, giving additional pain medications as needed. The oral and/or injectable pain medications provided in the recovery area typically provide successful pain relief upon returning home initially. It is essential, however, to follow the instructions provided for post-operative pain medication utilization after discharge from the hospital. This will aid in ongoing pain relief and allow for a smooth transition home.

Discharge Checklist

- Pain is controlled and vital signs are stable.
- Successful ambulation with walker confirmed by physical therapist.
- All prescribed medications for pain management are filled and available.
- Hospital staff has provided and reviewed brief overview of discharge instructions.
- Dressing is in place. Keep it clean and dry until your visit in our office.
- A responsible adult is present to drive home and available for at least 24 hours after discharge.



Before discharge from the hospital, a physical therapist will walk with you and provide assistance in using a walker. You will not be released to go home until both you and the therapist feel confident in your mobility.

Once you arrive home, the process of recovery really begins. The first night home it will be important to follow the recommended protocol for pain medication even though you may feel relatively well. You do not want to lose control of your pain as the medications from the hospital wear away.

Post-Operative Pain Management Protocol

Typically, patients will be discharged home from the surgical hospital with several prescriptions. We recommend taking pain medications on a scheduled routine for the first several days after surgery. As your pain improves, you can choose to wean away or stop medications as you feel comfortable.

- Norco (hydrocodone) is standardly used for control of moderate to severe pain. We recommend taking this medication every six hours routinely for the first several days after surgery. Tramadol can also be taken every six hours as needed for moderate pain or pain that is not well controlled with hydrocodone alone (breakthrough pain).
- Ibuprofen can be taken in conjunction with Norco and/or Tramadol every six to eight hours as needed for additional pain relief.
- Medications such as Zofran or Gabapentin may be used on an individual basis to treat nausea or nerve pain as needed.
- Stool softeners (Dulcolax, Colace) can be helpful to treat constipation associated with pain medication and can be purchased over the counter.
- Aspirin 81mg is recommended two times daily for blood clot prevention.

Wound Care

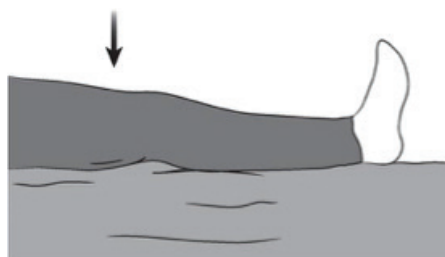
- Keep dressing in place immediately after surgery. It should remain clean and dry until you are instructed otherwise.
- Wash your hands often and avoid unnecessary contact/touching of the wound; less is more!
- You may shower two days after surgery. Remove the dry dressing but leave the adhesive "tape" in place, pat dry and redress with a new dry dressing.
- A visiting nurse will further instruct you in dressing changes if needed. In general, the dressing placed in the operating room will remain in place until your first post-operative visit in our office.
- Avoid submersion in baths, hot tubs and pools until you are cleared by one of our healthcare providers.



Early Post-Operative Exercise

- Walk often and safely using your walker/cane.
 - Keep hips straight and place your full weight through the involved leg as able.
 - Cane is used on the opposite side of the involved leg.
 - Walk slowly and intentionally.
- If you have increased pain, listen to your body and either modify the activity or rest completely.
- Your Physical Therapist will begin working with you soon after surgery, but you may begin the exercises below as soon as you are comfortable.

Quadriceps Sets

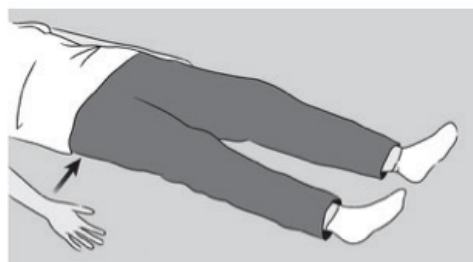


Tighten your thigh muscle. Try to straighten your knee. Hold for five to 10 seconds.

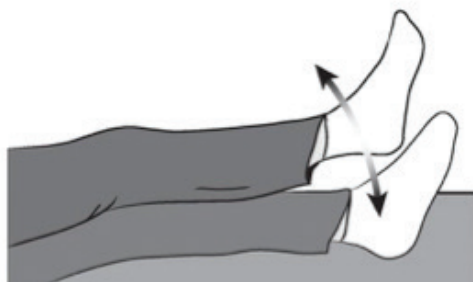
Repeat this exercise approximately 10 times during a two-minute period, rest one minute, and then repeat.

Gluteal Sets

Tighten your buttock muscles and hold to a count of five. Repeat 10 times.



Straight Leg Raise

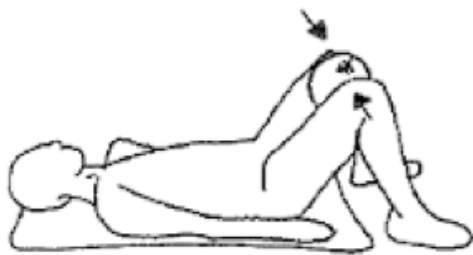


Tighten your thigh muscle with your knee fully straightened on the bed, as with the quadriceps set above. Lift your leg several inches. Hold for five to 10 seconds. Slowly lower. Repeat until your thigh feels fatigued. You also can do leg raises while sitting. Tighten your thigh muscle and hold your knee fully straightened with your leg unsupported. Repeat as above.

Bed-Supported Knee Bends

Slide your foot toward your buttocks, bending your knee and keeping your heel on the bed. Hold your knee in a maximally bent position for five to 10 seconds and then straighten. Repeat several times until your leg feels fatigued or until you can completely bend your knee.





Hip Adduction

Sit in a chair or lie on your back. Place a ball or similar object between your knees. Squeeze your legs together for a count of five. Repeat 10 times.

What to Expect After Surgery

Day 1-2 Out of bed, ambulating with walker, working to bend and straighten knee and hip independently.
Home nurse and Physical Therapist will visit to review wound care instructions, check vital signs and guide you through a progression of post-operative exercises and activity.
Take pain medications as recommended.

2-3 Weeks Continue with motion exercises and ambulate as much and as often as your joint will allow, use your pain as your guide .
Progress from walker to cane as tolerated.
Home physical therapy comes to a close.
First post-op follow-up visit at the office (contact us to schedule).
Begin outpatient physical therapy after first post-op visit.
Resume driving if no longer taking narcotic pain medication and can comfortably handle vehicle in an emergency situation.

6 Weeks Continue outpatient physical therapy.
Progress from cane to no longer using an assist device for walking.
Progress activity as tolerated.
Avoid submersion in baths, hot tubs and pools until you are cleared by one of our healthcare providers.
Second post-op visit in our office with x-ray evaluation.

3 Months Complete outpatient physical therapy.
Endurance and stamina continue to improve.
Return to most activities of daily living without significant difficulty (cooking, driving, light cleaning and yard work).
Progress activity as tolerated.

6 Months Resume routine dental work, antibiotics are required prior to ANY dental procedure including routine cleanings.

1 Year Full recovery.



Call our office at (210) 545-7171 with any of the following concerns:

- Fever of over 100.4.
- Incision appears more painful or red, has drainage or an offensive odor.
- Incision appears to be open or bleeds excessively.
- Pain is not controlled despite following recommended protocol.
- Medication is causing side effects such as nausea, rash, itching, stomach upset.
- You are experiencing chest pain, shortness of breath, worsening calf pain or leg swelling.

Avoiding Complications

Blood Clot Prevention

- Walk, early and often!
- Take Aspirin 81mg twice daily for four weeks.
- Wear compression socks.
- Regularly move your foot ankle-pump ankle/foot up and down.
- Sequential Compression Devices (SCD) are recommended for all patients to be used for the first two to four weeks after surgery.
- SCDs can be purchased and fitted in our office prior to surgery Not typically covered by insurance; cash price is \$225.

Infection

- Wash hands thoroughly and often.
- Avoid touching surgical wound.
- Keep dressings clean and dry until instructed otherwise.
- Avoid creams, lotions, oils, etc.
- Avoid shaving the involved extremity until instructed otherwise.
- Avoid submersion in baths, hot tubs and pools until you are cleared by one of our healthcare providers.
- Avoid dental procedures for six months after surgery.

Notes





CALL US TODAY TO SCHEDULE AN APPOINTMENT | (210) 545-7171

BOERNE

134 Menger Springs, Suite 1210
Boerne, TX 78006

STONE OAK

1139 E. Sonterra Blvd., Suite 500
San Antonio, TX 78258

SPORTS MEDICINE CLINIC

255 E. Sonterra Blvd., Suite 110
San Antonio, TX 78258

OrthopedicPerformance.com



MATTHEW DWYER, MD
Board Certified Orthopedic Surgeon



CHRISTOPHER PHELPS, MD
*Board Certified, Fellowship-Trained
Orthopedic Surgeon*