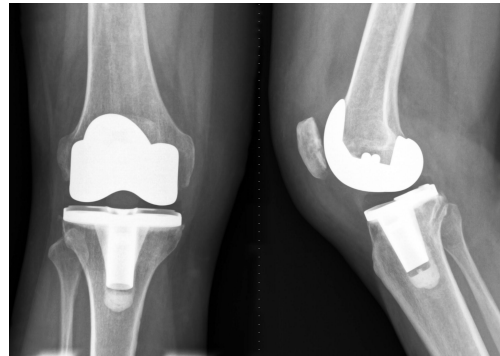




**Parminder S. Kang, M.D.**  
**Joint Fellowship Director**

## Guide To Total Knee Surgery



Email Your Questions To: [teamkang@doclv.com](mailto:teamkang@doclv.com)

Website: [KangHipAndKnee.com](http://KangHipAndKnee.com)



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# Guide To Total Knee Surgery

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# Guide To Total Knee Surgery

## PRE-OPERATIVE (BEFORE SURGERY) CHECKLIST

Date of Surgery: \_\_\_\_\_

When	Done	Date	Task
Now	<input type="checkbox"/>	_____	Make preoperative medical clearance appointments as soon as possible with Primary Care Physician, Cardiologist, and any specialist physician you follow-up with. Chest x-ray, EKG, and PCP letter of clearance should be done within 30 days of surgery, blood work needs to be drawn within 30 days of surgery. Take the "Preoperative Medical Consultation" form to your doctor so they can order appropriate testing.
Now	<input type="checkbox"/>	_____	Prepare house, arrange for transportation home from hospital and assistance for 3-5 days at home.
Now	<input type="checkbox"/>	_____	Submit any disability or FMLA papers to be completed as soon as possible. Allow 10 days to complete forms. There is a \$20.00 cash fee per form.
14 days Prior to Surgery	<input type="checkbox"/>	_____	Call Centennial Hills Hospital to schedule a pre-registration appointment, 702-369-7710. If your surgery is at Mountain View Hospital, please call 702-304-3150. Also, you will want to attend Join Camp at one of the hospitals, if offered. Centennial: 702-388-4888 Mountain View: 702-962-5021
10 days Prior to Surgery	<input type="checkbox"/>	_____	Stop taking aspirin and all anti-inflammatory medications - Advil, Aleve, Motrin, etc. Stop taking Plavix with approval from a cardiologist. Ask your cardiologist or medical doctor about when to stop other blood thinners (such as Effient or Pradaxa). (See Appendix D for complete list.)
14 days Prior to Surgery	<input type="checkbox"/>	_____	Preoperative medical clearance with your Primary Care Physician (and Cardiologist if applicable) should be completed. Call Dr. Kang's staff at 702-848-8708 to confirm receipt of test results from your PCP (and Cardiologist). If not received, tell your PCP to fax them to Dr. Kang's staff at 702-734-4900, AND pick them up a hard copy and bring it to your History and Physical (H&P) appointment with Dr. Kang's staff. We recommend a high protein diet prior to surgery.
5 days Prior to Surgery	<input type="checkbox"/>	_____	Stop taking Coumadin (blood thinning medication) with approval from a prescribing physician.  Lovenox bridging may be needed

# Guide To Total Knee Surgery

14 days Prior to Surgery	<input type="checkbox"/>	_____	Attend the History and Physical (H&P) appointment with Dr. Kang's Physician Assistant. <b>Bring a list of medications and dosages that you are taking.</b> Check with your Primary Care Physician that your pre-op medical tests have been sent to our office. If test results have not been received pick up a copy to bring to this appointment. If we do not have your test results at your H&P appointment, your surgery may be cancelled.
3 days Prior to Surgery	<input type="checkbox"/>	_____	Pre-registration at the hospital. Bring your driver's license, insurance card(s), and a list of your medications.
1-2 days Prior to Surgery	<input type="checkbox"/>	_____	Our office will contact you with your surgery time. Plan on being at the hospital at least 2 hours prior to your surgery time.
Night Prior to Surgery	<input type="checkbox"/>	_____	<b>Nothing</b> to eat or drink after midnight prior to surgery (not even a sip of water, except for essential medications—see below).
Morning of Surgery	<input type="checkbox"/>	_____	Take essential medications with a sip of water (blood pressure, heart, lung medication). Do NOT take your diabetes medication. Other medications will be discussed at your Pre-op visit.
Morning of Surgery	<input type="checkbox"/>	_____	Arrive at hospital at least 2 hours prior to scheduled surgery time.

# Guide To Total Knee Surgery

## POST-OPERATIVE (AFTER SURGERY) CHECKLIST

<u>When</u>	<u>Done</u>	<u>Date</u>	<u>Task</u>
Discharge	<input type="checkbox"/>	_____	At the time of discharge from the hospital you will be given discharge instructions. These instructions will provide individualized information about your allowed weight bearing, wound care, medications, precautions, and exercises.
Discharge	<input type="checkbox"/>	_____	You may be discharged with several pieces of equipment: a walker, elastic compression stockings, knee immobilizer, and ice machine. Raised toilet seats are an item that you may have to obtain on your own. Insurance dependant.
Discharge to 6 weeks post-op	<input type="checkbox"/>	_____	You will be discharged with a pair of compression stockings used to reduce the risk of blood clots. You are required to wear these stockings as much as possible for 6 weeks. You may take them off for 1-2 hours at a time if uncomfortable, but you likely will need assistance getting them back on.
Discharge to 6 weeks post-op	<input type="checkbox"/>	_____	You will be discharged with a knee immobilizer. You will be required to wear the knee immobilizer at night with a pillow under your ankle for 6 weeks. Your knee must be kept fully extended for 6-8 hours each day for the first 6 weeks after your surgery to ensure it heals straight. Never place a pillow under your knee for prolonged periods during the first 6 weeks. Remove the immobilizer during the day to work on range of motion.
Discharge to 6 weeks post-op	<input type="checkbox"/>	_____	After surgery you will need a blood thinner. Most patients will be given Aspirin 81mg twice a day. Others, with history or family history of DVT/PE will be given Xarelto 10mg daily for 5 weeks.
Discharge - 6 weeks post-op	<input type="checkbox"/>	_____	Eat an iron rich diet with red meat and dark green vegetables. Pain pills can be constipating so be sure to use a laxative or stool softener if needed.
Discharge- 6-12 weeks post-op	<input type="checkbox"/>	_____	Do your exercises at least 4-6 times per day (as instructed in Appendix B). This will ensure that you obtain maximal range of motion of your new knee joint. The Physical Therapist will help "coach" you with your exercises, but YOU are responsible for doing them.

# Guide To Total Knee Surgery

24-48 hours after discharge	<input type="checkbox"/>	_____	You will be discharged home in 1-2 days after surgery. You want to set up outpatient physical therapy within 1-2 days after arriving home. PT orders were given at your Pre-op visit. If the orders were misplaced, please call 702-848-8708
3-5 days after discharge	<input type="checkbox"/>	_____	When your incision is <i>no longer draining</i> , you may take your first shower. Do not use Neosporin or any other ointment. Simply remove the bandage and let soapy water run over the incision. Pat dry with a towel (do not rub vigorously). You may cover with a sterile bandage or leave the incision open. If your incision is still draining 3-5 days after discharge, call Dr. Kang's office IMMEDIATELY to schedule an appointment so that the doctor can check the wound. If the area around the incision is red or hot the doctor will want to check the incision also.
10-14 days after surgery date	<input type="checkbox"/>	_____	If your incision was closed with stitches you will have them removed at Dr. Kang's office. <b>DO NOT LET THE HOME HEALTH NURSE REMOVE SUTURES.</b>
1-2 weeks Post-Op	<input type="checkbox"/>	_____	Follow-up appointment with Dr. Kang.

Call Dr. Kang's office immediately at 702-848-8708

**if you experience any of these symptoms:**

- Unexplained, significant increase in pain
- The wound looks red, swollen, inflamed, or is draining fluid that is not clear yellow or pink
- The wound is still draining after 4-5 days post-op
- Recurrent temperatures above 100.5
- Fall or injury to leg
- Problems with medication



# Guide To Total Knee Surgery

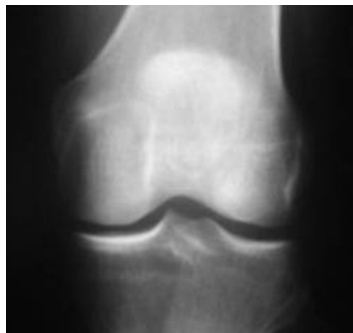
## INTRODUCTION:TOTAL KNEE REPLACEMENT

PARMINDER S. KANG, M.D.

DESERT ORTHOPAEDIC CENTER

Knee arthritis is a common affliction among patients over the age of 60 and is becoming more common in younger patients. It can progress into a disabling condition limiting one’s ability to carry out normal activities of daily living or recreation. When symptoms become severe, a Total Knee Replacement (also known as Total Knee Arthroplasty, or TKA), which resurfaces the worn out joint with artificial surfaces, can alleviate symptoms and allow a patient to return to full, pain-free activities.

The knee joint is formed by the intersection of three bones—the bottom of the thigh bone (femur), the top of the shin bone (tibia), and the kneecap (patella). In a healthy knee, each of these three bones is covered on the surface by a cushion of shiny, smooth cartilage. Cartilage enables the joint to glide smoothly without pain. Unfortunately, cartilage is a tissue that cannot repair itself when damaged. Sometimes, it occurs from small repeated injuries, such as repetitive overuse, especially in bones that are slightly malformed or poorly aligned. Other times, a single traumatic injury damages the cartilage. Once damage has occurred, further breakdown may gradually unfold until areas of raw bone are exposed. This process is known as “osteoarthritis,” the most common variety of arthritis. Other diseases such as rheumatoid arthritis, avascular necrosis, lupus, and fractures can also damage the joint cartilage.



NORMAL KNEE



ARTHRITIC KNEE

Osteoarthritis is the most common type of arthritis that leads a patient to seek knee replacement surgery. It is sometimes referred to as “degenerative joint disease.” Severe osteoarthritis may cause disabling pain and joint deformity. Osteoarthritis may cause a visible bow leg or knock knee abnormality if arthritis affects one side of the knee more than the other. On the other hand, arthritis affecting the backside of the kneecap (patellofemoral arthritis) will not be obvious to the onlooker. The two sides of the knee joint and the kneecap area constitute the three knee “compartments” that can be affected, individually or in combination by arthritis.

# Guide To Total Knee Surgery

Patients are advised to try conservative (non-surgical) treatments before considering any type of knee replacement surgery. Conservative treatments typically include use of non-steroidal anti-inflammatory drugs (NSAID's, such as Advil, Aleve, Motrin, Naprosyn, Mobic, Voltarin, etc.), reduction of activities that provoke pain, physical therapy to strengthen supportive muscles around the knee, weight loss to reduce the load on the knee, use of well cushioned shoes to reduce shock to the knee, bracing, injections of cortisone to reduce inflammation and pain, injections of "visco-supplements" to lubricate the knee joint, heat, ice, heating rubs, and use of walking aids such as a cane. Arthroscopic surgery may be a consideration for patients with early arthritis who would benefit from tissue debridement and smoothing. However, when pain and disability become severe, Total Knee Replacement surgery may become necessary.

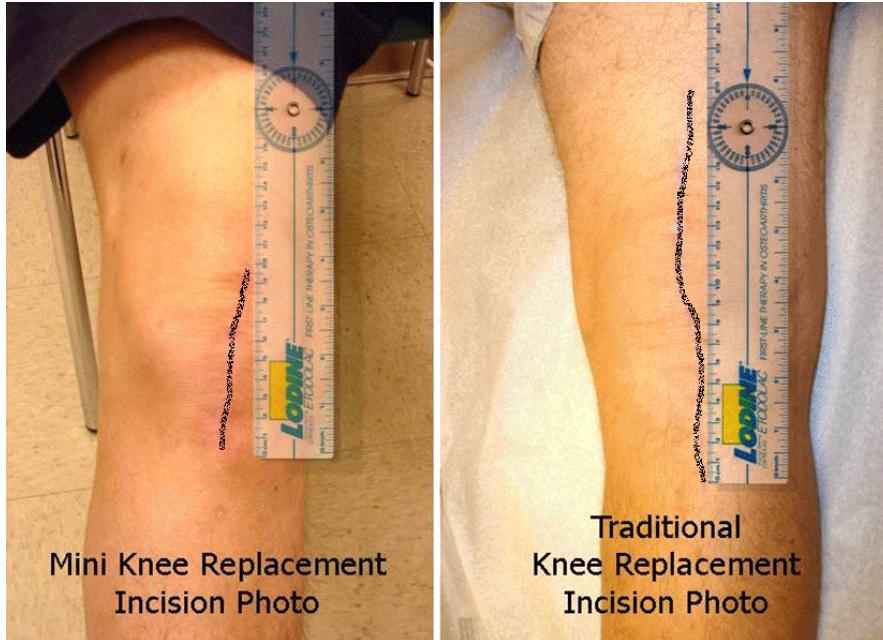


Total knee replacement does not require removing and replacing the entire knee joint. Instead, the diseased surfaces of the joint are planed down by about 1/4", and each is carefully fitted with a polished metal or ceramic cap, something like capping a tooth. A plastic "shim" slides between the 2 metal surfaces, restoring smooth, pain-free motion of the knee. The backside of the kneecap (patella) may also be shaved down and fitted with a smooth plastic cap, if it is arthritic. Most patients require several weeks of physical therapy after their surgery in order to gain the best function and motion from their newly replaced knee.

## KNEE REPLACEMENT

Total Knee Replacement was historically done through an 8-12 inch incision down the front of the knee which necessitated long recovery times of 3-4 months. However, with the advent of minimally invasive surgical techniques (MIS), total knee replacements can now be done through 4-6 inch incisions, and partial (unicompartmental) knee replacements through 2-3 inch incisions. Minimizing the length of the incision and deep soft tissue dissection reduces pain, shortens hospital stays, and hastens recovery generally to 4-6 weeks.

# Guide To Total Knee Surgery



Patients check into the hospital on the day of surgery and usually stay for one to two days. The surgery, itself, normally takes about one hour. Most patients are able to stand and take a few steps with a walker on the day of surgery with help from a physical therapist (PT). The PT will teach proper use of a walker, common activities such as using the toilet, climbing stairs, or entering and exiting a car, and basic exercises to regain motion and strength of the knee.

An occupational therapist (OT) may see the patient before hospital discharge in order to teach adaptive techniques for daily activities during the healing period. Assistive devices may also be provided to the patient. The OT can also help plan for any challenges of daily living that the patient will face at home such as bathing and dressing, feeding pets, or doing occasional light laundry.

Today, almost all patients are able to return directly home after surgery rather than going to a rehabilitation hospital. Patients who adhere to their daily exercise regimen can often return to most normal daily activities by 4-6 weeks.

## BEFORE SURGERY

### Initial Consultation

Dr. Kang will evaluate you in his office to determine if you are a candidate for knee replacement surgery. During your visit, he will explain the surgical technique including its potential risks and complications (See Appendix A). In addition, Dr. Kang will explain the benefits to you of the minimally invasive surgical technique and the latest developments in pain management to ensure your comfort after surgery. Dr. Kang will make every effort to schedule your surgery at a

# Guide To Total Knee Surgery

convenient time for you. However, keep in mind that his surgery schedule is often filled 6-8 weeks in advance.

## **Insurance and x-rays**

If Dr. Kang does not have your latest x-rays, bring a copy of your most recent x-rays to his office. Otherwise, we will take new x-rays when you arrive. Dr. Kang will review your x-rays during your initial consultation. If surgery is recommended, Dr. Kang will submit his report to the insurance company. Dr. Kang's staff will handle the insurance authorization needed for surgery.

## **Preoperative Medical Clearance**

All patients will be required to get clearance for surgery from a medical doctor prior to surgery. Dr. Kang's staff will help you arrange your preoperative medical clearance appointments either with your regular primary care physician or with one of our pre-op medical doctors. We will also give you the paperwork to take to your medical doctor when you schedule your surgery. Call and schedule an appointment to see your medical doctor as soon as possible so as not to cause a delay or postponement of your surgery if your doctor requires additional preoperative testing.

Patients under the care of a cardiologist should also make an appointment with their cardiologist immediately. Chest X-rays and EKG's are valid for 90 days prior to surgery. Blood work should be done within 30 days of your surgery. Note: patients must fast 10 hours prior to having some blood tests; ask your medical doctor.

Take the instruction form titled "Preoperative Medical Consultation" to your doctor at the time of your appointment. A young person without health complications may only be required to have the standard hospital admission blood tests and chest x-rays, which must be done within 30 days of surgery.

All patients will undergo a "type and screen" in the rare event that a blood transfusion is required. Using Dr. Kang's mini-incision surgical technique, blood transfusions are required in less than 5% of patients. The type and screen must be done at the hospital within 72 hours of surgery.

## **Anti-inflammatory Medication, Aspirin, and other Blood Thinners**

**Do not** take any aspirin or anti-inflammatory medications for 10 days prior to surgery (and that means NOT EVEN ONE PILL). These include Aleve, Advil, Motrin, Ibuprofen, Naprosyn, Mobic, Voltaren, Relafen, Daypro, etc. All of these medications thin the blood and may cause excessive bleeding during surgery. Other blood thinners, such as Coumadin (warfarin), Plavix, Pradaxa, Effient, or Persantine will also need to be stopped prior to surgery. Ask Dr. Kang how long before surgery to stop these medications. In general, Coumadin must be stopped 5 days prior to surgery, and Plavix 10 days prior to surgery. Vitamin E, vitamin D, and other herbal supplements such as St. John's Wort, Kava-Kava and Ginkgo Biloba may also cause thinning of the blood and should be discontinued 2 week prior to surgery. (See Appendix E – Blood Thinners – for a complete list.)

# Guide To Total Knee Surgery

## Preoperative Instructions and Hospital Orders

Two weeks prior to surgery, you will meet with one of Dr. Kang's assistants for a History and Physical Examination. Bring a list of your medications and the milligram dosages with you. Also, bring a copy of your medical history, including all medical problems, prior surgeries, and previous surgical problems to this appointment. Call the office where pre-surgery tests were done (usually your primary care physician) to make sure they were forwarded to Dr. Kang's office prior to this appointment, AND pick up the test results and bring them in yourself. If your preoperative tests are unavailable or your medical clearance has not been completed, your surgery may be postponed.

## Hospital Pre-Admission

Dr. Kang does surgery at Centennial Hills Hospital or Mountain View Hospital in Las Vegas. These hospitals have an excellent rating with the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Dr. Kang has established a total joint replacement program and surgical team with whom he works consistently at both locations. Only a few insurance companies are NOT contracted with both hospitals. Dr. Kang's team will take care of obtaining insurance authorization.

Two weeks prior to your surgery, call Centennial Hills Hospital or Mountain View to make an appointment to pre-register. During your History and Physical exam appointment, you will be given instructions about your pre-admissions appointment at the hospital. The pre-admission process at Centennial Hills Hospital and Mountain View may take about 90 minutes. Please bring the following items:

- Insurance card(s)
- Photo ID (driver's license, military ID, etc.)
- List of current medications

## DAY OF SURGERY

You will need to arrive at the hospital a minimum of 2 hours prior to surgery. One of Dr. Kang's staff will call you 1-2 days before surgery to let you know what time your surgery is scheduled for. Your surgery time often cannot be predicted precisely. If preceding cases take less time than expected, your surgery may be moved up slightly. Conversely, if preceding cases take longer than expected, your surgery may be slightly delayed. Try to remain calm if your surgery does not begin right on schedule. Remember to ensure the best results possible, Dr. Kang will not rush your surgery or any other patient's surgery. Therefore, it is imperative that you be patient and understand that any delay in your surgery is due to the additional care taken with surgeries preceding yours, just as Dr. Kang will do with your surgery.

You should have nothing to eat or drink (even water) ten hours before your scheduled surgery time. Your stomach must be completely empty for surgery to minimize the risk of stomach

# Guide To Total Knee Surgery

contents entering the lungs while anesthetized. If you are on medication for your heart, lungs, or blood pressure, take them with a sip of water the morning of surgery. Diabetes medication generally should NOT be taken the morning of surgery.

After checking into the hospital, you will be prepared for surgery. Blood may be drawn, an IV started for intravenous fluids, and you will sign a surgical consent. The anesthesiologist will ask you questions about your health, medical problems, and previous anesthesia. You will most likely have a “general anesthesia” where you are asleep through the entire procedure. Anesthesiologists may offer you a nerve block to provide post-op pain relief. The anesthesiologist’s job is to keep you safe through surgery. He will be with you throughout the entire case, carefully monitoring your vital functions, during the entire procedure.

## What to Take to The Hospital

Don’t over pack for the hospital. Hospitals request that you don’t bring valuables with you, although out-of-town patients may be allowed to deposit items in a safe. You won’t be in any condition to watch over your valuables, nor will you be able to carry them along if you need to leave the room. Give your overnight bag to a friend or family member who can carry it to your hospital room after surgery. Popular items to bring to the hospital include:

- Phone number of insurance and doctor
- Cell phone or phone card for long distance calls
- Daily medications, vitamins or laxatives, which have been approved by Dr. Kang (Let the nursing staff know if you are taking any medications in addition to what they are giving you.)
- Basic grooming supplies - brush, comb, toothpaste, toothbrush, robe
- Lip balm for dry lips
- A pillow from home
- Ear plugs and a sleep mask
- Very light reading material
- Comfort Bath washcloths and No Rinse Shampoo (No water needed)
- Personal music with headset
- Fanny pack to hold essentials and strap to the hospital bed
- Mints and gum
- Insurance card or number
- Socks - grip soles are nice
- Stable shoes for PT and going home
- Loose comfortable clothing for PT and to wear home

# Guide To Total Knee Surgery

## **SURGERY**

Minimally invasive total knee replacement takes approximately an hour. Once it is over, you will wake up in the recovery room. The nurses may seem very busy, taking your vital signs and blood pressure, monitoring any drainage from the surgical site, checking the functioning of your leg, and making sure that you are comfortable. A “Cold Unit” device will be applied to your knee over the dressing after surgery. This pad circulating water ice through it minimizes knee swelling and helps control discomfort. We will do everything possible to ensure that you are not in pain after surgery.

## **AFTER SURGERY**

When you are awake and feeling comfortable, you will be transported to the orthopedic ward for the next 1-2 days. You may be allowed to sit up to eat dinner the evening of surgery and even take a few steps on your new knee.

The Physical Therapist will first see you the afternoon of surgery or the following morning. You will learn specific exercises to begin strengthening your muscles and work on getting in and out of bed, in and out of a chair, walking, and even stair climbing if you have stairs at home. Most patients are encouraged to place full weight on the knee from day one. You will use a walker or crutches for balance and support initially. As soon as you feel comfortable, you can progress to using a cane. After surgery, you may find yourself able to do one or two laps around the nurses’ station, once or twice daily, and work on ascending and descending stairs. Therapists will also teach you important exercises, mainly involving bending the knee as far as possible and fully straightening it, so that you eventually achieve the best possible range of motion. Physical Therapists will continue working with you until you are released from the hospital.

Almost all patients go home by the 1st or 2nd postoperative day. Most are able to get in and out of bed independently, visit the bathroom, and walk the hallway with the aid of a walker or crutches, or even a cane. In general, most patients are quite independent by the time they leave the hospital and will need only minimal assistance with some basic activities of daily living after discharge—such as meals, cleaning, or hygiene.

## **RECOVERY AT HOME**

### **Weight Bearing Restrictions**

Most routine total knee replacement patients can bear their full weight on the knee immediately without restriction. You will begin taking a few steps the day of, or the morning after, surgery with a walker and the help of a hospital Physical Therapist. You will soon find yourself able to do one or two laps around the nurses’ station once or twice daily and will work

# Guide To Total Knee Surgery

on ascending and descending stairs if necessary. The hospital Physical Therapist will continue working with your walking until you are released from the hospital.

In general, weight bearing “as tolerated” means putting your full weight on the extremity, with or without the use of walking aids (walker, crutches, or a cane). Walk as much as reasonably comfortable, but don’t overdo it; your body requires time to heal, and you may ultimately slow your recovery if you try to do too much too soon. You will use a walker initially, then advance to a cane, and finally no support at all when able to walk without a limp. You may have to make arrangements to buy or borrow walking aids for use after discharge. Many people attach carrying bags or baskets to their walker to make carrying things with them easier.

## Exercises

Once home, you will continue to work on exercises learned in the hospital. Taking your pain medication on schedule will allow you to perform your exercises regularly and vigorously. Regular dosing will ensure that you can work on bending the knee as far as possible and making sure that it straightens fully several times daily in order to regain the best possible range of motion with your new knee joint. If you can’t complete your exercises properly because of pain, you could end up with a stiff knee; therefore, use your pain medication liberally. Walk as much as you find comfortable. When you are able to walk without the use of the walker you will progress to a cane. When you are getting around without a limp, the cane can be discontinued, initially for short walks around the house and progressing to longer distances as tolerated.

It is important that you work not only on knee flexion (bending), but also on knee extension (straightening) the knee. Wearing your knee immobilizer 6-8 hours each night with a pillow under your ankle (not your knee) will help maintain full extension of your knee. Otherwise, knees tend to heal in a slightly flexed position after Total Knee Replacement. You will need to do this for the first 6 weeks after surgery. Do your exercises at least 4-6 times per day (as instructed in Appendix B). This will ensure that you obtain maximal range of motion of your new knee joint. The Physical Therapist will help “coach” you with your exercises, but YOU are responsible for doing them.

## Knee Immobilizer

You will be discharged with a knee immobilizer. You will be required to wear the knee immobilizer at night with a pillow under your ankle for 6 weeks. Your knee must be kept fully extended for 6-8 hours each day for the first 6 weeks after your surgery to ensure it heals straight. Never place a pillow under your knee for prolonged periods during the first 6 weeks.

## Showering

You may take your first shower when the incision is completely dry, typically by 3-5 days after surgery. Remove the cotton bandage prior to the shower, leave on the Steri-strips or mesh dressing, and simply let soapy water run over the incision – do not scrub the incision. Pat the incision dry with a clean towel. DO NOT APPLY OINTMENT OR OIL OF ANY KIND. A light



# Guide To Total Knee Surgery

dressing may be reapplied but is not necessary as long as the incision remains dry and is kept clean.

## **Blood Clot Prevention**

Prevention of blood clots in the legs—called deep venous thrombosis (DVT)—begins with movement of the legs. The more you move your legs, particularly pumping your ankles up and down, the less likely you are to develop a clot in your leg. Pump your ankles up and down 10 times every 15 minutes for the first 6 weeks after surgery.

Elastic compression stockings (TED's is a common brand name) are also used to prevent blood clots in the legs. You should wear the stockings as much as possible for 6 weeks postoperatively in order to keep blood from pooling in the veins in your legs during periods of inactivity. These stockings also help prevent swelling in your legs. The type of stocking issued at the hospital has a hole at the toe, to allow staff to check the circulation of the foot. You may buy additional compression stockings at a medical supply store. You may prefer to buy the closed-toe type, which many patients find more comfortable. Your leg must be measured for correct fit. After hospital discharge, TED's can be removed a few hours at a time for comfort, but you should try to wear them as much as reasonably possible for 6 weeks. TEDs are tight-fitting, and you may need assistance getting them on and off.

You will also be given a blood thinner to prevent blood clots. The most common are aspirin, and Xarelto. If told to use aspirin, take a baby aspirin (81mg) twice daily for 6 weeks.

## **Reachers**

You will be given a reacher prior to discharge from the hospital. A reacher is a long stick with a mechanical grabber on the end. It will aid you in picking up items off the floor and getting dressed. The Occupational Therapist in the hospital will teach you how to use your reacher before discharge. There are two types of reachers: one type has a claw extension at the end, and the other has two suction cups on each pincher. Both types are useful for different things. See if the Physical Therapist or Occupational Therapist at the hospital will let you play with the assortment of reachers to decide which one works for you. If you get home and find you need a second one or another type, you can purchase one from a medical supply house. They are an inexpensive, handy piece of equipment.

## **Pain Control**

To help ease post-operative pain, most people prefer to use the painkillers they have become accustomed to using prior to surgery. Using a painkiller with which you are familiar helps you avoid unpleasant side effects and dosing unfamiliarity. Use your Cold Unit or ice packs on the knee to minimize swelling around the incision that may cause local discomfort. Alternating heat and ice can eventually be helpful for muscle soreness. Massage should be avoided early on, but once the incision is healed (usually after 4 weeks), gentle massage can help keep the tissues soft and supple. Some believe that massage with Vitamin E oil or lotion will help the incision to heal with less scarring. Rest and relaxation techniques are helpful to release muscle tension.

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## Seating

Use a comfortable chair post-operatively. Typically, a chair with a higher seat cushion and armrests facilitates getting up from the chair. A height-adjustable office chair can work well; but if it has castors, brace it against something before sitting down, to make sure it will not roll out from underneath you. A resin porch chair used with a seat cushion is an inexpensive solution.

## Stairs

Your ability to use stairs after surgery will depend on Dr. Kang's post-operative precautions for you and your own strength. During the early weeks, you may need to lie down and rest several times a day; so, try to have your rest area on the same floor as a bathroom and the kitchen. Some people with two-story homes choose to move their bed downstairs, or to rent a hospital bed and place it downstairs until they feel stronger. Others use an upholstered recliner in which to rest, during the day. If you choose that option, practice before surgery, to be sure you can easily get up out of the chair. Still other patients have found that they can manage stairs several times a day, as long as most of their day is spent on one level.

## HOME PREPARATION

### Bathroom

Consider installing **grab bars** in your bathroom, especially on the walls of the tub or shower stall. Make sure you know how to find wall studs for secure installation. Prior to surgery, make sure that a walker will fit through your bathroom door. Take rugs out of the bathroom so you don't have to worry about tripping on them. If you have glass shower doors on your tub you may want to take them off to accommodate a shower seat. There are two types of **shower seats**. A tub transfer bench straddles the wall of the tub, and the other type sits inside a shower stall. (A resin porch chair can be used, with a rubber mat underneath to prevent slipping.) With the type that straddles the tub, you may have to have someone help you lift your operated leg up and over the side of the tub, until you get stronger and can do this yourself.

You may want to have a **hand-held showerhead**, for easy showering while seated. These fit over the faucet in the tub and have a long hose that leads to a small showerhead. You may want to use liquid soap, or put your soap into a nylon stocking and tie it to a faucet handle. You will want to avoid the danger of trying to bend over in a slippery shower to retrieve a dropped bar of soap. Don't forget about having a good supply of wash clothes in the bathroom for sponge baths when no one is available to help you shower. You will be able to wash your hair in the kitchen sink alone. Women can tape a razor to a long handled wooden spoon to shave their legs while seated on the shower seat.

### Bed

Check the height on your bed as well. The old types can be quite low. If you have problems because your bed is too low, hospital beds can be rented quite inexpensively. Some people put their bed up on blocks. Soft side waterbeds that are on a frame will usually be the appropriate height. Standard waterbeds may be too low and too difficult to get in and out of. Test yourself getting in and out of your bed prior to the surgery. If you need to do a big "heave-ho" to get out

# Guide To Total Knee Surgery

of the bed it probably will not be appropriate. Some people buy egg crate foam to put on top of the mattress for extra comfort. You will want to have your non-operated leg on the outside of the bed as it will be easier to get in and out of bed (i.e. use the right side of bed if left knee replaced).

## Cupboards

You won't be able to reach very low or very high items. Organize one easy-to-reach shelf in your kitchen with the pots you use the most, several dishes and storage containers. Stock up on frozen food and other favorite easy-to-eat food before you leave for the hospital.

## Drawers and Closet

Put together a wardrobe of loose, casual clothing that is appropriate for the season and place it in the front of the closet. Rearrange your drawers so that the clothes you will use most often are in the top drawer.

## SELF PREPARATION

### Dental Appointments

You should do any pending dental work well in advance of surgery. Dental work, even teeth cleaning, can be a potential risk of infection of the knee afterwards. The American Dental Association and the American Academy of Orthopedic Surgeons recommends dentists use antibiotics prophylactically for the rest of your life following hip replacement surgery to prevent oral bacteria from entering the bloodstream and coating the knee implant. After two years, the implant is surrounded by new bone or fibrous tissue, and the risk of infection is reduced. Patients with diabetes, inflammatory arthritis, taking steroid or immunosuppressant medication, or anyone else prone to infection should be particularly vigilant about taking antibiotics for the rest of their lives. Check with Dr. Kang if you are unsure. Additionally, antibiotics should be taken prior to any manipulation or surgery on your genito-urinary tract or gastro-intestinal tract, and any infection anywhere in your body should be treated promptly with antibiotics (see Appendix D).

### Exercise

Exercise is typically very painful for patients preparing for TKA surgery. However, stationary cycling, swimming, or gentle exercises in a pool can give you a pleasant, aerobic workout without causing too much discomfort to your knee. In addition, you should practice the exercises you will be doing after surgery. Please see exercise information, below, under "Post-Operative Care."

### Grooming

Plan ahead for your last haircut and/or color, as you will have a long period when it may be difficult to get out and get a trim. Likewise, have your legs waxed or shave before surgery if you follow those grooming habits. After surgery, you can tape a razor to a long handled wooden spoon for shaving without breaking precautions. You may not be able to reach your feet for quite a while after surgery. You may want to have a pedicure prior to surgery.

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## **Sleeping**

It is very important to sleep well before the surgery. Many people find that the anxiety about their upcoming surgery and increased pain caused by ceasing anti-inflammatories prior to surgery keeps them awake. If you have trouble sleeping, you may want to take a sleeping aid like Tylenol PM or Benadryl (diphenhydramine). Tylenol can help with pain control in lieu of NSAID's. Check with Dr. Kang or his staff before adding any medications.

## **Finances**

Take care of all of your finances and paperwork before surgery. You may want to pay all your bills ahead of your surgery. If you don't have the money to send them, put dates on the outside of your envelopes that indicate when they can be mailed. Energy and attention span may be low, and you may not feel like getting back to business for some time. Buy some thank-you cards in advance so that you have them at hand. It's a good idea to have some cash available. That way if you need to ask a neighbor or friend to pick something up for you, you can pay them back right away.

## **Dealing with Fear and Anxiety**

It is perfectly normal and appropriate to feel fear and anxiety prior to surgery. Avoid caffeine and stimulants. Make sure you sleep each night prior to surgery even if it requires taking sleeping aids, Tylenol PM or Benadryl. It is not helpful to lie awake and worry, exhausting your body and mind. Again, check with Dr. Kang's office prior to adding any medications.

## **Clothing**

You will want to avoid clothing that is tight or rubs on the incision and requires extensive bending and pulling to put on or take off. The incision site may be sore at first, so some people use pajama bottoms or loose sweat pants that won't irritate the incision. Loose clothes or dresses are easy to put on and essential if you experience post-operative swelling. You can use your reacher to help pull on your clothing, but don't set yourself up for a daily struggle by wearing tight clothing.

You will need to have a pair of comfortable shoes with non-slip soles to wear post-operatively. They should adjust to accommodate any swelling in your foot. You will not be able to tie your shoes and you will tire of needing someone to help you. Regular tennis shoes can be fitted with curly elastic laces to become slip on shoes. Long handled pliers can be used to pull Velcro straps closed, and long handled shoe horns can be useful. Make sure you try the shoes out before you get to the hospital. They need to feel secure, as you will be taking your first steps post-operatively in them. Do not wear heels, slippery soles or loose sandals.

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## POST-OPERATIVE CARE

You may be tired post-operatively and benefit from someone staying with you during the first week to cook, bring you things, help with TED'S compression stockings, help you shower and shampoo your hair, do laundry, etc. After the first week post-operatively, you may only need someone to come for a short period twice a day, to do little things like help with pets and bring in the mail. Churches and charitable organizations often have volunteers willing to assist people after surgery.

A cleaning person is helpful during the early weeks. The sheets will need to be changed frequently and you will definitely not be capable of cleaning the house. A lawn service may also be helpful as you won't be able to complete regular yard responsibilities. Make a list ahead of time of all the places that deliver meals and possibly groceries. Some stores will take call-in grocery orders, which they will gather for someone to pick up. This greatly reduces the time required of the person doing your shopping.

Most people clearly state that they preferred to be alone in the early period post-operatively. This often seems unbelievable to loving family and friends who want to dote, and neighbors who feel you crave company. This is not a time to err on the side of being polite. If it is difficult for you to assert yourself with visitors, make a pact with a family member. Employ them to usher people out at your signal, or have them help you excuse yourself to go rest. You may be exhausted post-operatively, and sitting for long periods of time may be painful and inadvisable. Ask your comrade to encourage guests to return in several weeks when you will be feeling much stronger, able to sit for longer periods and ready for some diversion from the monotony.

You will sleep better at night if you haven't spent the whole day in bed. Be sure to have a change of scenery. Get up and move about regularly, reserve bed for naps and times you just cannot get comfortable anywhere else. Get some fresh air on an appropriate chair outdoors if the season allows. You may find you sleep better if you aren't sharing a bed with someone in the early post-operative days. Fear of protecting your leg from someone moving in the night may keep you awake. The person sharing your bed will probably sleep better if they aren't on guard for your well-being and listening to you rustling about trying to get comfortable. They will also be able to help a lot more if they aren't worn out themselves from lack of sleep.

## PET CARE

Most pet owners report that their pets were a great source of comfort and companionship post-operatively. However, you will want to make arrangements for someone to feed them or purchase a feeder that makes the food continuously available, as you won't be able to reach bowls on the floor. Likewise, you won't be able to take them for walks for quite some time. It is helpful to get your pets accustomed to crutches and walkers before surgery. You will not want them bustling around threatening to knock you over in their enthusiasm to see you again upon your return from the hospital. For your first post-operative meeting with your pets you may want to be seated securely in a stable chair with a pillow between your legs to avoid being

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jostled. It will not be appropriate for your pets to sleep with you post-operatively. You may want to be sure to shut your door at night to keep them out or rent a hospital bed that is higher. Teach them that this bed is off limits. To ensure they are not going to knock you over going down the stairs, stop at the top of the stairs and let them proceed down ahead of you.

## RESUMING NORMAL, DAILY ACTIVITIES

Most patients resume normal, active lifestyles after total knee replacement. In fact, activity levels often improve due to absence of the arthritic knee pain and stiffness. Most activities are acceptable after total knee replacement surgery, and can generally be resumed at or before 4-6 weeks after surgery. Start slowly, and then progress as your body and common sense allow. Walking, swimming, cycling, cross-country skiing, golf, doubles tennis, rollerblading, gardening, and dancing are examples of activities that are well tolerated by the artificial knee joint. Working out in a gym is also recommended as long as specific exercises are avoided and certain exercises are done in moderation. (See Appendix B: Post-Op Exercises)

### Showering

As soon as the wound has no more drainage (generally 3-5 days after surgery). Let soapy water run over the wound, and blot dry with a towel. **DO NOT USE OINTMENTS OR OILS OF ANY KIND UNTIL THE WOUND IS COMPLETELY HEALED (GENERALLY 4 WEEKS OR SO).**

### Tub bath or Jacuzzi

At 6 weeks if the wound is completely dry and healed with absolutely no scab or opening.

### Leaving the House

It is perfectly acceptable to leave your house for short walks, or to go on short outings (dinner, visiting neighbors) as soon as you feel comfortable. Remember, your comfort should dictate your activity level. If your knee swells and is painful during or after a particular activity, you have probably overdone it. Be patient; you will be comfortable doing more and more each week.

### Driving

Left knee—approximately 2 weeks; right knee—approximately 4 weeks. Be sure that you feel comfortable driving so that you are safe. Of course, if you are taking pain medication you should not be driving. Go out with a friend or spouse the first time, and drive only short distances initially. If you both agree that you are safe, you may continue driving.

### Putting shoe and sock on

without an assistive device—as soon as your knee mobility allows.

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## Traveling

You can begin taking short trips, either by car or airplane, as early as 2 weeks post-operatively, although waiting 4-6 weeks will be more comfortable for you. Move your ankles up and down frequently, and get up to walk around every hour or so to prevent blood clots. You may want to book a seat in bulkhead so that you have more leg room.

## Security

Most total knee replacements will set off the metal detectors at airports, courthouses, etc. Although we used to give everyone ID cards to show the security personnel that you have had a knee replacement, it now makes little difference whether you carry a card or not. Simply inform the security people that you have an artificial knee joint, and let them scan you with the metal detector. That is all that is usually required to pass the security checkpoint. However, you may want to allow yourself an additional 5-10 minutes travel time for this screening.

## Sexual relations

In general, common sense should be utilized when resuming sexual relations. Some form of sexual intimacy can be resumed as early as a week or two after surgery. However, your comfort and safety are of highest importance. Do not do anything that causes discomfort to the knee. At 4-6 weeks post-op, a normal sexual life may be resumed.

## Returning to work

Most patients return to work 2-6 weeks after surgery depending on the type of work. Patients with sedentary (sitting) jobs can often return to work at least part-time within 1-2 weeks. Those who stand but are not doing manual labor can generally return within 3-4 weeks. Manual laborers should wait 5-6 weeks to return to work. Remember, these are generalizations, so you may be able to return sooner than these guidelines, or you may take slightly longer. Listen to your body when deciding at what point to return to work. You may be required to make some modification to your job description if your job requires repeated heavy lifting throughout the day. Dr. Kang's staff will assist you with the paperwork to supply to your employer outlining the appropriate return to work date and any required job modifications.

## Activities to Avoid

Activities that should be avoided after total knee replacement include activities that put excessive stress and wear on the knee. Activities that cause excessive wear and tear on the knee joint include "impact loading" activities such as jogging, singles tennis, racquetball, basketball, and any activity that involves running, jumping, or repetitive heavy lifting. These activities wear out the knee joint either because of excessive repetitive motion or high "impact loading" (the hard, jolting stress to the knee joint such as occurs with jumping or running). Think of your new knee joint as a new tire on your car: if you continuously drive too fast, marathon distances, or over rough terrain and bumps, the tire will wear out more quickly than if you drive it sensibly on smooth highways.

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Another consideration in resuming various activities is your level of experience. If one is an accomplished skier, for example, skiing the green or smooth blue runs may be safe. Likewise, if one is an accomplished horseback rider, riding on safe terrain on a well-trained horse may also be safe. One should use common sense when deciding whether an activity has a significant risk for a fall (See Appendix C).

## POST-OPERATIVE APPOINTMENT

At 2 weeks you will have an appointment to see Dr. Kang or one of his assistants in his office. By that time most patients are getting around independently without any significant discomfort, and almost all are off pain pills. Subsequently, several things usually happen after the 4-6 week visit:

- You can quit wearing your elastic stockings
- You can discontinue the aspirin and iron pills (unless taking them for other reasons)
- You may begin riding a stationary bike to build muscle strength and loosen up the knee so you can easily put on your shoes and socks, clip your toenails, etc.

After this first post-op visit, Dr. Kang or one of his staff will see you 4-6 weeks later depending on how you are doing. If you are doing well, you may not need to return for any further follow-up appointments unless you are having problems. **Because of the number of patients Dr. Kang cares for, you may not see him at every post-operative visit, particularly if you are doing well.** If you are having any problems, you will see Dr. Kang; but more often, when things are progressing smoothly, you may see one of Dr. Kang's assistants for some of your follow-up visits. Dr. Kang apologizes for not being able to see you for every post-operative visit; however, this policy minimizes patient wait times while allowing Dr. Kang to give his attention to patients with serious problems.

Note: Sometimes, due to patient add-ons or other unforeseen events, Dr. Kang may be running behind schedule. Bring reading material or another diversion to your appointment in case there is a wait. If you are doing well and you are there for a routine post-operative check, you may be seen by one of Dr. Kang's assistants; this will allow for a much shorter wait in many cases. However, Dr. Kang will always see you at your request, although the wait may be a bit longer; and he will always see you if you are having any significant problem with the knee.



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## ADDITIONAL READING

For additional reading about mini-incision knee replacement visit [www.kanhipandknee.com](http://www.kanhipandknee.com)

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## APPENDIX A: RISKS OF SURGERY

No surgery is without risks. Luckily, complications from total knee replacement are uncommon. Additionally, choosing a surgeon with significant experience in total knee replacement reduces the risk of complications. Although there is no way that all of the possible complications can be listed here, the most common and/or worrisome complications are as follows:

### Infection

This occurs in less than 1% of cases. At its worst, it can require removal of the knee prosthesis, implantation of a temporary “spacer,” 6 weeks of intravenous antibiotics, then re-implantation of a new prosthesis 6 weeks later. Patients at slightly higher risk of infection include diabetics, obese patients, those with certain types of arthritis including rheumatoid arthritis, patients on steroids, and patients who have had prior surgery or infection in the knee. Special precautions are taken in all total knee patients to minimize the risk of infection.

### Wound Healing Problems

A few patients, particularly diabetics, patients with circulatory problems, and the obese, may have problems with prolonged wound drainage or healing. Often these problems require no further surgery and heal spontaneously. However, it is occasionally necessary to return to the operating room to clean and close the portion of the wound that is not healing. **Call Dr. Kang immediately if your wound drains any longer than 4-5 days after surgery.**

### Blood Clots

Although small, insignificant clots may occur in the veins of the legs, very rarely a severe clot can travel to your lungs and cause serious problems. You will be treated with special preventative measures to avoid this complication. Please let us know if you have a history of previous blood clots in the legs or lungs. **If you develop swelling which does not go down with elevation, call Dr. Kang’s office immediately.**

### Nerve Injury

The most common nerve injury after total knee replacement is peroneal nerve palsy or “foot drop.” This unavoidable complication occurs in approximately 1% of cases and consists of inability to raise (dorsiflex) the foot along with numbness on the top of the foot. Although the condition may be permanent, most patients recover partially or completely. If the nerve does not recover fully, you may need to use a light, plastic ankle brace in your shoe permanently to support your foot.

### Stiffness

The most common complication of total knee replacement is stiffness. This occurs most commonly if you do not do your exercises properly or frequently enough. Occasionally, a manipulation of the knee under anesthesia is needed to improve the motion of the knee, if progress is not satisfactory at 6-12 weeks.

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## **Tendon and Ligament Rupture:**

Rupture of the patellar tendon occurs infrequently, but can be a serious problem. It often leads to additional surgery and periods of immobilization, which may lead to knee stiffness. Sometimes the tendon may re-rupture. Although uncommon, this complication can even rarely lead to the need for fusion of the knee joint. Other ligaments can rupture which may (in some patients) lead to a knee that feels unstable and occasionally may require more surgery.

## **Fracture**

It is remotely possible to fracture the femur, tibia, or patella with total knee replacement, particularly if you have soft bone. While most fractures will heal with a period of immobilization, others require further surgery to fix the fracture. Any fracture can lead to stiffness of the knee joint.

## **Loosening/Wear**

No artificial joint replacement will last forever. Although we expect your total knee replacement to last 10-20 years, this varies depending on body weight, activity level, implant type, and surgical technique. If your knee replacement fails, it can usually be revised to a new knee replacement.

## **Anesthetic and Medical Complications**

It is impossible to list all of the potential, but unlikely, complications of any surgery. The anesthesiologist will go over many of these with you. Bear in mind that, although the list of possible complications is extremely long, the likelihood of any of these events occurring is also extremely small. In short, more than 95% of patients undergoing total knee replacement obtain a good result with absolutely no problems or complications.

## **Death**

The most severe complication of any surgical procedure is death. However, the risk of dying during surgical procedure is extremely remote unless you have very severe medical problems such as end-stage heart disease or severe lung problems. If this is the case, we or your medical doctors will discuss the risks with you to allow you to make an informed decision about surgery.

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## APPENDIX B: EXERCISES

There are three essential exercises that should be a part of every patient's recovery regime. Be sure to use your pain medication prior to exercises so that you can do them to the fullest extent possible without excessive pain:

### Knee Flexion

Sit on a straight chair with legs bent and your foot flat on the ground. Gradually shift your body forward to the edge of the chair, applying pressure to the knee as it flexes. Hold the knee in that position for 15-30 seconds, then push farther if possible. Massage the knee during the exercise for comfort. The more you do this, the better motion you will get in your knee.



### Knee Extension

Sit on the edge of the chair with your leg straight in front of you and the heel on the floor. Tighten the kneecap, and push gently on the front of the knee to stretch the knee for 15-30 seconds or more if possible. Make sure that the knee extends (straightens) fully and completely.



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## Straight Leg Raises

Sitting on the edge of the chair, tighten the kneecap, and then elevate the foot from the floor until the leg is straight out. Hold for 15-30 seconds or more if possible.



## Repeat 3-part Sequence

Repeat this 3-part sequence for 15-20 minutes or more, and then rest with application of ice to the knee for 10-15 minutes to control swelling and discomfort. Repeat this several times a day. **Constant repetition of these 3 exercises during the first 6-12 weeks is the key to obtaining excellent motion after your total knee replacement.**

You may want to take your pain pills approximately  $\frac{1}{2}$  - 1 hour before scheduled exercises to increase your tolerance. You may also precede exercise with the application of heat and follow with the application of ice to the knee after exercising to diminish swelling.

The tendons that cross the knee joint specifically are also strengthened as their attached muscles are strengthened. This gives the knee a strong structural framework that enhances its function and helps maintain sound joint integrity. These exercises are **SECONDARY** to the 3-part exercise sequence described above. Exercises that strengthen the muscles that cross and control the knee joint include:

- Leg extensions for the quadriceps muscles in the front.
- Leg curls for the hamstring muscles in the rear.
- Hip adduction exercises for the knee muscles on the inside.
- Hip abductor exercises for the knee muscles on the outside.
- Calf exercises for the muscles that also cross the rear of the knee.
- Leg presses with light weights that work most of these muscles simultaneously.

Once the knee joint is strong, exercises that require repetitive motion, such as cycling, are tolerated much better. Interval-type training is recommended to give your knee joint components interspersed recovery periods with higher effort training intervals. For example, instead of pedaling at 18 miles per hour for a solid hour, consider five minutes at 20 miles per

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hour followed by five minutes at 15 miles per hour and so on, simply as an example of how to combine lower and higher effort intervals during the initial adjustment period. You can then increase the length of the higher effort intervals while decreasing the length of the lower effort intervals, until you reach a well-tolerated steady state of cycling at your desired level.

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## APPENDIX C: SPORTS RECOMMENDATIONS

### Recommended Activities

Cycling is an excellent aerobic workout. Calisthenics, swimming, low-resistance rowing, stationary skiing machines, walking, hiking, and low-resistance weight lifting all are excellent ways to maintain fitness without overstressing the implant.

Suitable activities include bowling, croquet, golf, doubles tennis, table tennis, ballroom dancing and square dancing.

Other activities that are suitable but slightly more risky include downhill skiing, scuba diving, in-line skating, ice skating, softball, volleyball, speed walking, horseback riding, hunting and low-impact aerobics.

### Discouraged Activities

In general, patients who have undergone total knee replacement should avoid high-impact activities that cause high stress loads on the implant and therefore may increase the risk of early failure.

Activities to avoid include baseball, basketball, football, hockey, soccer, high-impact aerobics, gymnastics, jogging, powerlifting, rock climbing, hang gliding, and parachuting.

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## APPENDIX D: PROPHYLACTIC ANTIBIOTICS

All patients are required to take antibiotics for life before all dental procedures including:

- All dental extractions
- All periodontal procedures
- Dental implant placement and reimplantation of teeth that were knocked out
- Some root canal work
- Initial placement of orthodontic bands (not brackets)
- Certain specialized local anesthetic injections
- Regular dental cleanings (if bleeding is anticipated)

You should be particularly vigilant with preventive antibiotics before all dental procedures for the rest of your life if:

- You've had previous infections in your artificial joint.
- You have an inflammatory type of arthritis (i.e. rheumatoid arthritis, lupus), Type I diabetes, or hemophilia.
- You have a suppressed immune system (i.e. HIV) or are malnourished.
- History of prior or present malignancy.

The bacteria commonly found in the mouth may travel through the bloodstream and settle in your artificial joint. This increases your risk of contracting an infection. Ask your dentist about preventive antibiotics for all dental procedures with a high risk of bleeding or producing high levels of bacteria in your blood. Your dentist and your orthopedic surgeon, working together, will develop an appropriate course of treatment for you.

One of these preventive antibiotics should be prescribed to you:

If you are not allergic to penicillin: 2 grams of Amoxicillin, Cephalexin, or Cephradine (orally) OR 2 grams of Ampicillin OR 1 gram of Cefazolin (intramuscularly or intravenously) one hour before the procedure. If you are allergic to penicillin: 600 mg of clindamycin (orally or intravenously) 1 hour prior to the dental procedure.



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## APPENDIX E: BLOOD THINNERS

### Supplements—Stop these 14 days prior to surgery

ALOE VERA	BILBERRY	CAYENNE	DANSHEN
DONG QUAI	ECHINACEA	EPHEDRA (MA HUANG)	FEVERFEW
FISH OIL	GARLIC	GINGER	GINKGO BILOBA
GOLDENSEAL	HAWTHORNE	LICORICE ROOT	MELATONIN
OMEGA 3 FATTY ACIDS	RED CLOVER	SENNA	ST. JOHN'S WORT
VALERIAN	VITAMIN E	VITAMIN K	YOHIMBE

### Anti-inflammatories—Stop these 10 days prior to surgery

IBUPROFEN—GENERIC	BRAND NAMES—MOTRIN, TABPROFEN, ADVIL
NAPROXEN—GENERIC	BRAND NAMES-ALEVE, NAPROSYN, NAPRELAN, TREXIMET
COMBUNOX-GENERIC	BRAND NAME-VICOPROFEN
ASPIRIN-GENERIC	BRAND NAMES-BUFFERIN, BAYER (81 mg aspirin allowed)
INDOMETHACIN—GENERIC	BRAND NAMES-INDOCIN, INDO-LEMMON, INDOMETHACIN
DICLOFENAC—GENERIC	BRAND NAME-CATAFLAM, VOLTAREN
ARTHROTEC-(MISOPROSTOL WITH DICLOFENAC)	
MELOXICAM—GENERIC	BRAND NAME-MOBIC

### Prescription Blood Thinners—Stop these as instructed by prescribing physician

WARFARIN—GENERIC	BRAND NAMES—COUMADIN, JANTOVEN
CLOPIDOGREL—GENERIC	BRAND NAME-PLAVIX
DABIGATRAN-GENERIC	BRAND NAME-PRADAXA
PRASUGREL—GENERIC	BRAND NAME—EFFIENT
DIPYRIDAMOLE—GENERIC	BRAND NAME—PERSANTINE

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## MORE INFORMATION ABOUT YOUR SURGEON

### Dr. Parminder S. Kang

A native Las Vegas, Parminder S. Kang, M.D. is happy to be back in his hometown. He graduated from the Academy of Math Science and Applied Technology at Las Vegas' Clark High School. He then graduated with honors in Physics from the University of California at Berkeley in 2001. A knee injury in college led him to pursue a career in medicine. Dr. Kang received his medical degree from the State University of New York College of Medicine where he graduated at the top of his class (AOA) in 2005. He then completed his orthopaedic residency at the Baylor College of Medicine in the world-renowned Texas Medical Center in 2010. During his residency, he received the Journal of Orthopaedic Trauma Best Teaching Resident award. After completing his general orthopaedic training, he obtained a prestigious fellowship for an additional year of training in Adult Reconstruction and Hip Preservation at Washington University in St. Louis, Missouri in 2011.



During his fellowship, Dr. Kang worked directly with surgeons and researchers who were instrumental in developing the treatment protocol for hip problems. He also trained with Dr. Robert Barrack, one of the pioneers in bringing hip resurfacing to the United States.

Throughout his clinical training, Dr. Kang has done research on various topics such as proprioception following total joint replacement surgery and the effects of metal-on-metal hips. He has been published in peer review journals such as the Journal of Orthopedics. He has also authored an instructional DVD about hip resurfacing with Dr. Robert Barrack and written review chapters on primary and revision total hip replacement.

Dr. Kang is a member of the American Academy of Orthopaedic Surgeons, the American Association of Hip and Knee Surgeons and the Arthroscopy Association of North America. His practice focuses on providing advanced conservative and surgical care to patients with hip and knee problems, particularly with injuries to the cartilage and/or labrum. He uses the newest techniques and cutting edge technologies to treat his patients.

His subspecialty qualifications include:

- Minimally invasive total hip arthroplasty
- Hip resurfacing
- Hip arthroscopy
- Hip preservation procedures (pelvic osteotomy, surgical dislocation)
- Knee arthroscopy
- Minimally invasive total and partial knee arthroplasty
- Complex hip and knee revision surgery

# Guide To Total Knee Surgery

Dr. Kang is a certified diver and also enjoys hiking, powerlifting, biking and playing softball. He is a big believer in giving back; in the spring of 2012 he went on a medical mission to Guatemala where he provided general orthopedic care, both surgical and non-surgical. He is also active in the community giving talks on hip and knee arthritis at various hospitals. Dr. Kang has been a valued member of Desert Orthopedic Center since 2012 and has served as director of the Joint Reconstruction Fellowship since 2014.

Complete Curriculum Vitae:

<http://kanghipandknee.com/wp-content/uploads/2016/10/parminder-s-kang-md-cv.pdf>

