

# Patient guide to knee replacement.



ZIMMER BIOMET

Your progress. Our promise.™

## Table of Contents

<b>Section 1</b>	Understanding knee replacement.....	7
<b>Section 2</b>	Know the risks of knee replacement surgery.....	11
<b>Section 3</b>	Preparing for knee replacement surgery.....	15
<b>Section 4</b>	Understanding your surgery and hospital stay.....	23
<b>Section 5</b>	Returning home.....	29

### Checklists and Logs

Directory of healthcare providers .....	4
Appointment log .....	6
Insurance and financial planning .....	19
Suggestions for preparing your home .....	21

## Renew your passion for living.

If knee pain is keeping you from the things you love, you and your doctor may decide it is time for knee replacement surgery. While there are many important factors to consider, keep in mind that surgical treatments are designed to reduce pain and restore function.

This guide is intended to supplement the information and advice you receive from your doctors; it does not take the place of a discussion with your surgeon. Because every individual is different, your specific experience may vary from what is described here.

For more information or to find a doctor near you, visit [zimmerbiomet.com](http://zimmerbiomet.com)

The information herein is of a general nature and does not represent or constitute medical advice or recommendations and is for general education purposes only. This information is not meant to replace the specific verbal and written recommendations and instructions provided by your surgeon for your specific situation. Patient treatment plans and outcomes will vary.

## Directory of Healthcare Providers

### Orthopaedic Surgeon

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Office Phone: \_\_\_\_\_

Emergency Phone: \_\_\_\_\_

### Primary Care Physician

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Office Phone: \_\_\_\_\_

Emergency Phone: \_\_\_\_\_

### Pharmacy

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Prescription names and dosage:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

### Hospital

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Admitting Department Phone: \_\_\_\_\_

### In-Home Rehabilitation Support

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

### Insurance Company

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

## Appointment Log

Please be certain to take this log book to all appointments.

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

Date and time of appointment \_\_\_\_\_

Name of healthcare professional \_\_\_\_\_

Notes for this appointment \_\_\_\_\_

## Understanding Knee Replacement

# SECTION



## SECTION 1

The knee joint is the largest joint in the body where the lower end of the thighbone (femur), the upper end of the shinbone (tibia) and the kneecap (patella) meet. In a healthy joint, these bones are cushioned with cartilage and a thin lining called the synovial membrane to reduce friction and absorb shock.

The most common reason for total joint replacement is osteoarthritis or as it is commonly referred to OA.\* Osteoarthritis can affect any joint in the body, but is most common in knees and hips. When OA affects the knee joint, the cartilage cushioning the bones softens and wears away causing the bones to rub against one another. This bone-on-bone contact causes pain and stiffness that can increase over time due to disease progression and wear.

During knee replacement, the damaged parts of the bones are removed and resurfaced with implants.

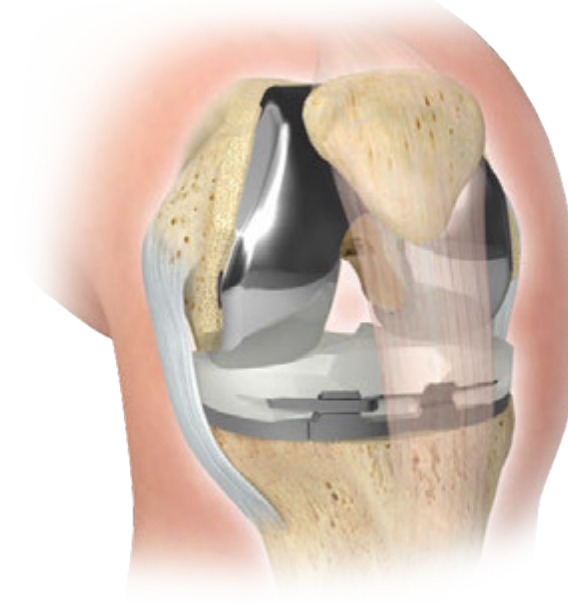
1. The surface of the thighbone (femur) is replaced with a metal implant designed to fit the curve of the bone.
2. The surface of the shinbone (tibia) is typically replaced with a flat metal implant and a smooth polyethylene (plastic) implant. The polyethylene implant is designed to allow the new knee to glide smoothly, much like natural cartilage.



Healthy Knee



Diseased Knee



Total Knee Replacement

\* <https://report.nih.gov/nihfactsheets/ViewFactSheet.aspx?csid=55>



Know the Risks of Knee Replacement Surgery

## SECTION

# 2

## SECTION 2

### Know the risks of knee replacement surgery

As with any major surgery, knee replacement involves potential complications and risks both during and after the procedure. Your care team takes many precautions to prevent and manage the following possible risks.

#### 1. Reaction to anesthesia

Your anesthesiologist is a specialist in giving the medications that will help relax you and manage your pain during and after surgery. You will meet with your anesthesiologist before your hospital admission or surgical procedure to determine the type of anesthetic that is most appropriate for you. Strictly follow your doctor's guidelines regarding food and drink before surgery. The more common side effects related to anesthesia include nausea, vomiting, and headaches (all of which can usually be relieved with medication).

#### 2. Infection

Infection is a risk with any surgical procedure. When these complications occur they can delay full recovery. For the first two years after your knee replacement, your doctor may require you to take preventive antibiotics before dental or surgical procedures that could allow bacteria to enter your bloodstream. Before other procedures, speak with your surgeon and your dentist to see if you still need preventive antibiotics.



#### 3. Blood clots

The risk of blood clots in the leg veins is related to alterations in blood flow that occur during knee surgery. Blood thinning drugs prescribed by your doctor are typically used to improve blood flow and reduce the risk of clot formation. During your initial exam, your doctor will assess factors such as your weight and cardiovascular history to select the best blood thinner for you. In the hospital, elastic stockings or compression stockings may be used to further reduce this risk. After surgery, you will be encouraged to move and exercise to prevent blood clot formation.

#### 4. Damage to nearby blood vessels, bones or nerves

To help minimize damage that may occur to blood vessels, bones and nerves in and around the incision, surgeons use precision tools, guides and highly refined surgical techniques. Nerve damage, although rare, can cause irritation and pain following your surgery.



#### 5. Persistent pain

There is no guarantee that knee replacement will make you pain-free.

#### 6. Loosening, wear or breakage of the artificial knee

Knee implants can loosen, parts can wear and rarely, a device does break. Such occurrences are typically accompanied by pain and/or loss of function, and may require additional surgery.

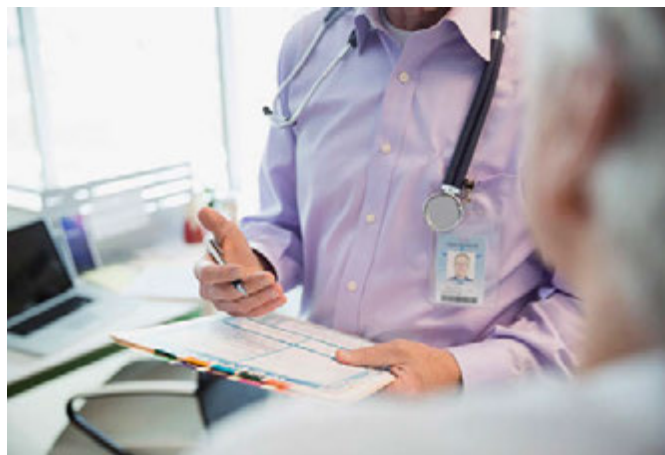


## 7. Pneumonia

Pneumonia is a risk with major surgery, especially in older patients. Postoperative pneumonia is related to immobility and the tendency of patients to use less of their total lung capacity following surgery. Therefore, respiratory rehabilitation is a key component of your recovery. A respiratory therapist will work with you while you are in the hospital to show you how to cough, perform breathing exercises and use devices such as the incentive spirometer to help keep your lungs clear.

You will be given a consent document to sign before your surgery. This document typically explains in detail, the known risks, both major and minor. Review the document carefully and discuss any questions or concerns you have with your doctor before signing.

**Knee replacement surgery is your decision based on the advice of your surgeon, input from family and friends and a careful consideration of the facts, benefits and risks involved.**



## Preparing for Knee Replacement Surgery

# SECTION

# 3



## SECTION 3

### Preparing for knee replacement surgery

Once you have made the decision to have knee replacement surgery, there are a number of tasks to complete before surgery day. Your surgeon usually schedules the procedure well in advance, giving you time to make necessary plans and arrangements.

#### General physical examination

Your surgeon may recommend a physical exam by a primary care physician to verify that your health allows you to proceed with surgery.



Review with your primary care physician all the medications you currently take. Your doctor may want to discuss your medications with your surgeon, or recommend that you discontinue certain medications that can increase the risk of bleeding during surgery. Your doctor may also suggest that you lose weight and begin an exercise program. If you smoke, speak candidly with your doctor about it. Smoking can delay the healing process. You should also finish any dental work that may be underway to prevent germs in your mouth from entering the bloodstream and infecting the joint.

#### Prepare yourself physically

Before surgery, remain as active as your health permits, and ask your doctor about starting an exercise program. Your doctor may suggest that you meet with a physical therapist to strengthen your muscles and maintain your range of motion. The more you can build upper body strength, the better prepared you will be for the use of a walker, crutches or cane. Getting accustomed to an exercise routine before surgery can make it easier to maintain physical therapy after you return home.



If your surgeon anticipates a short hospital stay, he/she may suggest you learn how to perform the activities of daily living and some basic rehabilitation exercises and precautions before your surgery.

Finally, eat a healthy diet and lose weight according to your doctor's recommendations. Excess weight puts extra stress on weight-bearing joints like the knee, and could reduce the service life of the implant.

Ask your doctor about starting an exercise program, including walking and gentle stretching.



## Consider blood donation

It is possible that you will need blood during your surgery.

### Your main options may be (options vary by hospital)

- Intraoperative and/or postoperative cell salvage, in which any blood lost during surgery is collected, “washed” in a red blood cell saver device, and returned to you.
- Donate your own blood in what is called an autologous preoperative deposit. You deposit your own blood with a blood bank or the hospital’s transfusion service before surgery.
- Directed deposit, in which family members, friends, and co-workers deposit blood designated for our use.
- Utilizing blood bank supplies donated by volunteers.

## Review insurance and financial planning

Thoroughly review your insurance benefits and/or alternative plans for payment. Find out what your insurance plan or Medicare covers. **It is advisable to review all your insurance coverage and make a list of your questions before the hospital pre-admission meeting.**

[See worksheet on following page](#)

Coverage includes: \_\_\_\_\_

\_\_\_\_\_

Do you have Medicare parts A and B? \_\_\_\_\_

Is a second opinion required?  Yes  No

If yes, obtain proper forms. \_\_\_\_\_

\_\_\_\_\_

Are crutches and other aids reimbursable? \_\_\_\_\_

\_\_\_\_\_

Is a rehabilitation facility covered? \_\_\_\_\_

\_\_\_\_\_

Are acute rehabilitation services covered? \_\_\_\_\_

\_\_\_\_\_

How will you be billed? \_\_\_\_\_

\_\_\_\_\_

Is home healthcare covered? \_\_\_\_\_

\_\_\_\_\_

What forms are needed for reimbursement? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Schedule a hospital pre-admission visit

Two to three weeks before surgery, you may need to visit the hospital to prepare for admission. Hospitals often provide an educational class along with routine preoperative tests and measurements such as blood work, chest X-rays, cardiogram, urine specimen and weight.

During your pre-admission visit, you may have a chance to meet with some of the members of the medical team that will monitor, coordinate and carry out your care in the hospital. This team may include professionals such as:

- Your surgeon, who performs the operation
- The anesthesiologist, who oversees your anesthetic for surgery and your pain medications after surgery
- Orthopaedic nurses, who attend to all your personal and general health needs during your recovery
- Physical therapist, who provides education and exercise instruction
- Respiratory therapist, who instructs you in breathing exercises to keep your lungs clear following surgery
- Occupational therapist, who is trained in rehabilitation, and will focus on helping you regain functional independence
- Care coordinator, who manages the entire medical team to ensure that your hospital stay is comfortable and satisfactory

## Prepare your home

There are many things you can do to make your return home safer and more comfortable. The occupational therapist in the hospital will provide suggestions and guidance regarding aids and modifications to your home environment to help you become as independent as possible after surgery.

## Suggestions for preparing your home:

### CHECKLIST:

- Arrange furniture to make it easier to get around.
- Remove throw rugs, wires, objects that may trip you and furniture that won't support you.
- Be aware of uneven floors and steps.
- Elevate your bed or rent a hospital bed to ensure that it's not too low.
- Select chairs with arms and high, firm seats.
- Place objects you use frequently within easy reach and buy a "carry-along" bag that can be attached to your walker or crutches.
- Consider restricting pets to one part of the house so they won't cause falls.
- Beware of bathroom and kitchen hazards; avoid wet floors; place nonslip strips in bath or shower and arrange things in the shower so they're easy to reach.
- Install a raised toilet seat.
- Install hand railings wherever you might need additional support.
- Have comfortable clothes that you can get on and off easily.
- Consider acquiring some occupational therapy equipment, for example: long-handled sponges, back-scratchers, "grabbers" for picking things up from the floor and dressing aids.



### Arrange for home care

Before surgery, be sure to consider the support system you have at home. You will benefit greatly if you have some assistance for the first several weeks with cooking, bathing, housekeeping, shopping, errands, etc. Do you have a caregiver, spouse, companion, friend, or family member who will be able to help?

The hospital discharge planner, occupational therapist, and social worker can help you explore all your options for having assistance at home. You might discuss a home healthcare professional, visiting nurse, or other help. If an adequate support system at home is not available, you may want to consider going to a rehabilitation facility or nursing home during recovery.

## Understanding Your Surgery and Hospital Stay SECTION

# 4

## SECTION 4

### Understanding your surgery and hospital stay

#### Prepare for hospital admission

Your doctor will instruct you not to eat or drink anything for a time period before your surgery. You must have an empty stomach going into surgery. Remember to bring all your regular medications to the hospital, even those that you were instructed to discontinue before surgery. You'll be more comfortable if you remember to bring a lightweight robe, a nightshirt, slippers with nonskid soles, toiletries, rubber soled shoes, glasses, etc. For your safety you should not wear make-up, contact lenses, dentures, or a hearing aid into the operating room.

There are a number of forms you will sign upon admission. The details may vary slightly from one hospital to the next, but certain forms are standard. You will sign a condition of admission form that addresses all your insurance and financial information, discusses the nature of your condition, and authorizes a release of all your medical information to the hospital. You will have obtained approval from your primary insurance carrier before your admission; this is generally handled through your primary care physician.

You may need to bring an insurance approval form to verify your coverage. If you have Medicare, there are forms you will need to sign to be eligible for coverage. Both the anesthesiologist and surgeon will have individual release forms for you to sign. If you belong to a PPO or an HMO, they will provide a form that addresses your benefits and coverage. Finally, as described earlier, a consent document will be provided for your review and signature.

The admitting nurse will take you to your room and familiarize you with the hospital surroundings. To verify information about your health that you have already provided, the nurse and admitting staff will ask you several questions that you've probably answered before.



#### Be ready for surgery day

Report to the hospital admitting office approximately two hours before your scheduled surgery. After you are admitted, you will be prepared for surgery. Using a needle, a small intravenous (IV) tube will be inserted into a vein in your arm. The tube will be used to administer antibiotics, pain medication, and liquid nutrition during and after your surgery.

Your blood pressure and heart will be monitored. Your anesthesiologist will talk with you again about the type of anesthesia you will receive. You may be lightly sedated before being taken to the operating room. Nerve blocks, when used, are usually administered before you go to the operating room.

Be aware that the operating room can be a bright, cold, busy and loud place. A nurse will verify your identity and knowledge of the operation. Once the anesthesia takes effect, your knee will be scrubbed, shaved and sterilized. The surgery, including the time you will spend in the recovery area, will take approximately one to two hours,\* depending on your individual circumstances.

#### Your new knee(s)

**LEFT Knee:** Date of Operation \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Partial Knee

Total Knee Replacement

**RIGHT Knee:** Date of Operation \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Partial Knee

Total Knee Replacement

#### Request copies of your peel-and-stick package labels.

Some hospitals are only keeping records for 5-10 years. It is helpful to have all your records regarding your knee replacement in one place in case you or your doctor needs access to all the details.

### Know what happens after surgery

After your surgery, you will be moved from the operating room to the recovery room. You will have a dressing on your knee. A skilled team of nurses and members of the anesthesia team will care for you, checking your vital signs frequently and monitoring your recovery from the anesthetic.

Your operated leg will be checked regularly for movement, sensation and temperature. Once you are conscious, you will be encouraged to breathe deeply and cough to clear your lungs. The time spent in the recovery room varies depending on your individual response to the anesthetic. Typically, patients are ready to leave the recovery area after one to three hours. Visitors are often not permitted in the recovery area.

Once you are fully awake, you'll be moved to your room or another location for further recovery until discharge. In your hospital room, your knee may be wrapped in a cooling pad to reduce swelling and pain. Your legs and feet may be covered with plastic wrappings to promote circulation. Blood thinning drugs will likely be given daily to protect against blood clots and your vital signs will be monitored often. Your respiratory therapist will visit to explain your coughing and breathing exercises, and to instruct you in the use of your incentive spirometer, a device that encourages you to exercise your lungs.

For several days after surgery, your knee will remain swollen and tender. Your surgeon may visit you after surgery to check on your recovery.

### Ask what you can do about pain control

Pain management is a primary focus for all members of your care team. Following surgery, it is expected and normal that you will have some pain. You will probably receive regular pain medication through the IV line or by mouth for the first 48 hours. If your hospital stay will be shorter, you will be given oral pain medication as the anesthesia begins to wear off. Alternatively, a device called a patient controlled analgesia pump (PCA) may be used, which allows you to control when you receive medication.

Your pain will likely be the greatest the day following surgery, but will decrease over the next several days. Pain medication taken by mouth will be prescribed for the first few weeks of your rehabilitation once you are discharged.

### Rehabilitation

Rehabilitation protocol can differ from patient to patient, depending on surgeon practice. You will go through all the same stages of rehabilitation but you may reach certain goals sooner or later than described here. Depending on your length of stay at the hospital, these activities may be performed at the hospital or in your home. It is important to follow the instructions of your physical therapist carefully and consistently in order to regain movement and strength.





Your hospital stay will typically last from one to four days, depending on the speed of your recovery. Before you are discharged from the hospital, you will need to accomplish several goals, such as:\*

- Getting in and out of bed by yourself.
- Having acceptable pain control.
- Being able to eat, drink, and use the bathroom.
- Walking with an assistive device (a cane, walker, or crutches) on a level surface and being able to climb up and down two or three stairs.
- Being able to perform the prescribed home exercises.
- Understanding any knee precautions you may have been given to prevent injury and ensure proper healing.



\*[orthoinfo.aaos.org/topic.cfm?topic=a00357](http://orthoinfo.aaos.org/topic.cfm?topic=a00357)

## Returning Home

# SECTION

# 5



## SECTION 5



### Returning home

It's very important that you follow your surgeon's instructions. Additionally, here are some suggestions that may make life a little easier at home. Please discuss these with your surgeon before you are discharged from the hospital:

- Remember that you'll probably feel more tired than usual. You may want to plan a rest period of 30 to 60 minutes mid-morning and mid-afternoon.
- It's safer and easier to get in and out of chairs using both arms, and you should avoid low or overstuffed furniture. To increase your comfort, use a cushion or pillow to raise your body while seated.
- An elevated toilet seat may reduce stress to your knees as you sit and stand.
- A shelf placed in the shower at chest height may help you avoid bending to retrieve items while in the shower.
- A bathtub seat (bench) allows you to sit while bathing for increased safety and comfort.
- A long-handled bath sponge may be used to reach lower legs. Women can also purchase razor extenders for shaving their legs.
- Avoid sweeping, mopping and running the vacuum cleaner. Use long-handled feather dusters for dusting high and low items. Consult your surgeon prior to resuming these activities.
- Constipation is common following surgery. This is usually due to your limited activity and any pain medications you may be taking. Discuss your diet with your doctor. It should include fresh fruits and vegetables as well as eight full glasses of liquid each day, unless your doctor tells you otherwise.
- Your doctor will probably give you a prescription for pain pills. Please follow your doctor's instructions concerning these medications.
- Some swelling around the incision is normal. You'll find it more comfortable to wear loose clothing to avoid pressure on the incision. Ask your doctor or other qualified health professional about appropriate wound care.

### Pay attention to signs or symptoms

It is normal for your knee to remain warm, swollen and slightly tender for a number of weeks. Applying ice packs regularly should help ease the discomfort.

#### Call your doctor immediately, if you notice:

- Increased knee pain
- Increased redness or swelling
- Incision drainage
- Prolonged nausea or vomiting
- Chest pain or shortness of breath
- Tenderness in the calf or thigh of the operated leg
- A continuous or daily fever

### Practice infection prevention

Your knee implant is susceptible to infection from other parts of the body. Consult your doctor immediately regarding any infection, dental problems or procedures or any contemplated surgery. Any bacterial infection must be treated immediately to prevent infection of the joint. Preventive antibiotics may be required for any invasive medical or dental procedure, including routine dental hygiene at the dentist's office.

#### Notify your doctor if you notice:

- Skin lesions anywhere on your body
- A urinary tract infection
- A productive cough
- A fever



### Commit to your exercise program

Now is the time to make a renewed commitment to your exercise program. Consistent, appropriate physical activity is essential to maintain your strength and flexibility. Talk to your surgeon about what activities are appropriate for you. Often it helps to identify a coach, someone to help remind you and support you, physically and emotionally, through your daily exercise routine. Get in the habit of doing your exercises during TV commercial breaks or when starting a new chapter in a book. Remember to use ice and compression to reduce swelling and pain.

Once you are home you'll be adapting the skills learned in the hospital to your home environment. Use the techniques and precautions demonstrated by your physical and occupational therapists to protect your knee and speed your recovery. Continue to use aids, devices, and methods provided by your occupational therapist to protect your knee as you increase your activity at home.

### Resuming normal activities

Once you return home, it is recommended you stay active without doing too much too soon. You should increase your activities gradually, according to your surgeon's and physical therapist's instructions. During your recovery, you should notice a gradual improvement over time.

Recovery varies based on individual factors, discuss the following activities with your doctor as needed for guidance:

- Driving
- Sleeping
- Taking a bath or shower
- Household chores
- Dressing and undressing
- Returning to work

You may have permanent activity restrictions but only your doctor can decide what activities are acceptable for your condition.

### What you can do to help ensure the maximum life span of your new knee joint:

- Maintain a healthy weight.
- Stay healthy and active.
- Avoid excessive physical activity
- Consult your surgeon before beginning any new sport or activity.
- Avoid any physical activities involving quick stop-start motion, twisting, or impact stresses.
- Don't lift or push heavy objects.

### Understanding activities to avoid

Talk to your surgeon about what activities are appropriate for you. The durability of a knee replacement varies from patient to patient and can depend on factors including: the patient's physical condition, activity level, weight, adherence to surgeon instructions, accuracy of the implant placement during surgery and soft tissue balancing in surgery.

Results may vary. Not all patients are candidates for this product and/or procedure. Only a medical professional can determine the treatment appropriate for your specific condition. Appropriate post-operative activities and restrictions will differ from patient to patient. Talk to your surgeon about whether joint replacement is right for you and the risks of the procedure, including the risk of implant wear, loosening, or failure.

For more information or to find a doctor near you, visit [zimmerbiomet.com](http://zimmerbiomet.com)

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet.

## Moving beyond pain.

Zimmer Biomet understands that making the decision to have joint replacement surgery can be stressful and difficult. This guide was designed to help you understand knee replacement. Knowing what to expect is not only important for making the best possible decision about knee replacement surgery — it's your first step toward recovery.

**For more information or to find a doctor near you,  
visit [zimmerbiomet.com](http://zimmerbiomet.com)**



ZIMMER BIOMET

Your progress. Our promise.™