

JOINT REPLACEMENT

Questions and
Answers



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WHAT IS A JOINT?

A joint is formed when the ends of two or more bones are connected by thick tissues. For example, the knee joint acts as a hinge for the tibia (shin) and femur (thigh) bones, and is held together by ligaments, muscle, tendons, and cartilage.

In a healthy joint, weight-bearing surfaces ensure painless movement. Ligaments are fibrous cords that attach bones to bones. Tendons are similar to ligaments except they connect muscles to bones.

The bursa is a fluid-filled sac that acts as a cushion between muscles and bone or tendons. The synovium is the tissue lining the joints. In a healthy joint, cartilage, (smooth, soft tissue) acts as a shock absorber for the ends of the bones that meet to form a joint. Normal cartilage permits frictionless, pain-free movement.

HOW CAN JOINTS BECOME ARTHRITIC?

The reason why some people suffer from sore joints and/or various types of arthritis is not fully understood. People who exercise excessively, people who are overweight and not physically fit, and people who have a genetic predisposition towards joint weakness and arthritis are more likely to suffer from damaged joints.

Sometimes a bad fall or blow is the cause of joint injury or damage to the knee or hip. When the injury doesn't heal properly, extra pressure is placed on the joint. This may cause the cartilage cushion to wear away over time known as traumatic arthritis.

Osteoarthritis is the most common type of arthritis affecting about 20 million Americans, usually middle-aged and older people. This is a noninflammatory degenerative joint disease characterized by the breakdown of the joint's cartilage. The exact cause of osteoarthritis is unknown.

In some types of arthritis, such as rheumatoid arthritis, the synovium becomes inflamed. This inflammation causes chemicals to be released that thicken the synovium and damage the cartilage and bone of the affected joint. This leads to inflammation of the synovium causing pain and swelling.

When cartilage becomes cracked as in the case of osteoarthritis, the cartilage no longer performs its function as a shock absorber and thus, movement of the joint becomes painful. When cartilage wears away in a weight-bearing joint, it can lead to severe pain, deformity and loss of mobility.

WHAT CAN BE DONE TO HELP SORE OR INJURED JOINTS?

A number of things can be done to help sore or injured joints depending on the severity. In most cases, arthritis may be managed by non-surgical methods such as:

- ***RICE Therapy:***
Rest, Ice, Compression and Elevation.
- ***Exercise:***
Regular exercise lessens pain, increases movement, and reduces fatigue.
- ***Anti-inflammatory Drugs:***
Help reduce inflammation and ease pain.
- ***Physical Therapy:***
Allows joints and surrounding muscles to strengthen gradually.
- ***Rest:***
Gives overused joints a chance to “take a break.”

- ***Joint Protection:***

Joints can be protected by learning to use them in ways that avoid excess stress. One way of doing this is to avoid using sore and weak joints. Unless larger joints are sore, for example, it is best to use them when carrying heavy items. Using assistive devices and maintaining a normal weight also reduce your chances of placing stress on joints.

For moderate and severe joint pain, or injuries visit your physician. A doctor can determine the severity of your condition by examination, taking x-rays of the joint or an MRI and CAT scan. Surgery may be performed in severe cases of joint damage when all other treatment options have failed to relieve pain. The decision to have surgery is a major one and requires serious thought. It's often a good idea to talk with your family and obtain a second opinion from a physician before making a final decision.

WHICH JOINTS BENEFIT FROM SURGERY? WHAT TYPES OF SURGERY CAN BE PERFORMED?

Joints in the feet, knees, hips, fingers, wrist, shoulder, etc., all benefit from surgery.

There are many types of surgery available that can be performed. These include:

- **Arthrodesis:**
Bone fusion.
- **Arthroscopy:**
Minimally invasive surgery using small instruments and scopes through tiny incisions.
- **Osteotomy:**
Correction of deformity by cutting and then resetting the bone.
- **Resection:**
Removal of a bone/bone part.
- **Synovectomy:**
Surgical removal of the inflamed tissue inside the joint.
- **Joint Replacement:**
Replacement of the joint with an artificial one.

WHAT IS JOINT REPLACEMENT SURGERY?

Arthritic or damaged bone surfaces are removed and resurfaced with an artificial joint known as a prosthesis.

Knee and hip replacements are most common, but joint replacement can be performed on other joints such as the ankle, toe, shoulder, elbow, etc.

WHY IS JOINT REPLACEMENT SOMETIMES NECESSARY?

The goal of the surgery is to relieve joint pain due to damaged cartilage and bone. If the pain becomes so severe that a person avoids using the joint, the muscles around the joint weaken making movement even more difficult and painful. To determine how badly damaged joints are, a physical examination, laboratory tests, and x-rays need to be conducted. Joint replacement will be considered only when other treatment options such as

physical therapy, exercise, diet, and anti-inflammatory medications have failed to relieve joint pain and disability.

HOW IS JOINT REPLACEMENT SURGERY PERFORMED?

The surgeon replaces the damaged parts of the joint with metal and plastic devices while the patient is anesthetized. For example, in an arthritic knee, the damaged ends of the bones and cartilage are resurfaced with metal and plastic components shaped to restore knee movement and function. In an arthritic hip, the upper end of the thigh bone (femur) is replaced by a metal ball attached to a metal stem that fits into the thigh bone. A plastic socket, or metal and plastic socket is implanted into the pelvis, to resurface the damaged socket (acetabulum).

WHAT IS MINIMALLY INVASIVE JOINT REPLACEMENT?

Minimally invasive surgery is a specialized joint replacement procedure. In traditional joint replacement, the surgeon makes a long incision, cutting through muscles, ligaments, and tendons in order to place the implants. Minimally invasive surgeries utilize special techniques and instruments to reduce the size of the incision, separating the muscles, ligaments, and tendons, rather than cutting them. The less-invasive approach translates into several potential benefits to the patient, including: less tissue trauma; a faster, less-painful rehabilitation; smaller scars; a shorter hospital stay; and less blood loss during surgery. These benefits may result in a faster return to work and daily activities.

WHAT ARE THE BENEFITS OF JOINT REPLACEMENT SURGERY?

Joint surgery offers several potential key benefits for arthritis patients. The most important benefit and the main reason people undergo surgery is to relieve pain. Other benefits include better movement and ability to use joints. In addition to these benefits, an improvement in the look of deformed joints, particularly joints in the hands, is achieved by surgery.

ARE THERE ANY REASONS NOT TO HAVE JOINT REPLACEMENT SURGERY?

ARE THERE ANY POSSIBLE COMPLICATIONS OR SIDE EFFECTS FROM THE SURGERY?

As with any type of surgery being performed, it is important to be in good health. Patients must discuss their medical history with an orthopaedic surgeon prior

to considering surgery. According to the American Academy of Orthopaedic Surgeons, joint replacement is successful in 9 out of 10 people who have the surgery. When complications arise, most are treatable. Potential complications include the following:

- **Infection:**

May occur in the wound or around the prosthesis. Minor infections in the wound area can usually be cleared up with antibiotics.

- **Blood Clots:**

Result from decreased mobility and can be treated by blood thinning medications and exercises.

- **Loosening:**

If loosening of the implant is significant, a revision of the joint replacement can usually be performed.

- **Dislocation:**

Occasionally, after hip replacement surgery, the ball can be dislodged from the socket, but in most cases the hip can be relocated without surgery.

- **Wear:**

Some wear is normal, but excessive wear may require revision surgery.

- ***Prosthetic Breakage:***

This is rare, but if it occurs, revision surgery is needed.

- ***Nerve Injury:***

These occur infrequently. Nerve injuries usually improve over time and may completely disappear.

HOW LONG DOES JOINT REPLACEMENT LAST?

Durability of the prosthesis varies by device. It depends on several factors; including, among other things, the patient's physical condition and activity level, accuracy of implant alignment and placement, and soft-tissue balance.

Successful joint replacement can contribute to years of pain-free living for patients whose other treatment options have been exhausted. There are a number of other possible complications that can occur, and these should be discussed with your orthopaedic surgeon before a final decision is made to have surgery. The surgeon is in the best position to discuss how these may relate to one patient's particular situation.

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