

10 Most Common Types of Orthopaedic Surgeries

v 2024.10.03

Based on: <https://www.polarishealthcare.in/post/types-of-orthopaedic-surgeries>

Duration of Surgeries, and necessary staff (Doctors, Nurses, Anaesthetist) have been obtained from a Doctor in Orthopaedics and reflect median values (real surgeries may take more or less according to the complexity). However, Planning/Scheduling are intended as forecasts of what may happen.

Surgeries will need certainly Surgeons and Interns in Orthopaedics. An Orthopaedic Surgeon (Orthopaedist) is a Doctor who has finished 1 General Internship year after concluding the Medicine Programme followed by 6 years as a Orthopaedics Intern). An Intern Doctor in Orthopaedics is someone in the 6 years of specialization. There is a final assessment examination at the end of the 6 specialization years to allow an Intern to receive the title of Doctor in Orthopaedics (Orthopaedist). Each operation will require a number of Doctors, with a minimum number of Orthopaedists required.

The Operating Rooms are the places where Surgeries take place.

Surgeries involve 3 phases: Anaesthesia/Preparation; Surgery process; and Cleaning. The Operating Room occupancy involves times for these 3 phases.

The following staff is necessary in all Orthopaedic Surgeries:

- Doctors and Interns in Orthopaedics (number depends on the type of Surgery; They just need to be in the Operating Room during the Surgery process)
- 1 Anaesthetist (Need to be in the Operating Room during the Anaesthesia/Preparation and Surgery process)
- 1 Instrumenting Nurse (Need to be in the Operating Room during the Surgery process)
- 1 Circulating Nurse (Need to be in the Operating Room during the Surgery process)
- 1 Nurse Anaesthetist (Need to be in the Operating Room during the Anaesthesia/Preparation and Surgery process)

- 1 Medical Action Assistant (Need to be in the Operating Room during the Surgery process and Cleaning)

Additionally certain surgeries will need other Health Technicians (eg. X-ray Technician for Lumbar discectomy).

1. ACL Reconstruction Surgery

Anterior Cruciate Ligament surgery, also known as ACL surgery, is a procedure that involves the repair or reconstruction of the anterior cruciate ligament, which is in the middle of the knee. An ACL is a vital soft tissue structure that connects the femur (a thigh or upper hindlimb bone that articulates at the hip and knee) to the tibia (the inner and typically larger of the two bones between the knee and the ankle).

These types of injuries, whether partial or complete, are most common among athletes. Sports medicine physicians and orthopaedic surgeons typically perform ACL reconstruction surgery, replacing the torn ligament with a tissue graft to mimic or replicate the natural ACL and it is done arthroscopically and hence it becomes a minimally invasive surgery

Average Time required:

- Anesthesia/patient preparation - 45 min
- Surgery - 60 min
- Cleaning - 30 min

Staff:

- 3 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

2. Knee Replacement Surgery

Knee replacement surgery is a surgical procedure used to resurface an arthritic or damaged knee. People with severe arthritis or knee injuries are typically considered for this surgery, in which metal and plastic parts are used to cap the ends of the knee bones and the kneecap. Surgery to replace a knee joint is also called knee arthroplasty or total knee replacement.

The knee joint is affected by various types of arthritis. For example, osteoarthritis is a degenerative joint disease that primarily affects middle-aged and older adults, causing the breakdown of joint cartilage and adjacent knee bones. Rheumatoid arthritis causes synovial membrane inflammation, which increases synovial fluid and causes pain and stiffness in the knee joint. Traumatic arthritis develops as a result of an injury to the knee cartilage. The primary goal of knee replacement surgery is to resurface damaged knee parts and relieve pain that other methods cannot reduce.

Average Time required:

- Anesthesia/patient preparation - 45 min
- Surgery - 60 min
- Cleaning - 45 min

Staff:

- 3 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

3. Shoulder Replacement Surgery

A shoulder replacement is a surgical procedure that replaces the damaged parts of the shoulder joint with prostheses, eliminating the source of pain and dysfunction. As a result, this surgery will assist a person in relieving pain, improving strength, and increasing arm and shoulder flexibility. Osteoarthritis, rotator cuff tear arthropathy, avascular necrosis, and rheumatoid arthritis are all common reasons for shoulder replacement surgery.

Average Time required:

- Anaesthesia/patient preparation - 45 min
- Surgery - 90 min
- Cleaning - 45 min

Staff:

- 3 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist

- 1 Medical Action Assistant

4. Hip Replacement Surgery

Hip replacement surgery, also known as hip arthroplasty, is a procedure used to relieve hip pain. It uses artificial implants to replace parts of the hip joint. The hip joints are made up of a ball at the top of the femur, known as the thigh bone, and a socket in the pelvis, known as the hip bone. The surgery involves the replacement of one or both parts. The surgery's primary goal is for you to be able to resume your daily activities and have a painless range of motion or movements at the hip joint with a stable and painless hip joint.

Average Time required:

- Anaesthesia/patient preparation - 45 min
- Surgery - 75 min
- Cleaning - 45 min

Staff:

- 2 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

5. Meniscal injury treatment

It is a procedure in which an orthopaedic surgeon uses a small piece of equipment called an arthroscope to investigate, evaluate and treat knee problems. A surgeon inserts a narrow tube connected to a fibre-optic video camera through a buttonhole-sized incision. A high-definition video monitor receives the view from inside your joint. It is a less invasive surgical procedure used to diagnose and treat joint problems.

Most of the knee ligament injuries like ACL, PCL and meniscal tears are treated with this minimally invasive procedure.

Average Time required:

- Anaesthesia/patient preparation - 45 min
- Surgery - 45 min
- Cleaning - 20 min

Staff:

- 2 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

6. Rotator cuff repair

Arthroscopy of the shoulder is a minimally invasive procedure for diagnosing and treating shoulder disorders. Shoulder arthroscopy may be performed if a person has rotator cuff tears or a swimmer's shoulders, which is a pain caused by connective tissue rubbing on a shoulder blade. Small incisions and a few stitches are required for these procedures.

Average Time required:

- Anaesthesia/patient preparation - 45 min
- Surgery - 80 min
- Cleaning - 30 min

Staff:

- 2 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

7. Ankle ligaments reconstruction or repair

Ankle ligament reconstruction or repair is a surgical procedure performed if the joint still feels unstable after a fracture. During this procedure, the ankle bones are repositioned to their proper positions and held together with implants or suture anchors. Following the procedure, the patient must wear a cast or a boot for some time until they recover. When the patient's ankle bones have healed, they can put pressure on their foot and participate in physical therapy to regain entire ankle movement.

Average Time required:

- Anaesthesia/patient preparation - 30 min

- Surgery - 45 min
- Cleaning - 20 min

Staff:

- 2 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

8. Lumbar discectomy

When you have frequent back pains time, and again, you may have to investigate and consider having spinal surgery. The good news is that you can recover from most of these back pains through non-surgical procedures. However, if you have severe back pain, experience abnormalities, or don't respond to conservative treatment, it is best to have it evaluated and treated. Specialists will clarify and recommend the type of treatment or surgery based on the pain patterns or issues you are experiencing. And it may range from minimal invasive procedures like a caudal epidural block to minimally invasive surgeries like microdiscectomy or spinal decompression and stabilisation procedures

Average Time required:

- Anesthesia/patient preparation - 20 min
- Surgery - 45 min
- Cleaning - 15 min

Staff:

- 2 Doctors or Interns in Orthopaedics (minimum 1 Orthopaedist)
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant
- 1 X-ray Technician

9. Trigger finger

A trigger finger is a condition that causes pain, firmness, and the sensation that your finger is locking or catching when you twist and straighten it. The condition is also known

as "stenosing tenosynovitis." The trigger finger most commonly affects the ring and thumb but can also affect other fingers. When the thumb is involved, the condition is referred to as "trigger thumb." Surgeons usually treat the trigger finger in one of two ways. The first step is to make a small incision in the palm to free the pulley causing finger movement. The second step is inserting a needle into the affected area to disengage the pulley.

Average Time required:

- Anesthesia/patient preparation - 15 min
- Surgery - 10 min
- Cleaning - 15 min

Staff:

- 1 Orthopaedist
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

10. Carpal tunnel syndrome

Carpal tunnel syndrome is one of the most common hand conditions. It is caused by pressure on the median nerve in the carpal tunnel of the wrist. The carpal tunnel is a narrow passageway surrounded by bones and ligaments on the palm side of the hand. When the median nerve is compressed, symptoms can include numbness, tingling and weakness in the thumb and fingers.

Average Time required:

- Anesthesia/patient preparation - 15 min
- Surgery - 10 min
- Cleaning - 15 min

Staff:

- 1 Orthopaedist
- 1 Anaesthetist
- 1 Instrumenting Nurse
- 1 Circulating Nurse
- 1 Nurse Anaesthetist
- 1 Medical Action Assistant

Expertise of Doctors in Orthopaedics and suitability for the 10 types of surgeries

Usually, Doctors in Orthopaedics have expertise in certain surgeries. The tree types are common:

- Expertise in Prosthetics: in surgeries 2, 3, and 4
- Expertise in Arthroscopy: in surgeries 1, 5, 6, 7
- Expertise in Spine: in surgery 8

The surgeries 9 and 10 are simpler and can be performed by any Doctor in Orthopaedics.

Level of Urgency of Surgeries

Surgeries that are a priority are types 1, 6 and 8, and in principle should be performed at the beginning of the day.

Emergency situations, such as an exposed fracture, must be carried out as quickly as possible, and may occupy a free block or a block with scheduled operations, completing the current operation and moving the others to a later date to make room for the emergency operation (rescheduling of operations).

Maximum Working Hours for Healthcare Professionals in Surgeries

Although healthcare professionals may work additional consecutive hours in critical situations, it is considered good practice to impose a maximum daily hour limit and a maximum limit on consecutive hours (for example, a maximum of 12 hours per day and 8 consecutive hours). Note that for Specialist Doctors, the interruption of consecutive hours only occurs if the professional has a work break of 45 minutes or more. Shorter breaks will not be considered and will be counted as part of the consecutive working hours.