

# Risks Associated with Total Knee and Unicompartmental Knee Replacement Surgery

- There is no such thing as “Risk-Free” Surgery
- Total knee replacement is **MAJOR** surgery

If we run through the risks in a logical stepwise manner based upon the steps in the operation:

- Incising the skin will cause **Bleeding**
  - The risk of significant bleeding that would require a blood transfusion is now low – less than 5%
- When you bleed, even a small amount, your body will start to clot the bleeding. This is normal. In some instances, your body may clot in areas we don’t want it to. The example here is a **Deep Vein Thrombosis or DVT**. These usually form in the veins of the calf, but can form in any vein in your body.
  - The risk is approximately 0.5-1%
  - If it is a large clot, you will likely need strong blood thinners for up to 3 months to prevent any further clot and help open the clotted vein
- **Infection**
  - When we make a cut in your skin, it is a portal into your body which bacteria can gain access and cause an **Infection**. Deep infection around the joint replacement is called Periprosthetic Joint Infection or PJI. PJI is a serious complication and will require further surgery or surgeries to try and eliminate the infection. **Infection risk is around 1%.**
- **Malposition of components**
  - This is uncommon but can lead to instability or pain. The Robotic Assisted TKA means the risk of malposition of components is almost eliminated
- **Fracture of the bones around the knee**
  - We sometimes use press-fit components which are pressed into your bone and gain their stability by friction
  - It is exceptionally uncommon, but a fracture can occur
  - Usually, the fracture is noticed during the operation and repaired
- **Numbness over the outside of the knee**
  - This is a common complaint
  - Because of the way the cutaneous skin nerves travel under the skin, the skin on the outside (Lateral) aspect of the wound loses sensation. It usually improves over the years, but never returns to complete normality
- **Nerve or Vessel Injury**
  - This is exceptionally uncommon
  - The main nerve (tibial) and vessels run behind the knee. They can be damaged during the operation
  - If damaged, this is catastrophic and may require vascular or plastic surgery to repair or reconstruct, the worst-case scenario would be amputation if the blood supply to the leg could not be restored

- Robotic arm assisted surgery helps reduce this risk by stopping the blade penetrating behind the knee by using Haptic Feedback Boundaries
- **Incomplete Relief of Pain**
  - This can occur for a few reasons
  - There may be another source that is referring pain towards the knee region
    - Nerve entrapment pain from the L3 nerve root can refer pain to the knee region
    - If the hip joint above the knee is arthritic, it can refer pain to the knee
  - Some patients do not get complete relief of pain, and no other source is found, this is uncommon
- **Instability**
  - This is a rare complication
  - Robotic assisted TKA allows greater accuracy of balancing and greatly reduces the risk of instability following TKA
- **Stiffness**
  - This means a reduced range of motion of the knee joint after surgery than expected
  - The biggest predictor of stiffness after TKA is the **preoperative** range of motion, hence the importance of **prehabilitation** and improving ROM
  - If the knee is particularly stiff after surgery, we may recommend a manipulation under anaesthesia
  - Most people find it very difficult to perform a deep squat after TKA
  - Many people still find it difficult to kneel down on the operated knee
- **Aseptic Loosening**
  - This is when one or more of the components attached to the bone, begins to loosen from mechanical forces over time
  - It is becoming less common with better implants and bearing materials
  - If it occurs, it usually causes pain in the knee and may necessitate revision
  - The NZ Joint Registry shows 93% of total knee replacements are still working inside their patients at 20 yrs.
- **DEATH**
  - This has to be mentioned
  - The risk is around **0.18%** in NZ
    - There are higher risk patients and lower risk patients
    - The anesthetist/surgeon will inform you if they feel you are a high-risk patient

## **Specifically for Unicompartmental Knee Replacement**

- Progression of disease requiring conversion to TKA
  - Because only part of the joint has been replaced, the other areas can potentially develop arthritis later and cause pain.
- Vary rarely we may open the joint with the plan to perform a unicompartmental knee replacement and find the arthritis is more severe than thought. In this case it would be in the patient's best interest to perform a total knee joint.