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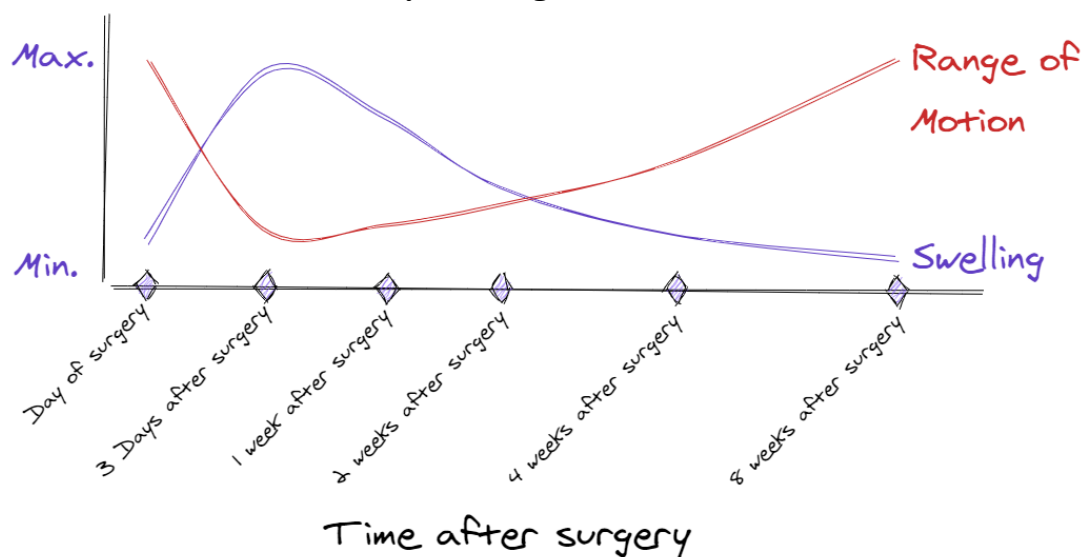
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Immediate Risks of a Knee Replacement

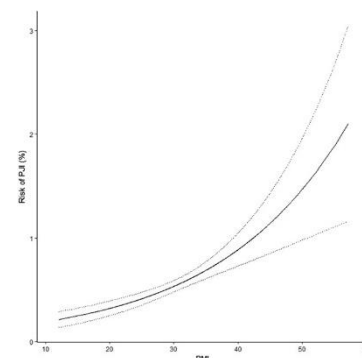
Stiffness vs. Instability

- During surgery, Dr. Kurtz can remove more bone, release more soft tissue, and/or use thinner implants to give the knee replacement more motion, but this increases the risk of instability.
- Dr. Kurtz can remove less bone, release less soft tissue, and/or use thicker implants to give the knee replacement more stability, but this increases the risk of stiffness.
- Patients with considerable pre-operative stiffness often become stiff after surgery.
 - Dr. Kurtz will deliberately remove more bone during surgery to make these knees looser.
- Patients with considerable pre-operative instability often become unstable after surgery.
 - Dr. Kurtz will deliberately remove less bone during surgery to make these knees tighter.
- The immediate post-operative swelling will make most knees stiff for the first few months after surgery.
- Dr. Kurtz's article on Knee Stiffness.
 - <https://www.nashvillejointreplacement.com/s/Knee-Replacement-Stiffness-Guide.pdf>
- Dr. Kurtz is attempting to achieve an ideal balance between stability and range of motion when the patient is fully recovered (i.e. ~6 months).
 - Therefore, most knee replacements will initially be stiff for a few months and achieve an ideal balance between stability and range of motion around 3-6 months.



Infection

- The risk of a post-operative infection is about 0.25% for healthy patients.
- The risk of a post-operative infection is about ~3-4% for **smokers**.
- The risk of a post-operative infection is about 2-3% for poorly controlled **diabetics**.
- The risk of a post-operative infection in **obese** patients range from about 1% with a BMI of 45 to 2-3% with a BMI of 55. (*click on graph*).
- Post op infections usually present from 1 to 6 weeks after surgery.
- Additional material from AAOS:
 - <https://orthoinfo.org/en/diseases-conditions/joint-replacement-infection/>
 - <https://orthoinfo.org/en/treatment/preventing-infection-after-joint-replacement-surgery-video/>



Blood Clots

- Patients without a history of blood clots are asked to take aspirin for 4 weeks.
 - Low risk patients have a ~0.5% risk of a blood clot while on aspirin.
 - Low risk patients have a ~2-3% risk of a blood clot if they do not take their aspirin.
- Patients with a history of blood clots are asked to take a strong blood thinner (Xalerto, Eliquis, Coumadin, etc.) for 4 weeks or longer.
 - High risk patients have a ~2-3% risk of a blood clot while on a strong blood thinner.
 - High risk patients can have a very high risk of a blood clot if they do not take their strong blood thinner. (*not advisable*)
- A blood clot is associated with calf pain, swelling and pain with ankle flexion.
- Early motion, ambulation and ankle pumps can help prevent blood clots.
- Ultrasound can be used to diagnose a blood clot.
- A blood clot can break off and move to your lungs (Pulmonary Embolus).
- Pulmonary Embolus can cause chest pain and difficulty breathing. In rare cases, pulmonary emboli can be fatal.
- Additional material from AAOS:
 - <https://orthoinfo.org/en/diseases-conditions/deep-vein-thrombosis/>
 - <https://orthoinfo.org/en/recovery/preventing-blood-clots-after-orthopaedic-surgery-video/>

Mal-alignment

- Most patients start out with some mal alignment (abnormal bow) to the knee before surgery.
 - Varus deformity describes being bow legged (knees go out, feet go in)
 - Valgus deformity describes being knock kneed (knee go in, feet go out)
- Dr. Kurtz will attempt to straighten your knee during surgery.
- Most knee replacements end up within 3 degrees of normal alignment.

Rare Risks

Medical complication

- The stress of having any surgery can sometimes trigger medical issues.
- Heart arrhythmias, stroke, GI bleeds, post op ileus and even death have rarely happened after some knee replacements.

Fracture

- Fractures are exceedingly rare but occur to the femur, tibia, or patella both during surgery and after a fall after surgery.
- Patella fractures can sometimes occur years later if a patient falls directly on their knee.

Ligament Injury

- Ligaments injuries are exceedingly rare but occur to the medial collateral ligament (MCL), lateral collateral ligament (LCL), posterior cruciate ligament (PCL), patella tendon, and/or quadricep tendon both during surgery and after a fall after surgery.

Neurovascular Injury

- Nerve and vascular injuries are exceedingly rare but can occur to the popliteal artery and/or peroneal nerve.

Long term Risks

Implant Loosening

- Knee implants are typically attached to the bone with cement.
- Sometimes, the bone cement or implant can loosen from the bone.
- If implant loosening occurs (micro motion), patients may have “startup” pain.
 - Patients with startup pain may have temporary pain with weight bearing after prolonged sitting.

Implants Wearing Out

- Modern knee replacements can last 5-6 decades, but there are no assurances that they will last that long.
- Most knee replacement prior to 2000 had standard polyethylene that would typically wear out after 1-2 decades, cause osteolysis, lead to bone resorption around the implant.

- All modern polyethylene since 2005 has been highly cross linked and does not seem to cause osteolysis.

Chronic Pain

- Knee replacements are very successful at relieving knee pain, but few patients can have persistent pain after their knee replacement.
- Any patient with persistent knee pain more than 6 months after their surgery should have a complete work up including x-rays, infection work-up (labs), metal suppressed MRI of the knee, and/or nuclear bone scan.

Functional Problems

- Knee replacements are successful at returning function, but a few patients can have long term functional difficulty including limping, stiffness, difficulty with stairs, and/or weakness.
- Any patient with functional problems more than 6 months after their surgery should have a complete work up including x-rays, infection work-up (labs), metal suppressed MRI of the knee, and/or nuclear bone scan.

Late Instability

- Knees replacements can become unstable years after surgery through falls and other trauma to the ligaments.
- The patella can dislocate by sliding off the side of the knee.
- Constrained implants are sometimes necessary to correct the instability.

The risk percentages discussed above are Dr. Kurtz's estimates for primary knee replacements. The risks for revision knee surgeries are often double those of primary knee replacements.

Thank you for your willingness to be actively engaged in your healthcare. Dr. Kurtz and his team want all patients to be well educated, so if you have questions, please reach out and we will answer your questions. Maintaining a positive attitude and staying engaged in your recovery are the best ways to ensure a great outcome.

Best wishes for a speedy recovery,



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Hip and Knee Replacement Surgeon

Patient's Signature Page

I acknowledge that I have been given the form entitled "Dr. Kurtz's Knee Replacement Consent form" which outlines the possible risks involved in knee replacement surgery: stiffness, instability, infection, blood clots, component loosening, continued pain, bearing surface wear, nerve injury, vascular injury, ligament injury, possible need for further surgery, and even death. I acknowledge that, even though this form describes most of the potential risks in knee replacement, other unusual complications might arise.

I voluntarily consent to knee replacement surgery and fully understand the risks and benefits.

Printed name of patient: _____

Patient's signature: _____

Date: _____

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