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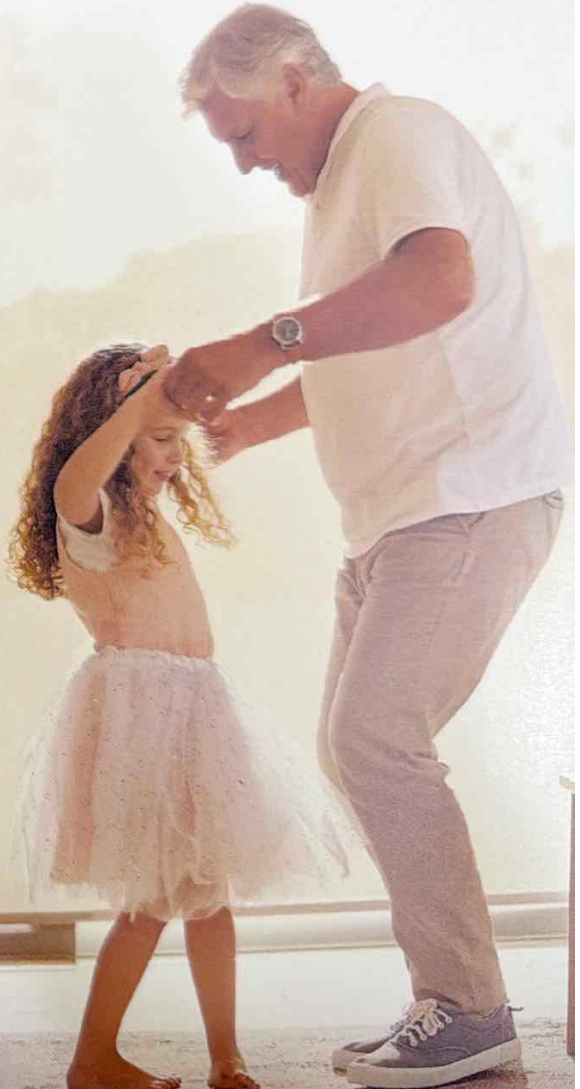
Muscle-sparing knee replacement with Mako SmartRobotics™



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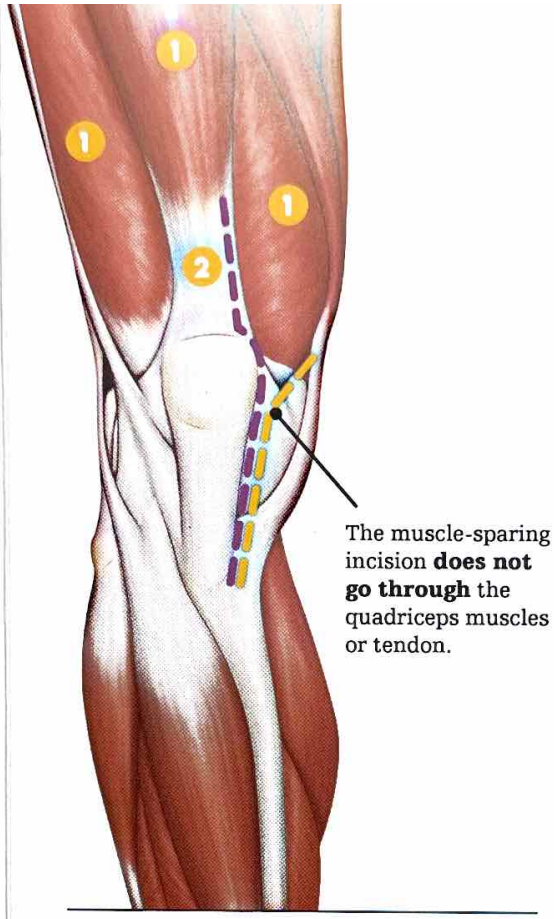
When performing a **total knee replacement** with **Mako SmartRobotics™** your surgeon may choose to use a **muscle-sparing approach.**

During total knee replacement surgery, your surgeon has to get past the kneecap (patella) and soft tissue (muscle and tendons) surrounding the knee to access the bones of the joint.

In a traditional approach, your surgeon makes an incision through one of the largest muscle groups: the quadriceps.

The quadriceps play an important role in many everyday movements, like standing up, walking and climbing stairs. After traditional knee replacement surgery, movement can feel weak and painful where these muscles were cut.

That's where the muscle-sparing approach comes in. With this technique, your surgeon lifts and moves – rather than cuts – the quadriceps to gain access to the joint.



The muscle-sparing incision **does not go through** the quadriceps muscles or tendon.

- Muscle-sparing approach
- Traditional approach

1. Quadriceps muscles
2. Quadriceps tendon

By working around rather than through the quadriceps, your surgeon can **help minimize the impact on the quadriceps muscles and tendon.**

This can result in **less pain and faster recovery** than a traditional approach.[1,2]

Important information

Knee replacement is intended for use in individuals with joint disease resulting from degenerative, rheumatoid and post-traumatic arthritis, and for moderate deformity of the knee.

Knee replacement surgery is not appropriate for patients with certain types of infections, any mental or neuromuscular disorder which would create an unacceptable risk of prosthesis instability, prosthesis fixation failure or complications in postoperative care, compromised bone stock, skeletal immaturity, severe instability of the joint, excessive body weight or known or suspected sensitivity and/or allergy to any material in the device.

As with any surgery, knee replacement surgery has serious risks which include, but are not limited to, pain, infection, bone fracture, peripheral neuropathies (nerve damage), circulatory compromise (including deep vein thrombosis (blood clots in the legs)), genitourinary disorders (including kidney failure), gastrointestinal disorders (including paralytic ileus (loss of intestinal digestive movement)), vascular disorders (including thrombus (blood clots), blood loss or changes in blood pressure or heart rhythm), bronchopulmonary disorders (including emboli, stroke or pneumonia), heart attack and death.

Implant related risks which may lead to a revision include dislocation, loosening, fracture, nerve damage, heterotopic bone formation (abnormal bone growth in tissue), wear of the implant, metal and/or foreign body sensitivity, soft tissue imbalance, osteolysis (localized progressive bone loss) and reaction to particle debris. Knee implants may not provide the same feel or performance characteristics experienced with a normal healthy joint.

The information presented is for educational purposes only. Speak to your doctor to decide if joint replacement surgery is appropriate for you. Individual results vary and not all patients will return to the same activity level. The lifetime of any joint replacement is limited and varies with each individual. Your doctor will counsel you about how to best maintain your activities in order to potentially prolong the lifetime of the device. Such strategies include not engaging in high- impact activities, such as running, as well as maintaining a healthy weight. It is important to closely follow your doctor's instructions regarding post-surgery activity, treatment and follow-up care.

Ask your doctor if a knee replacement is right for you.

References

1. Stubnya BG, Kocsis K, Váncsa S, Kovács K, Agócs G, Stubnya MP, Suskó E, Hegyi P, Bejek Z. Subvastus Approach Supporting Fast-Track Total Knee Arthroplasty Over the Medial Parapatellar Approach: A Systematic Review and Network Meta-Analysis. J Arthroplasty. 2023 Dec;38(12):2750-2758.
2. Liu HW, Gu WD, Xu NW, Sun JY. Surgical approaches in total knee arthroplasty: a meta-analysis comparing the midvastus and subvastus to the medial peripatellar approach. J Arthroplasty. 2014 Dec;29(12):2298-304.