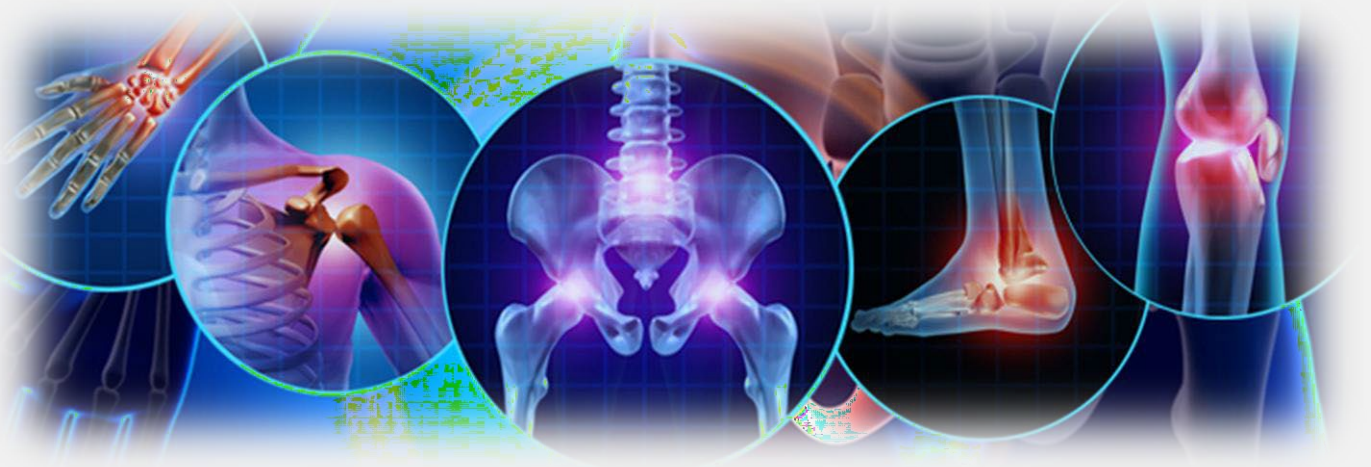


ORTHO NEWSCAST



Issue 3 | 2020

Dear Doctor,
Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

This issue contains

- The effect of anterior cruciate ligament resection on knee biomechanics
- Minimally invasive procedure to treat chronic Achilles tendon disorder

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,
Medical Team,



1. The effect of anterior cruciate ligament resection on knee biomechanics

Background

To assess the effect of anterior cruciate ligament (ACL) resection on flexion-extension gaps, mediolateral soft tissue laxity, maximum knee extension, and limb alignment during primary total knee arthroplasty (TKA).

Methods

140 patients were included in this prospective study with symptomatic knee osteoarthritis undergoing primary robotic-arm assisted TKA. A single surgeon performed all operative procedures using a standard medial parapatellar approach. Optical motion capture technology with fixed femoral and tibial registration pins was used to assess study outcomes pre- and post-ACL resection with knee extension and 90° knee flexion. This study included 76 males (54.3%) and 64 females (45.7%) with a mean age of 64.1 years (SD 6.8) at time of surgery. Mean preoperative hip-knee-ankle deformity was 6.1° varus (SD 4.6° varus).



Results

ACL resection increased the mean extension gap significantly more than the flexion gap in the medial and lateral compartments. The mean gap differences following ACL resection did not create any significant mediolateral soft tissue laxity in extension (gap difference: mean 0.1 mm (SD 2.4); $p = 0.89$) or flexion (gap difference: mean 0.2 mm (SD 3.1); $p = 0.40$). ACL resection did not significantly affect maximum knee extension (change in maximum knee extension = mean 0.2° (SD 0.7°); $p = 0.23$) or fixed flexion deformity (mean 4.2° (SD 3.2°) pre-ACL release versus mean 3.9° (SD 3.7°) post-ACL release; $p = 0.61$). ACL resection did not significantly affect overall limb alignment (change in alignment = mean 0.2° valgus (SD 1.0° valgus; $p = 0.11$).

Conclusion: ACL resection creates flexion-extension mismatch by increasing the extension gap more than the flexion gap. However, gap differences following ACL resection do not create any mediolateral soft tissue laxity in extension or flexion. ACL resection does not affect maximum knee extension or overall limb alignment.

References

Kayani B, Konan S, Ahmed SS, et al. The effect of anterior cruciate ligament resection on knee biomechanics changes in flexion-extension gaps, mediolateral laxity, and maximum knee extension. *Bone Joint J* 2020;102-B(4):442–448.



IN THE NEWS

Minimally invasive procedure to treat chronic Achilles tendon disorder

The procedure treats insertional Achilles tendinopathy, a common and chronic orthopaedic disorder in which patients experience pain at the Achilles tendon. The chronic degenerative condition can be particularly painful for athletes who perform push-off activities, such as basketball and football players.

The key-hole procedure, known as percutaneous Zadek osteotomy (ZO), can significantly decrease pain and provide a patient with relief in as little as six weeks after this technique, compared to 23 weeks for recovery after the traditional open surgery.



The procedure includes making two very small incisions in the heel and removing a 5mm wedge of bone, which alters the orientation of the tendon fibres and decreases the stress across the tendon.

This minimally invasive procedure to treat a common foot and ankle disorder can reduce pain, recovery time, and postsurgery complications while improving functional outcomes.

References

Nordio A, Chan JJ, Guzman JZ, Hasija R, Vulcano E. Percutaneous Zadek osteotomy for the treatment of insertional Achilles tendinopathy. Foot and Ankle Surgery. 2020



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