The effects of tendon vibration on quadriceps muscle activation in anterior cruciate ligament reconstructed and arthritic populations.

ACTRN12609000181202

Status RECRUITING
Sponsor Health Research Council
Enrollment 60 participants

Plain Language Summary

This study is investigating a nerve-related muscle weakness problem that occurs after knee injury or arthritis, where the muscles around the knee (especially the quadriceps at the front of the thigh) become automatically weakened. Researchers are using a technique called tendon vibration — where a vibrating device is applied to the tendon — to test and potentially stimulate these muscles. The study will compare people who have had ACL knee reconstructions, people with knee osteoarthritis, and healthy volunteers, to learn more about the underlying nerve pathways involved.

You may be eligible if:
- You are 16 years or older
- You are either: a healthy volunteer with no known knee problems, OR someone who has had an ACL reconstruction in the past 4 to 24 months using a specific type of graft, OR someone with knee osteoarthritis confirmed by X-ray (Kellgren-Lawrence score 2 or higher)

You may NOT be eligible if:
- You have a history of spinal surgery
- You have had low back pain with nerve symptoms in the past 6 months
- You have a systemic condition that prevents maximum strength testing
- (For healthy controls) You have had any prior knee injury or pathology

Talk to your doctor about whether this trial might be right for you.

Key Eligibility Criteria

Inclusion (2)

- Participants in the ACL reconstructed group should have had an ACL reconstruction in the last 4-24 months using a semitendinosus gracilis graft.
- Participants in the osteoarthritis group will have radiologically diagnosed osteoarthritis of the knee with a kellgren lawrence score of greater than or equal to 2.

Exclusion (2)

- Control subjects who volunteer but have a history of injury or pathology in either knee joint may be excluded
- Participants from all groups may be excluded if they have a history of spinal surgery, low back pain in the last 6 months with associated neurological signs and symptoms or any systemic disease that prevents them from participating in maximum strength testing.

Locations (1 total)

Auckland, New Zealand