Clinical Trial ID:

NCT00000406

Title:

Effects of Strength Training on Knee Osteoarthritis

Summary:

To understand the effects of leg strengthening exercise, we will study the effects of strength training of the legs in four groups of people: (1) osteoarthritis (OA) with knee pain; (2) OA without knee pain; (3) no OA but elderly with knee pain; and (4) normal elderly with no OA or knee pain. In each of the first three groups, we will look at whether people who do strength training have less pain and/or slower progression of x-ray signs of OA over 30 months than people who perform nonstrengthening, range-of-motion exercises. We are including the fourth group to find out whether people with OA (groups 1 & 2) have the same response to strength training as healthy elderly people, and whether those with knee pain (groups 1 & 3) have the same response to training as those without joint pain.

Detailed Description:

Several studies have confirmed that weak leg muscles are associated with osteoarthritis (OA) of the knee. Studies of body composition in these people have also shown that, despite being weaker, people with OA have significantly greater muscle mass than those without OA, suggesting that those with OA may have the potential to greatly increase their strength. However, research has not clearly shown whether exercises designed to improve leg strength will decrease the severity of pain or slow the progression of OA based on radiographic (x-ray) analysis. To understand the effects of leg strengthening exercise, we will perform a randomized clinical trial of lower extremity strength training using four subgroups of people: (1) OA with knee pain; (2) OA without knee pain; (3) no OA with knee pain; and (4) normal elderly with no OA or knee pain.

In each of the first three groups, we will determine whether people assigned to strength training have lower pain scores and/or slower progression of radiographic changes of OA over 30 months than controls who perform nonstrengthening exercises (i.e., range-of-motion exercises). We are including the fourth group to determine

whether those

with OA (groups 1 & 2) exhibit the same response to strength training as healthy elderly

people, and whether those with knee pain (groups 1 & 3) have the same response to

training as those without joint pain. We will also prospectively monitor changes in body

composition and bone mass, quality of life, and symptoms of depression.

Eligibility Criteria:

Inclusion Criteria:

- **Males and females 60 to 100 years of age**

Exclusion Criteria:

- **Knee joint replacement surgery**
- **Diabetes mellitus**
- **Uncontrollable hypertension**
- **Neuropathies of the lower extremity**
- **Poor mental cognition (i.e., inability to follow instructions)**

Gender:

All

Minimum Age:

60 Years

Maximum Age:

N/A

Phase:

Phase 2

Conditions:

- Osteoarthritis, Knee

Interventions:

- Progressive resistance exercise

Locations:

- National Institute for Fitness and Sport, Indianapolis, Indiana