Treatment of Iliotibial Band Syndrome

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Introduction
The Iliotibial Band (IT Band)

- Thick strip of connective tissue connecting several muscles in the thigh
- The IT band stabilizes the knee constantly as the leg moves
- **Proximal End:** at the tendons of the tensor fasciae latae and gluteus maximus muscles
- **Distal End:** lateral epicondyle of the tibia
Anatomy
Iliotibial Band Syndrome (ITBS) or Iliotibial Band Friction Syndrome (ITBFS)

- Result of a tight or inflamed IT band
- Pain occurs at the femur's lateral epicondyle
- May sideline an athlete for weeks or months
- MRI is only definite diagnostic tool
Causes

Friction
- Traditionally, ITBS has been thought to be caused by the IT band rubbing against the femoral condyle as the knee flexes at about 30° flexion

Compression
- However, research suggests that compression of the IT band and surrounding tissue against the knee as flexion occurs
Background
Significance

- Affects many long distance runners and cyclists
- Makes up 12% of all running injuries
- Most common running injury and one of the most common knee injuries
- More than 200,000 cases per year
  - Large population underrepresented
- Previous research has shown no conclusive difference in treatments
  - Length of studies
  - Low Participation Retention
Current Treatments

- Physical Therapy/Stretching
- RICE: Resting, Ice, Compression, Elevation
- Taping
- Anti-inflammatory drugs or Corticosteroids to reduce inflammation
- In severe cases, surgery is performed to remove inflamed tissue or to lengthen the IT band
Proposed Research
Goals

- Compare current treatment methods
  - Increase pain relief around 30° of flexion
  - Decrease recovery time
- Produce more data on treatment methods
- Retain participants
  - Offer rewards
Methods

- 3 groups of 20-25 subjects (age 25-40)
  - Control (untreated but affected)
  - Traditional Methods (stretching, RICE, tape)
  - Corticosteroids

- Each group will participate in running 10km on a treadmill 6 times evenly spaced over the course of 2 years (3x a year).
  - Each subject’s pain will be subjectively measured before and after each run on a 1-5 scale
    - 1 being the least pain and 5 being the most pain
  - Pain level will also be measured periodically throughout each week.
Methods Cont.

- Follow subjects 2 years after diagnosis
- Every four months the following will be measured
  - Pain during Noble Compression Test
  - MRI of IT band to observe inflammation
- Further Research
  - Impact of ITBS on gait parameters after injury and treatment
  - Impact of ITBS on leg strength after injury and treatment
  - Recurrence of ITBS after complete treatment
  - Effectiveness of combination treatments
  - Design of a new device or treatment
Potential Pitfalls and Concerns

- Getting a large enough enrollment of subjects
- Possible occurrence of other, unexpected injuries during the study
- Accounting for variance from person to person (age, weight, height, lifestyle, etc.)
- Access to imaging machinery
Questions?
References


