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Iliotibial Band Syndrome: Risk Factors, Treatment and Practical Implication to Military Training

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INTRODUCTION

- Iliotibial band syndrome (ITBS) is the most frequent injury occurring on the lateral side of the knee in running-in physical fitness training [1].
- ITBS occurrence with women runners is estimated between 16% and 50%, and 50% to 81% in men [4].
- Estimated 500,000 U.S. Army workdays have been lost due to physical training injuries [3].
- 61% of those injuries being specific to the knees [3].

Figure 1. Location of iliotibial band

Purpose

- To investigate the causes and treatments of ITBS and suggest the implementation into military physical training practices.

METHODS

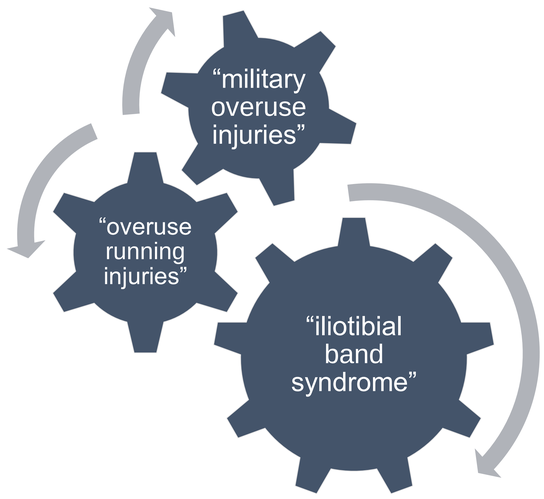

Figure 2. Searching key words

- Literature search performed in PubMed and Military Medicine
- Young adults (<45yrs), recreational runners, and military population are included

RESULTS

Kinematics factors

- Running mileage
- Knee internal rotation
- Knee flexion
- Hip adduction

Hip strength

- Hip abduction strength
- Hip internal rotation

Figure 3. Factors for ITBS

Training Load

- Proper distance (Experience)
- Hill running

Running Shoes/Equipment

- Softer Running Mid-soles

Steroid injection

- Decrease in felt pain

Arthroscopic Technique

- Excessive friction between tract and lateral femoral condyle

Figure 4. Intervention and Treatment

DISCUSSION

- Main variables that lead to ITBS are associated with: internal rotation of the knee and knee flexion at heel strike during running [1].
- Evidence in both recreational and military populations support that greater running distance does not translate to faster times [3].
- Intervention and preventative measure should focus on appropriate training load, based of experience [2].
- Implementation of injury control course [3].

PRACTICAL IMPLICATION

- Monthly military leadership Injury control meetings to discuss current injury status.
- Military physical training should consider the differences in individuals and focus on personalized training/running loads as well as equipment (e.g., shoes).

References

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[2]Lindenberg, G., Pinshaw, R., & Noakes, T. D. (1984). Iliotibial band friction syndrome in runners. *The Physician and Sportsmedicine*, *12*(5), 118-130.

[3]Smith, T. A., & Cashman, T. M. (2002). The incidence of injury in light infantry soldiers. *Military medicine*, *167*(2), 104-108.

[4]Van der Worp, M. P., van der Horst, N., de Wijer, A., Backx, F. J., & Nijhuis-van der Sanden, M. W. (2012). Iliotibial band syndrome in runners: a systematic review. *Sports medicine*, *42*, 969-992.