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## Impact of boots on task performance in tactical personnel: a systematic review

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Poster Presentations Friday Lunchtime, Exhibition Hall, October 6, 2023, 12:20 PM - 1:02 PM

**Aim:** To identify and critically analyse articles investigating boots and their influence on task performance within a tactical population.

**Design:** Systematic Review

**Method:** This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and was conducted by two independent reviewers. The methodology and search strategies were detailed in a protocol published in advance. A comprehensive search of six databases was performed. Eligible articles were critically appraised, and a narrative synthesis was performed.

**Results:** Two articles met the eligibility criteria and were included in the review. The included studies were considered of good methodological quality and reported on firefighters. One of the investigations reported that rubber boots were heavier and significantly increased the chances of hazardous slips compared to leather boots. Similarly, in the second study, rubber boots had greater weight than leather ones, and the authors found a significant negative correlation between weight and gait performance.

**Conclusion:** In a firefighting population, both weight and material used in boots should be considered, as rubber boots and heavyweight material negatively impact gait parameters and, consequently, task performance. However, the results of this review should be interpreted with caution.

**Key Practice Points:**

- Compared to leather boots, rubber boots increase the chances of hazardous slips in firefighters.
- Increases in boot weight negatively affect gait performance in firefighters.
- Task performance in a firefighting population is significantly affected by boots' weight and material, and this finding should be considered when implementing injury prevention strategies in the fire service.