Barefoot Running(BFR):what the physician needs to know?

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INTRODUCTION

- Despite modern running footwear, up to 79% of runners suffer lower limb injury annually
- There are also known risks with BF running

OBJECTIVES

Review up-to-date evidence concerning BFR/minimal footwear running, and their implications for the sports medical team

MATERIALS & METHODS

Electronic search of databases including MEDLINE, CINAHL, EMBASE, PubMed and Cochrane Databases (from their inception until August 1, 2022) using search headings: "barefoot running", "barefoot running biomechanics", "shoe vs. barefoot running"

RESULTS

- 425 articles were found
- 254 relevant articles were relevant
- Most were reviews, biomechanical and kinematic studies

DISCUSSION

- BF runners may have fewer injuries, including better performance
- Athletic shoe companies design running shoes to mimic barefoot conditions and garner purported benefits of BF

CONCLUSIONS

- Little evidence confirming or refuting improved performance and reduced injuries in BF runners
- Claimed disadvantages to BFR are not supported by literature
- BFR does not reduce the injury incidence, rather its distribution (foot and ankle)

CLINICAL IMPLICATIONS

- During endurance running, shoe runners use a Rear Foot Strike (RFS), which increases the impact load at the knee joint
- BFR increases load in the lower leg and ankle area, increasing injury risk
- The choice of running shoes or BFR should be based on where the symptoms occur