THE INFLUENCE OF SHOE CHARACTERISTICS ON INJURY IN DISTANCE RUNNERS  Goulet, GC, Agresta, CE, Southern, EK, Kessler, SE, Zernicke, RF, Deneweth, JM  University of Michigan (Ann Arbor, MI, USA)

Introduction: There is debate about whether transitioning to a maximal or minimal shoe increases risk of lower leg and foot injury.

Objective: To assess the incidence of injury in distance runners after a 4-week training period in zero-drop running shoes with varying levels of cushioning

Hypothesis: Runners with the largest difference in heel-to-toe drop from their habitual shoe would be most susceptible to injury.
Methods:

**MAXIMAL SHOE**
Altra Paradigm
25 mm midsole thickness
Weight: 289 g, 260 g
Zero heel-to-toe drop

**MINIMAL SHOE**
New Balance Minimus
11 mm midsole thickness
Weight: 167 g, 144 g
Zero heel-to-toe drop
Results:

26% of runners became injured or had to stop running completely

*All from MIN group*

37% reported minor musculoskeletal complaints

Heel height difference demonstrated a trend ($p = 0.10$) for injury incidence

Heel-to-toe drop difference was not significant ($p = 0.51$) for injury
Conclusion:

Lower leg injuries that occur during transition into a minimal shoe are not related to the change in heel-to-toe drop but may be related to factors like midsole thickness.