

QUANTIFYING JOINT MOBILITY

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Introduction

Millions of musculoskeletal injuries occur each year. Assessing joint mobility-laxity is important. Skilled clinicians have good relative intra-clinician reliability, but poor to moderate reliability between clinicians. Incorrect technique, size disparity between clinician & patient, & challenges of quantifying millimeters of motion are just a few of the reasons for inconsistency. The Mobil-Aider™ is a innovative device designed to enhance the performance of joint assessment with objective, quantitative feedback.

Methods

- A Zeiss Smartzoom microscope was used as the gold standard to assess the ability of the Mobil-Aider™ to measure linear translation.
- Sixty blinded measures were taken with each of six different Mobil-Aider™ devices
- Radiographs were also used to assess linear translation of the knee using the Mobil-Aider™

Results

- ICC & Pearson correlation = 0.986
- Cronbach alpha reliability = 0.992
- Independent one-sample t-tests were performed on the differences between the Mobil-Aider™ & the Zeiss values ($p = 0.42$)
- Bland Altman plot & linear regression revealed no proportional bias.
- Radiographic image = 6.9 mm of anterior tibial translation & Mobil-Aider™ LED display = 7.1 mm

Discussion

Mobil-Aider™ device is a promising orthopedic tool for quantifying linear translation of a joint. It provides feedback to overcome the current lack of consistency. Clinical testing is the next step.



Mobil-Aider™

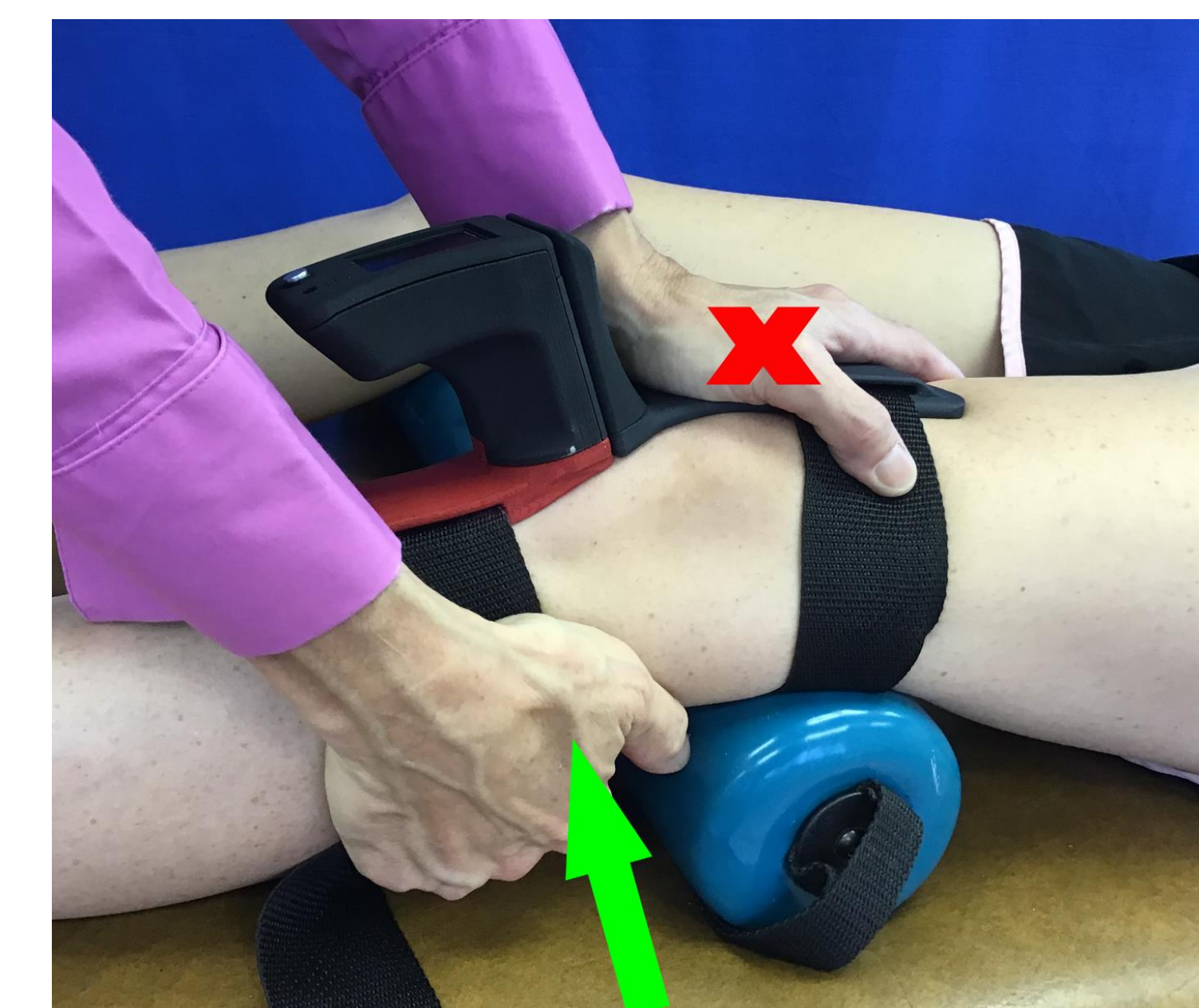
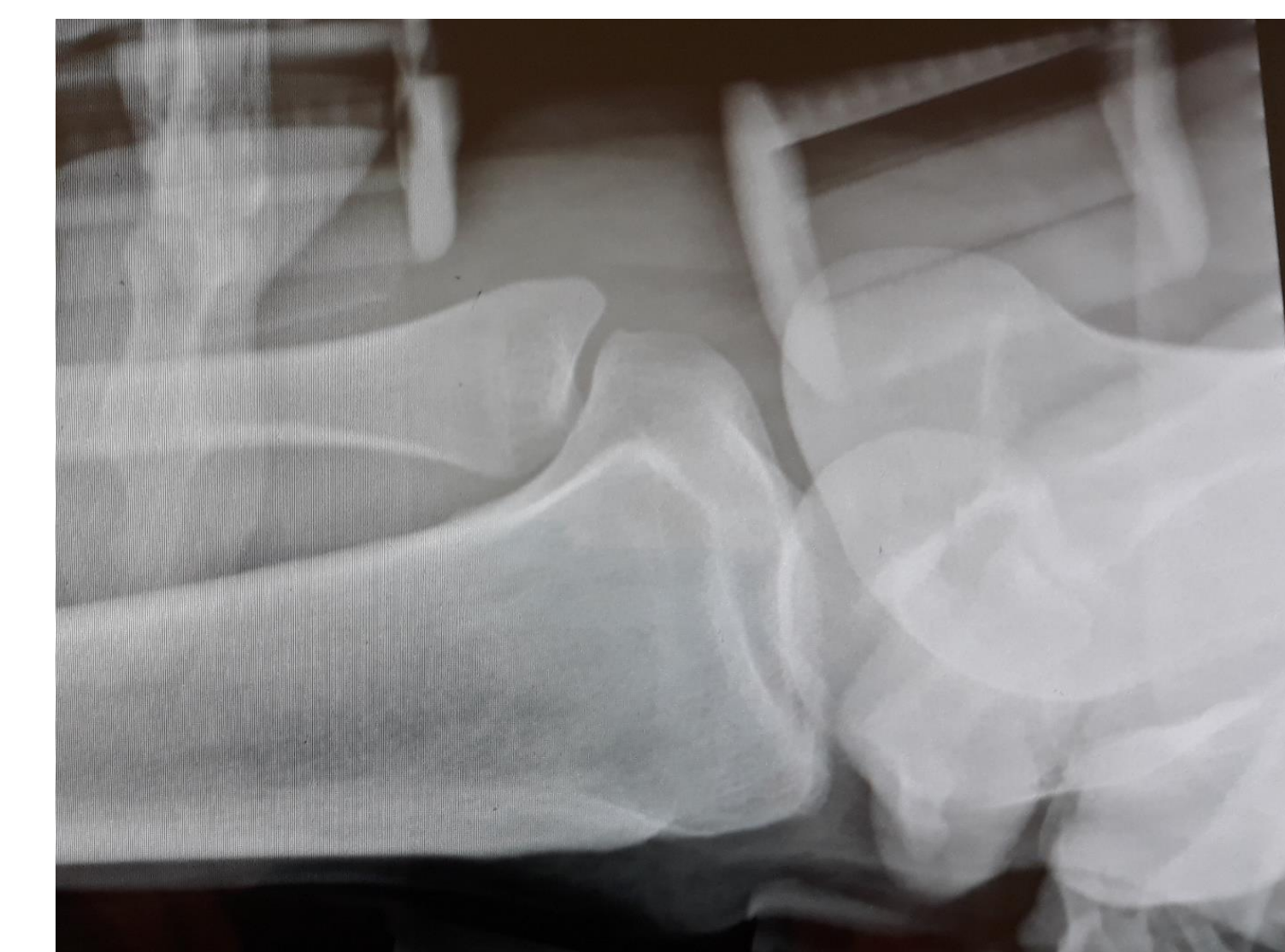
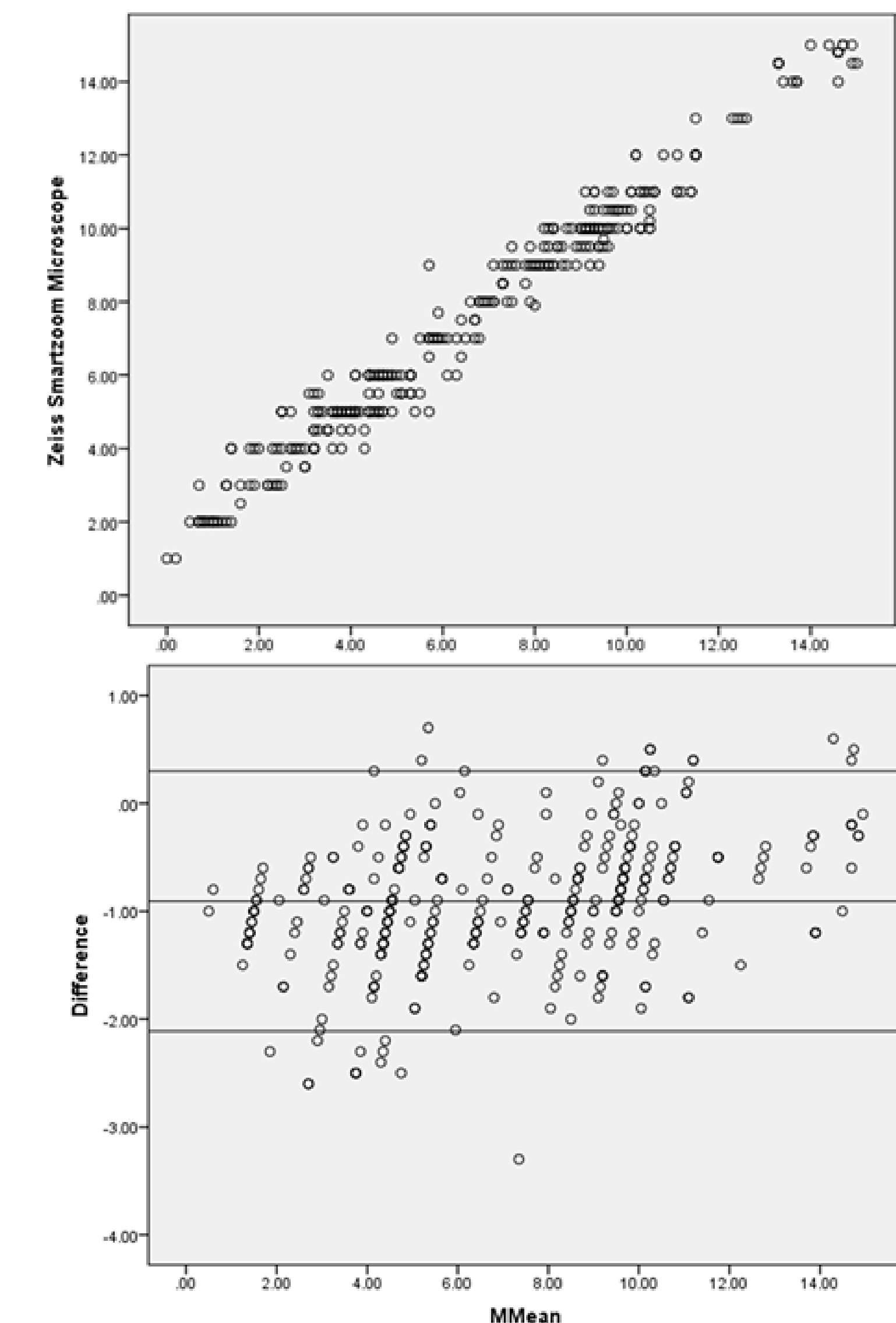
Joint Mobility Measurement Device



For more info:
[Mobil-Aider Website](#)
[Mobil-Aider email](#)



A promising orthopedic tool for quantifying the linear translation of a joint. Bench data supports reliability & validity.



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