Research Device to Measure Suture Force During Syndesmotic Repair

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Need

5,300 syndesmotic repair procedures done nationally in 2020[1]

TightRope tension during use is not understood

Syndesmotic over compression is present in 52% of TightRope procedures[2]

Objective: Develop a research device for in situ TightRope tension measurement

Testing Results

Compression (R1):
Read force during implant tightening

Pass: >210N
Result: 210N

Range of Motion (R2): Compare force in ROM between ankle model and ADAMS model

Pass: p > 0.05
Result: p = 0.81*

Societal Impact

Force measurements benefit researchers to develop further fixation devices

Innovation

Quantification of forces within the TightRope both before and after implantation

Future Plans: Mount solution on cadaver leg for studies

References
