Measure Scapula Angles with Smartphone Device (20150270, Dr. Paula Ludewig)

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Improves Musculoskeletal Injury Diagnosis and Treatment

A handheld device used in conjunction with a smartphone can measure three-dimensional angles of the scapula during arm movement. The device attaches to a smartphone with an adjustable mounting apparatus, and a custom smartphone application integrates the phone's sensors and data recording ability to measure and record scapular angles during arm motion. By measuring all three angles of scapular movement and recording results for later interpretation, this device will help clinicians improve the diagnosis and treatment of musculoskeletal injuries.

Inclinometer Alternative

Current devices used to measure scapular angles are expensive and prone to measurement errors. Digital inclinometers can measure only one of the three scapular motion angles at a time and typically display the data in real time only, preventing the clinician or researcher from reviewing and interpreting results later. Other devices that can measure the scapula in three angles are used primarily in research and are expensive, immobile and require special training to interpret the results. This new technology improves measurement when used by a trained clinician or researcher able to palpate key landmarks, and since many clinicians already own smartphones, this relatively simple device replaces additional, expensive inclinometers.

BENEFITS AND FEATURES OF THREE-DIMENSIONAL SCAPULA ANGLE LOCATOR:

- Measures all three angles of the scapula during arm movement
- Records results for later interpretation
- Cost effective and easy to use with existing smartphones

Phase of Development - Prototype development

Researchers

Paula Ludewig, PhD, PT

Professor, Program in Physical Therapy, Department of Physical Medicine & Rehabilitation

External Link (www.med.umn.edu)

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