2009J3643

Phase 1

Sample population:

20 participants

Voluntary participation, recruited from Texas State University

Inclusion criteria:

18 years old +

2 knees

Cognitive ability to comprehend (Mini-Mental State Exam score of 25 and above)

Exclusion criteria:

Open wound at knee

Knee joint fusion

Info from subjects:

Age

Gender

Pain (Visual Analog Scale 0-10)

History of surgery to knee

History of injury to knee

Device:

Standard 12” BaselineTM Goniometer

Protocol:

Norkin, C.C. White, D. J. Measurement of Joint Motion: A Guide to Goniometry. 2003.

**Extension:**

Starting position: Subject is placed supine on plinth with both knees exposed. Knee starts in extension. Hip is placed at 0 degrees of extension, abduction, and adduction. Towel roll is placed under ankle to ensure full knee flexion. The femur is stabilized to prevent accessory motion of the hip (rotation, abduction, adduction).

Testing Motion: There is no motion needed to test knee extension.

Goniometer Alignment:

Center of fulcrum is placed at lateral epicondyle of femur

Proximal arm (stationary arm) is placed along midline of femur, using the greater trochanter as a reference.

Distal arm (moving arm) is placed along midline of fibular, using the lateral malleolus as reference.

**Flexion:**

Starting position: Subject is placed supine on plinth with both knees exposed. Knee starts in

extension. Hip is placed at 0 degrees of extension, abduction, and adduction. Towel roll is placed

under ankle to allow full extension. The femur is stabilized to prevent accessory motion of the hip (rotation, abduction, adduction).

Testing Motion: One hand holds the subject’s ankle and the other hand moves the posterior

thigh. The hip is passively brought into approximately 90 degrees of flexion then stabilized, and

the knee is passively brought into flexion until end range is felt. End range of knee flexion is

when resistance is felt and just before hip motion is increased to compensate. This movement is

done once to assess motion and then repeated with goniometric measurement. Goniometric

measurement will be read at eye-level.

Goniometer Alignment:

Center of fulcrum is placed at lateral epicondyle of femur

Proximal arm, or stationary arm, is placed along midline of femur, using the greater trochanter as a reference.

Distal arm, or moving arm, is placed along the midline of the fibula, using the lateral malleolus as a reference.

Procedure:

Examiner 1 will measure both knees in extension then flexion, moving the knee passively, with

the standard goniometer. Examiner 2 will then measure the same participant’s knees in the

same procedure. The measurements will be taken twice by each examiner per participant and

recorded by hand on a sheet provided, by each examiner. The examiners will be blinded as to

the previous measurements recorded for the participant.