Goniometry is derived from the greek words, gonia, meaning angle, and metron, meaning measure. So goniometry refers to the measurement of angles, in particular the measurement of angles created at human joints. Goniometry is an important part of a comprehensive evaluation of joints and surrounding soft tissue.

You should first begin with a comprehensive evaluation before taking the actual measurements. This evaluation involves first interviewing the subject and reviewing records to obtain an accurate description of current symptoms, functional abilities, occupational and recreational activities, and past medical history. Observation of the body to asses soft tissue contour and skin condition usually follows the interview. Gentle palpation is used to determine skin temperature and quality of soft tissue deformities and to locate pain symptoms in relation to anatomical structures.

The performance of active joint motion by the subject during the evaluation allows the examiner to screen for abnormal movements and gain information about the subject's willingness to move. If abnormal active motions are found, the examiner performs passive joint motions in attempt to determine reasons for joint limitations and joint end- feels. Goniometry should be used to measure and document the amount of available active and passive joint motion.

Competency in goniometry requires that the examiner acquire the following knowledge and develop the following skills.

Positioning: this is important because it is used to place the joints in a zero starting position and to help stabilize the proximal joint segment. The three keys to obtaining the recommended testing position are

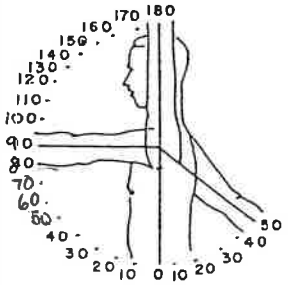
1. Place the joint in a starting position of 0 degrees
2. Permit a complete ROM
3. Provide stabilization for the proximal joint segment

Stabilization: The recommended testing positions helps to stabilize the subject's body and proximal joint segments so that a motion can be isolated to the joint being examined. Isolating the motion to one joint helps to ensure that a true measurement of motion is obtained, rather than a measurement of combined motions that occur at a series of joints.

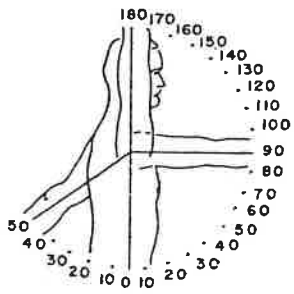
Alignment: This refers to the alignment of the arms of the goniometer with the proximal and distal segments of the joint being evaluated. Instead of depending on soft tissue contour, the examiner uses bony anatomical landmarks to more accurately visualize the joint segments. The stationary arm is often aligned parallel to the longitudinal axis of the proximal segment of the joint, and the moving arm is aligned parallel to the longitudinal axis of the distal segment of the joint.

Measurement instruments:

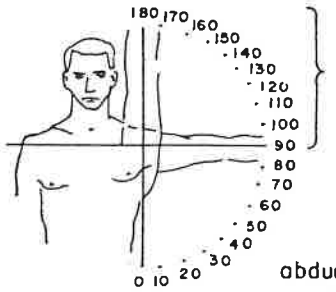
1. Universal goniometer
2. Gravity-dependent goniometer
3. Electrogoniometers



WITH SCAPULA ROTATION



SHOULDER
flexion - extension



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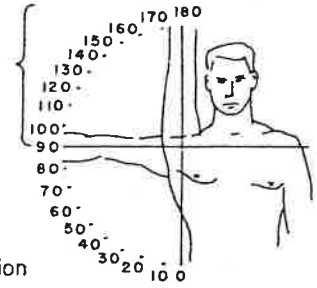
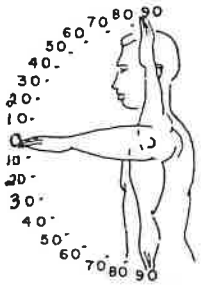
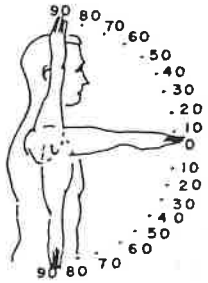


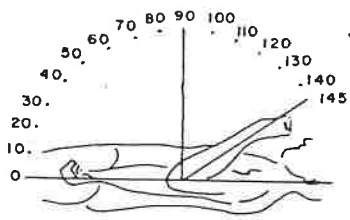
SHOULDER
abduction - adduction

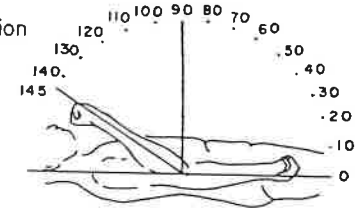


SHOULDER
internal - external rotation

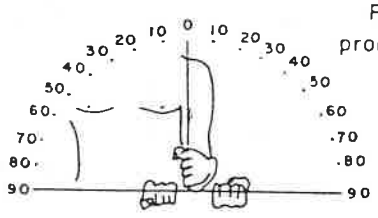


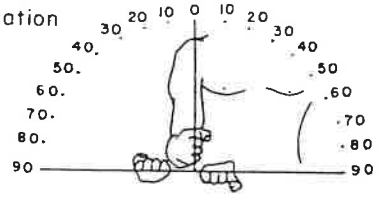
ELBOW
flexion - extension



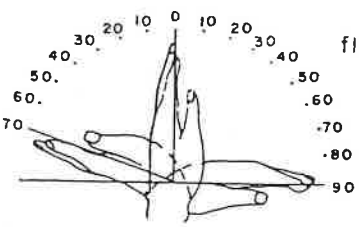


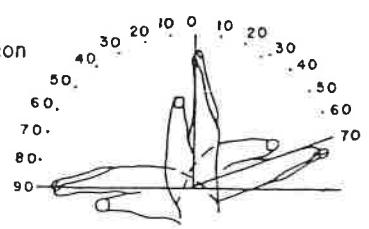
RADIO-ULNAR
pronation - supination





WRIST
flexion - extension





WRIST
radial - ulnar deviation