GONIOMETRY

Introduction

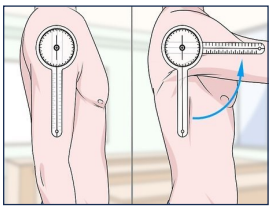
A goniometer is a device used by health professionals to measure joint angles or ranges of motion. This is important in determining the extent of joint injuries and measuring rates of recovery. Angles of a joint may also be determined using motion tracking apps or via the computer analysis of images.

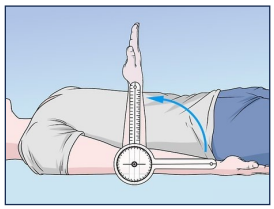
Aim

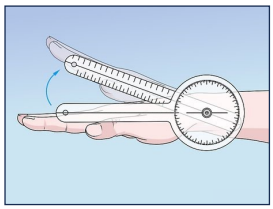
To practice using a goniometer to measure the angles of several joints and compare to normal values

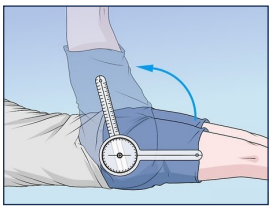
Method

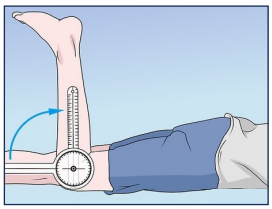
1. Align the central pivot (fulcrum) directly over the axis of the selected joint (e.g. elbow's bony point)
2. Place the stationary arm along the fixed body part that stays still (e.g. the upper arm for the elbow)
3. Have participant move the joint fully and align the moving arm with the moving limb (e.g. forearm)
4. Measure the angles of the following joints: the shoulder, the elbow, the wrist, the hip and the knee


Shoulder


Elbow


Wrist


Hip


Knee

Results

Joint	Motion	Goniometer Angle	Normal Movement
Shoulder	Flexion		180
	Hyperextension		50
	Abduction		180
Elbow	Flexion		140
	Extension		0
Wrist	Flexion		60
	Extension		60
Hip	Flexion		100
	Hyperextension		30
	Abduction		40
Knee	Flexion		150
	Extension		0

Discussion

1. Compare and contrast the goniometer results with the established normal ranges of motion

2. Suggest factors that might affect the accuracy and reliability of the measurements

3. Identify factors, other than injury, that can impact the range of motion of a particular joint

4. What defines 0 degrees in measurements involving the goniometer?