

GAIT ASSESSMENT RATING SCALE (GARS)

A. General Categories

1. Variability - a measure of inconsistency and arrhythmicity in steps and arm movements
 - 0 = Fluid and predictably paced limb movements.
 - 1 = Occasional interruptions (changes in velocity) approximately < 25% of the time.
 - 2 = Unpredictability of rhythm of movement > 25% of the time.
 - 3 = Random timing of limb movements.
2. Guardedness -- hesitancy, slowness, diminished propulsion and lack of commitment stepping and arm swing.
 - 0 = Good forward momentum and lack of apprehension in propulsion.
 - 1 = Center of gravity of head, arms and trunk (HAT) projects only slightly in front of push off, but still good arm - leg coordination.
 - 2 = HAT held over anterior aspect of foot, and some moderate loss of smooth reciprocation.
 - 3 = HAT held over rear aspect of stance phase foot, and great tentativeness in stepping.
3. Weaving -- an irregular line of progression.
 - 0 = Straight line of progress on frontal view.
 - 1 = Single deviation from straight line of progression.
 - 2 = Two to three deviations from straight line of progression.
 - 3 = Four or more deviations from straight line of progression.
4. Waddling -- A broad based gait characterized by excessive truncal crossing of the midline and bending.
 - 0 = Narrow base of support and body held nearly vertically over feet.
 - 1 = Slight separation of medial aspects of feet and just perceptible lateral movements of head trunk.
 - 2 = 3" to 4" separation of feet and obvious bending of trunk to side so that cog of head lies well over ipsilateral stance foot.
5. Staggering -- sudden and unexpected laterally directed partial losses of balance.
 - 0 = No losses of balance to side.
 - 1 = A single lurch to the side.
 - 2 = Two lurches to the side.
 - 3 = Three or more lurches to the side.

B. Lower Extremity Categories

1. Percent of time in swing -- loss of percentage in the gait cycle constituted by the swing phase.
 - 0 = Approximately 3:2 ratio of stance:swing.
 - 1 = 1:1 or less ratio of stance:swing.
 - 2 = Markedly prolonged stance phase but with some obvious swing time remaining.
 - 3 = Barely perceptible portion of cycle spent in swing phase.
2. Foot Contact -- the degree to which the heel strikes the ground before the forefoot.
 - 0 = Very obvious angle of impact of heel on ground.
 - 1 = Barely visible contact of heel before forefoot.
 - 2 = Entire foot lands on ground.

3 = Anterior aspect of foot strikes ground before heel.

3. Hip ROM -- the degree of loss of hip ROM seen during a gait cycle.

0 = Obvious angulation of thigh backwards during double support (~ 10 deg.)

1 = Just barely visible angulation of thigh backwards from vertical.

2 = Thigh in line with vertical projection from ground.

3 = Thigh angled forward from vertical at maximum posterior excursion.

4. Knee ROM -- the degree of loss of knee ROM seen during the gait cycle.

0 = Knee moves from complete extension at heel strike (and late stance) to 70 or nearly 90 deg during swing.

1 = Slight bend in knee seen at heel strike and late stance and maximal flexion at midswing is closer to 45 deg. than 90 deg.

2 = Knee flexion at late stance more obvious than at heel strike, very little clearance seen for toe during swing.

3 = Toe appears to touch ground during swing, knee flexion appears constant during stance, and knee angle during stance, and knee angle during swing appears 45 deg or less.

C. Trunk, Head and Upper Extremity Categories

1. Elbow Extension -- a measure of the decrease in elbow range of motion.

0 = large peak to peak excursion of forearm (approximately 20 deg.), with distinct maximal flexion at end of anterior trajectory.

1 = 25 deg. decrement of extension during maximal posterior excursion of upper extremity.

2 = almost no change in elbow angle.

3 = no apparent change in elbow angle (held in flexion).

2. Shoulder Extension -- a measure of the decrease in shoulder range of motion.

0 = clearly seen movement of upper arm anterior (15 deg) and posterior (20 deg) to vertical axis of trunk.

1 = shoulder flexes slightly anterior to vertical axis.

2 = shoulder comes only to vertical axis or slightly posterior to during flexion.

3 = shoulder stays well behind vertical axis during entire excursion.

3. Shoulder Abduction -- a measure of pathological increase in shoulder range of motion laterally.

0 = shoulders held almost parallel to trunk.

1 = shoulders held 5 to 10 deg. to side.

2 = shoulders held 10 to 20 deg. to side.

3 = shoulders held greater than 20 deg. to side.

4. Arm - Heel strike Synchrony -- the extent to which the contralateral movements of an arm and leg are out of phase.

0 = good temporal conjunction of arm and contralateral leg at apex of shoulder and hip excursions all of the time.

1 = arm and leg slightly out of phase 25% of the time.

2 = arm and leg moderately out phase 25 - 50% of the time.

3 = little or no temporal cadence of arm and leg.

5. Head Held Forward -- a measure of the pathological forward projection of the head relative to the trunk.

0 = earlobe vertically aligned with shoulder tip.

1 = earlobe vertical projection falls 1" anterior to shoulder tip.

2 = earlobe vertical projection falls 2" anterior to shoulder tip.

3 = earlobe vertical projection falls 3" anterior to shoulder tip.

6. Shoulders Held Elevated -- the degree to which the scapular girdle is held higher than normal.

0 = tip of shoulder (acromion) markedly below level of chin (1 - 2").

1 = tip of shoulder slightly behind level of chin.

2 = tip of shoulder at level of chin.

3 = tip of shoulder above level of chin.

7. Upper Trunk Flexed Forward -- a measure of kyphotic involvement of the trunk.

0 = very gentle thoracic convexity, cervical spine flat, or almost flat.

1 = emerging cervical curve, more distant thoracic convexity.

2 = anterior concavity at mid chest level apparent.

3 = anterior concavity at mid chest level very obvious.

> 9 = at risk for falling.