

## Seated Posture Scale<sup>1</sup>

### For Research Use Only--Directions for Scoring

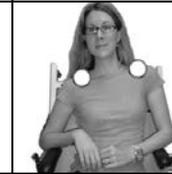
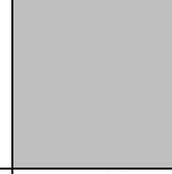
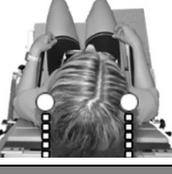
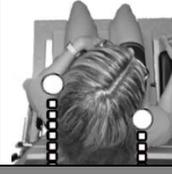
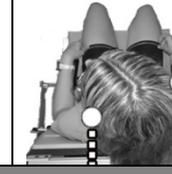
**Equipment Needed:**

- Chair for scorer to sit on with seat same height as wheelchair,
- Small transparent plastic ruler with perpendicular lines to look through, at each body part,
- Small metal measuring tape
- Pen or pencil

Position the person seated upright in his or her wheelchair with all prescribed positioning equipment with hips against the back support of the wheelchair, arms on armrests or any other arm support (for example, tray or ½ tray if used). The observer should sit at the right or left side of the person in the wheelchair and begin observation and score the following items:

Item	Description	Rating				Score	
		1	0	0	0	1	0
<b>HEAD</b>							
1	Sagittal head angle						
2	Frontal head angle						
3	Transverse head angle (Use eyes or ears as landmarks, whichever is						
<b>TRUNK</b>							

<sup>1</sup> Adapted from Gagnon, B., Vincent, C., & Noreau, L. (2005). Adaptation of a seated postural control measure for adult wheelchair users. *Disability and Rehabilitation*, 27(16), 951–960.

Item	Description	Rating				Score	
		1	0	0	0	1	0
4	Frontal trunk angle						
5	Lumbar curve depth (look at lower back posture in these pictures)						
6	Thoracic curve depth (look at upper back posture in these pictures)						
7	Transverse trunk angle (use both shoulders as landmarks)						
<b>UPPER EXTREMITIES</b>							
8	Right upper arm sagittal angle						
9	Left upper arm sagittal angle						

Item	Description	Rating				Score	
		1	0	0	0	1	0
10	Right upper arm frontal angle						
11	Left upper arm frontal angle						
<b>PELVIS</b>							
12	Frontal pelvic angle						
13	Transverse pelvic angle (look at rotation of the lower body/hips for this item)						
<b>LOWER EXTREMITIES</b>							

Item	Description	Rating				Score	
		1	0	0	0	1	0
14	Right frontal lower leg angle						
15	Left frontal lower leg angle						
16	Right thigh-to-trunk angle						
17	Left thigh-to-trunk angle						
18	Right transverse thigh angle						

Item	Description	Rating				Score	
		1	0	0	0	1	0
19	Left transverse thigh angle						
20	Right thigh-to-lower leg angle						
21	Left thigh-to-lower leg angle						
22	Right lower leg-to-foot angle						
23	Left lower leg-to-foot angle						

## Scoring Details—For Research Use Only

1. **Sagittal head angle:** If an imaginary line drawn from the nose to the chin is perpendicular to the wheelchair seat and parallel to a door frame or any other vertical line in the room, score 1. If the line slants down or up, score 0.
2. **Frontal head angle:** Sit facing the person. Draw the same imaginary line from mid-forehead through the nose to chin. If the line is parallel to a door frame or other vertical line in the room, score 1. If it tilts to the left or the right, score 0.
3. **Transverse head angle:** Look down from above the person's head. Drop an imaginary line from each ear to each shoulder. If **both** ears are directly above the shoulders, score 1. If one ear is farther forward than the other, score 0.
4. **Frontal trunk angle:** Assuming the wheelchair seat is level, measure the height of the shoulder from the seat on the right and on the left. If both are the same height, plus or minus one inch, score 1. If one is more than one inch higher than the other, score 0.
5. **Lumbar curve depth:** Place your hand in the lumbar area of the spine just above the sacrum. If there is a forward curve present, such that you may easily place your hand from the side into the curve, score 1. If the curve is flat or bows out posteriorly so that the forward curve is lost, or anteriorly so that it is exaggerated, score 0.
6. **Thoracic curve depth:** With the hips still placed against the wheelchair seat back, observe the person from the side, looking for the normal S-curve of the spine. If the cervical spine forms the normal forward curve, the ears are directly over the shoulders, and the thoracic spine forms the normal posterior curve in the sagittal plane, with the lumbar curve below, score 1. If the thoracic posterior curve is slightly to extremely exaggerated in a slouched slump (kyphosis), score 0, even if the ears are over the shoulder.
7. **Transverse trunk angle:** With the hips still placed against the seat back, stand behind the person, locate the acromion processes by placing right and left index fingers on them. Estimate whether one is farther forward. If the distances are equal, score 1. If one distance is greater than the other, score 0.
8. **Right upper arm sagittal angle:** Observe from the side with the arms on armrests or laptray. If the upper arm is perpendicular to the flexed forearm, score 1. If it is not, score 0.
9. **Left upper arm sagittal angle:** Observe from the side with the arms on armrests or laptray. If the upper arm is perpendicular to the flexed forearm, score 1. If it is not, score 0.
10. **Right upper arm frontal angle:** Observe from the front, with the arms on armrests or laptray. If the upper arm is perpendicular to the floor at  $<10^\circ$  angle, score 1. If it is not, score 0.
11. **Left upper arm frontal angle:** Observe from the front, with the arms on armrests or laptray. If the upper arm is perpendicular to the floor, score 1. If it is not, score 0.
12. **Frontal pelvic angle:** Stand or sit in front of the person. With the person's hips still against the seat back, place your index fingers on the anterior superior iliac spines (ASISs) of the pelvis. Observe from the front, with the eyes level with the pelvis. If the ASISs are level, score 1. If one is higher than the other, score 0.
13. **Transverse pelvic angle:** Standing in front of the person, place your index fingers on both ASISs again, and with the hips still placed against the seat back, look down from above, estimating

whether either ASIS is located farther from the seat back than the other. If both are equal distances from the seat back, score 1. If one distance is greater than the other, score 0.

14. **Right frontal lower leg angle:** Seated in front of the person, look at the right foot in relation to the right kneecap, with the person's hips still positioned against the seat back. If the foot is directly below the knee, then the hip is not rotated—score 1 (if the person is not an amputee). If the foot is either lateral or medial to the knee, then the hip is rotated—score 0. If the person has a below-knee (BK) amputation, draw an imaginary line along the tibia. If the line is perpendicular to the floor, or if the person has an above-knee amputation, score 1.
15. **Left frontal lower leg angle:** Execute the same procedure, for the left side. Again look for rotation and score similarly, 1 for no rotation, and 0 for rotation.
16. **Right thigh-to-trunk angle:** Sitting at person's right side, look for an approximate right angle formed by the right femur and the trunk (105 degrees seat to back angle "ideal"). If the angle is an approximate right angle, score 1. If the angle is greater than or less than an approximate right angle, score 0.
17. **Left thigh-to-trunk angle:** Sitting at the person's left side, perform the same assessment of the joint angle formed by the femur and trunk in seated position. Score the left side the same way as for the right.
18. **Right transverse thigh angle:** Standing in front of the person, with the person's hips still positioned against the seat back, draw imaginary lines from the midline of the seat back to the middle front of the seat and from the right kneecap to the thigh crease just below the ASIS. If both lines are parallel, score 1. If the right femur line is slanted in toward the midline or out to the side, score 0.
19. **Left transverse thigh angle:** Perform the same assessment on the L side, scoring 1 if the lines are parallel, and 0 if they are not.
20. **Right thigh-to-lower leg angle:** Sitting at the person's right side, draw an imaginary line from the hip to the knee and compare to an imaginary line from the center of knee to ankle bone (or to the bottom of the person's stump if a B-K amputee). If the lines form a right angle, score 1. If the lines form less or more than a right angle, score 0. If the person has an above knee amputation, score 1.
21. **Left thigh-to-lower leg angle:** Perform the same assessment on the left side, scoring in the same way.
22. **Right lower leg-to-foot angle:** Sitting at the right side of the person, draw an imaginary line from the knee to the anklebone and from the anklebone to the front of the foot. If the lines form a right angle, score 1. If they do not, score 0.
23. **Left lower leg-to-foot angle:** Perform the same assessment on the left side, scoring in the same way.