



Hruska Alternating Reciprocal Rotation Test

This test is used as a thoracic-pelvis abdominal dynamic stabilization measurement with each grade reflecting muscle position, strength, kinesthetic awareness, and neuromuscular ability. It is a good test to consider when questions arise regarding upright thoracic-pelvis integration. Alternation of spinal rotation through the use of contralateral hip flexors with concomitant unilateral hip extensors requires appropriate abdominal and hip integration during appropriate upper extremity reciprocal flexion and extension.

POSITION

- 1) Patient seated with their legs straight in front of them
- 2) Maintain contact with your sit bones through the floor (slight posterior pelvic rotation)

MECHANICS

- 1) Step 1: ask the patient to sit upright and rotate both legs inwardly
- 2) Step 2: ask the patient to advance their right leg forward
- 3) Step 3: maintaining the above position, have the patient reach their left arm toward their right toes
- 4) Step 4: ask the patient to advance their left leg forward while simultaneously moving their right arm towards their left toes
- 5) Step 5: ask the patient to advance their right leg forward while simultaneously moving their left arm towards their right toes
- 6) Discontinue test at the step the patient is unable to perform.

GRADING CRITERIA

LEVEL → 0

Inability to sit upright with legs rotated inwardly, knees fully extended and toes pointed straight up to the ceiling. (Pronation)

Reflects weak iliacus for frontal plane adduction and AF IR stability of the pelvic inlet, pyramidalis, IO/TA's, and IC adductor magus or obturator internus and iliococcygeus for frontal plane abduction stability of the pelvic outlet.



LEVEL → 1

Ability to sit upright with legs rotated inwardly, knees fully extended and toes pointed straight up to the ceiling. (Pronation)

Inability reflects weak or mal-positioned adductors, IO/TA's, iliacus or gluteus medius muscle.



LEVEL → 2

Ability to advance the right leg forward as you maintain contact with the floor through your left “sit” bone.

Inability possibly reflects weak left adductors, overactive right adductors, weak left pelvic inlet IP IR muscle and weak left pelvic outlet IsP ER muscle, or overactive right pelvic inlet IP IR muscle and overactive right pelvic outlet IsP ER.



LEVEL → 3

Ability to rotate your trunk to the right by reaching with your left arm toward your right foot, while maintaining contact with the floor through your left “sit” bone.

Inability possibly reflects poor integration of left obturator, iliococcygeus, and hamstrings (pelvic outlet) with left IO/TA's and iliacus (pelvic inlet).



LEVEL → 4

Ability to advance your left leg forward as your right arm swings toward the left toes. You should find and feel the floor through your right and left “sit” bones after completing this step.

Inability possibly reflects poor integration of left EO's, adductors, rectus femoris, sartorius, gluteus maximus (superior/posterior and inferior fibers), piriformis, and coccygeus with right IO/TA's.



LEVEL → 5

Ability to advance your right leg forward as your left arm swings toward the right toes. You should continue to maintain contact with the floor through your left “sit” bone during this step.

Inability possibly reflects poor integration of right rectus femoris, sartorius, gluteus maximus, piriformis and coccygeus with left IO/TA's, iliacus, IC adductor, gluteus medius, and hamstrings.

