

ROTATION ASSESSMENT PROTOCOL

Thoracic Spine Mobility

Objective: To assess bilateral mobility of the thoracic spine. Lumbar spine rotation is considered insignificant, as it only offers approximately 15 degrees of rotation.

Equipment:

- ▶ Chair
- ▶ Squeezable ball or block
- ▶ 48-inch (1.2-m) dowel

Instructions:

- ▶ Briefly discuss the protocol so the client understands what is required.
- ▶ Instruct the client to sit upright toward the front edge of the seat with the feet together and firmly placed on the floor. The client's back should not touch the backrest.
- ▶ Place a squeezable ball or block between the knees and a dowel across the front of the shoulders, instructing the client to hold the bar in the hands (i.e., front barbell squat grip).
- ▶ While maintaining an upright and straight posture, the client squeezes the block to immobilize the hips and gently rotates left and right to an end-range of motion without any bouncing.
 - It is important to remember not to cue the client to use good technique, but instead observe his or her natural movement.

- Ask the client to perform a few repetitions in each direction, slowly and with control.

Observation:

- ▶ Observe any bilateral discrepancies between the rotations in each direction.

General interpretations:

- ▶ Identify the origin(s) of movement limitation or compensation. As an individual rotates, the facet joints of each vertebra experience shearing forces against each other. One way to reduce this force and promote greater movement is to laterally flex the trunk during the movement or at the end-range of movement. This assessment evaluates trunk rotation in the transverse plane. Therefore, any lateral flexion of the trunk (dowel tilting up or down) must be avoided.
- ▶ Evaluate the impact on the entire kinetic chain. Remember that the lumbar spine generally exhibits limited rotation of approximately 15 degrees, with the balance of trunk rotation occurring through the thoracic spine. If thoracic spine mobility is limited, the body strives to gain movement in alternative planes within the lumbar spine (e.g., increase in lordosis to promote greater rotation).