Exercise #2 SPINAL ROTATION

Purpose: To rotate the spine while maintaining neutral pelvis and scapulae

Common uses for emphasized muscles in daily activity: Reaching for something in the back seat of the car; racquet sports, baseball, basketball, etc.,

Muscular Emphasis: Internal and External Obliques

Primary Muscle Mover(s): Internal and External Obliques to rotate the spine

Secondary Muscle Mover(s): Multifidus aids in rotation

Muscle Stabilizers: Shoulder girdle stabilizers to maintain scapulae in neutral, Transverse abdominis to compress abdomen and stabilize lumbo-pelvic region

Postural Landmarks:

- Maintain abdominal contraction to avoid extension of lumbar and/or thoracic spine
- Maintain scapular stabilization throughout
- Pelvis stays square to the front while rotating
- Avoid elevation of shoulder into which you are rotating
- Avoid shift of weight from one knee to another. Patella of both legs should be pointing directly forward

Anatomy:

Internal Oblique

Internal oblique muscles originate on the anterior iliac crest (front of the pelvis) and insert along the lower 4 ribs. If you cross your arms over your abdomen with your hands inserted into your front pockets, your fingertips will assume the direction of these fibers. Internal oblique muscles are responsible for flexion of the spine on the same-side. http://www.exrx.net/Muscles/Obliques.html

External Oblique

External oblique muscles originate on the lower 8 ribs and insert on the abdominal aponeurosis and linea alba (the middle of the abs). If you place your hands in your front pocket, your fingers will assume the direction of these fibers (obliquely downward and medialward).External oblique muscles are responsible for opposite side spinal flexion.

Multifidus

Multifidi lie underneath the semispinalis. They run the length of the spine, from the cervical vertebrae to the sacrum. They basically originate on the outside (transverse processes) of all vertebrae and insert on the vertebral body 2 to 4 above their origin. http://www.exrx.net/Muscles/ErectorSpinae.html