Right or Left Reach with PRI Non-Manual Techniques?

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Reaching is an integral part of many PRI programs. Reaching can be used to assist with repositioning, integrate abdominals, or improve rib cage motion, expansion, and mobility. Many times, a reach will allow the patient to fulfill all of the above simultaneously. There are some exercises which involve reaching with both hands, which will not be discussed in this article. Yet some require a right reach, and others, a left reach. The question posed by many PRI therapists is which to use?

A primary goal of a PRI program is to orient the spine and pelvis left in order to properly position the left diaphragm in a way that a zone of apposition (ZOA) is attained. Establishment of a ZOA is critical for apical expansion of the right chest wall which is necessary for proper rotation of the thoracic ribcage (we will refer to this as the trunk) to the right. Right trunk rotation is needed with gait as it allows the individual to improve movement into proper left stance in a position of left acetabular femoral internal rotation (AF IR). This movement into left stance in left AF IR is due to the reciprocal nature of the pelvis and trunk.

Attaining a left ZOA can be assisted via right reach. When reaching with the right upper extremity during the exhale phase of respiration, the spine will begin to orient itself left while also abducting the thorax to the left. This left orientation of the spine and thoracic abduction will result in left rib IR via proper positioning of the left triangularis sterni and facilitation of the left internal oblique and right external oblique abdominals (IO/TA). Maintaining right reach will assist in facilitation of these muscles throughout inhalation in order to oppose the left diaphragm and maintain a left ZOA. In addition to orientation of the spine left, right reach will often facilitate the right serratus anterior. The serratus attaches in a way that it can retract the right rib cage and further assist with right trunk rotation, and externally rotate ribs 4-8 and internally rotate ribs 1-3 which is often needed when right apical expansion is limited.

Many PRI non-manual techniques also require a left reach. Left reach can be utilized to physically rotate the trunk to the right when positioning the pelvis concomitantly in left AF IR, left reach can also be used to improve integration of left IO/TA abdominal musculature after proper left stance and left AF IR is established. The integration occurs as left IO/TA musculature must work to maintain a left ZOA while physically rotating the trunk to the right. Without proper facilitation of left IO/TA musculature, the left ZOA will be lost and the spine will again be predominantly oriented to the right. Like right reach, the left reach can facilitate the ipsilateral serratus anterior. The serratus anterior on the left side, when combined with proper integration of the left IO/TA, can assist in retracting the left rib cage necessary to open the left posterior mediastinal chest wall. This area is restricted concurrently with the right apical chest wall secondary to the reciprocal nature of chest wall torsion and the inability to rotate the trunk right with gait.

The typical question is often which to perform first. In general, right reach will precede left reach for initial establishment of left ZOA, however, there are instances where a non-manual technique will assist the patient in fixing the pelvis in left AF IR so that proper chest wall expansion can occur without the neuromuscular ability to oppose the left diaphragm via facilitation of the left IO/TA. Furthermore, there are instances where either reach may be appropriate, if the goal is right trunk rotation and chest wall expansion.