

“Swimmer Dyssynchrony Syndrome”

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Dyssynchrony – Muscles firing or working at the wrong time for the wrong reasons most often because of their wrong position.

Acquired Swimmer Positions:

- Forward head
- Rounded un-level shoulders
- Underdeveloped glute muscles
- Deep low backs
- Hyper-extended knees
- Elevated ribs on “dry land”

Acquired Swimmer Dyssynchrony Patterns:

LATISSIMUS – muscle from lower spine that goes to the proximal arm

Becomes a shoulder internal rotator. This activity pulls the shoulder forward and down decreasing the role of subscapularis as an internal rotator, decreasing lung expansion and diaphragmatic effectiveness, and limiting trunk rotation and side bending.

SCALENES – muscle that goes from the front of the neck to the first two ribs

Becomes a primary muscle in breathing when it should be an accessory muscle of breathing.

STERNOCLEIDOMASTOID (SCM) – muscle from back of neck to the sternum (breastbone)

Becomes a stabilizer for the rib cage. Elevates the ribs and pulls the head forward and down limiting its ability to rotate the head.

INTERSCAPULAR MUSCLE – muscle between shoulder blades

Becomes long, weak, overstretched and fatigued easily because of improper ribcage position, leading to shoulder pathology.

BACK EXTENSORS / PARAVERTEBRALS – muscle that traverses along back of spine

Becomes tight, short and overused because of poor spine position, de-activation of glutes and lack of opposing forces from abdominals.

HIP FLEXORS / PSOAS – muscle from front of low spine to top of femur (thigh bone)

Becomes strong and short for stabilization of thigh during kicking of lower leg bone at the knee, because of poor position of the hamstrings to extend the hip and flex the knee to propel forward.

Swimmer Synchrony and Stability Depends On:

1. Balanced airflow and chest movement
2. Good anti-gravitational strength from
 - a. Abdominals
 - b. Hamstrings
 - c. Glutes
 - d. Low traps
 - e. Triceps
 - f. Internal rotators of arms, legs, ribs
3. Good diaphragm position
4. Flexible hip flexors (psoas), back extensors (paravertebrals), shoulder extensors (pecs), anterior neck (scalenes and SCM's), and external rotators of arms, legs and ribs.
5. Equal reciprocal tri-planar activity ability from left and right sides of body; even if swimming in a non-equal reciprocal pattern because of acquired breathing pattern or neurologic memory.

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