Fatigue Posture and Tight Shoulders: My Pilates Journey

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Abstract

As a medical professional, I spend a lot of my time slouching, hunching over patients, leaning over a computer charting, as well as lifting, moving, reaching and stretching in awkward positions. Unfortunately, the physical strains and repetitive movements of my job have created bad learned behaviors in my body. It has created muscle imbalances, postural dysfunction and compensatory movement patterns. I have created a fatigue posture, consisting of a painful and tight lower back and tight shoulders with limited mobility.

Pilates has played a key role in bringing my body back into alignment. By strengthening and becoming more aware of activating my “core”, the transverse abdominals, internal obliques, pelvic floor, multifidus, diaphragm, and deep erector spinae, or the “powerhouse”, I have been able to relax and lengthen my over compensated muscles. Pilates has created a self-awareness that has taken my every day life and practice to a new level of movement and understanding. Being self-aware has allowed me to begin the process of correcting my fatigue posture and tight shoulders.
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Sway Back Posture

Forward Head

Neck Extensors - strong
Neck Flexors - weak

Upper Trunk Shifts Rearward

Upper Back Extensors, - weak

Chest Muscles - short, tight

Strain felt more often

Abdominals

Upper Internal Oblique - short, strong
External Oblique - elongated, weak

Pelvis Shifts Forward

Pelvis Tilted Back, Lower Lumbar Flattened

Hip Flexors - weak

Hip Extensors (Hamstrings) - short, tight

Knees Hyper-Extended

Plumb line pt. of reference

fixtheneck.com
The Fatigue or Sway Back Posture is a passive posture that takes very little energy to maintain. It is characterized by the pelvis being pushed in front of the center of gravity, or the pelvis being pushed forward (posterior tilt), causing the hip joint to extend. This causes a chain reaction in the posture as the body attempts to compensate for the shift in alignment.

Characteristics in Sway Back Posture:

* **Head:** Forward

* **Cervical Spine:** Slightly extended

* **Thoracic Spine:** Increased flexion

* **Lumbar Spine:** Flexion of lumbar spine

* **Pelvis:** Posterior tilt

* **Hip joints:** Hyperextended causing anterior displacement of the pelvis

* **Knee joints:** Hyperextended

* **Ankle joints:** Neutral

Cause of Sway Back Posture may be attributed, but not limited to, over-active/tight hamstrings, ligament laxity and incorrect learned posture. Muscles that are possibly included:

* **Elongated and weak:** Hip flexors, external obliques, upper back extensors, neck flexors

* **Short and strong:** Hamstrings, internal obliques

* **Strong and not short:** Low back muscles
The Shoulder

Neck, back and shoulder tension can be caused by many things, and many find that “tight shoulders” can be attributed to stress. “When stress responses occur infrequently, the body can recover relatively quickly from the physiological, psychological, and
emotional changes. When stress responses occur too frequently and/or too dramatically, however, the body has a more difficult time recovering. This can result in the body remaining in a semi emergency readiness state, which we call stress-response hyperstimulation since stress hormones are stimulants. A body that becomes stress-response hyper stimulation can exhibit similar sensations and symptoms to that of an active stress response. Persistent neck, back and shoulder tension is an example of how the body can respond when overly stressed.” (Folk).
Case Study

Client: Myself, Leah Wagner
Age: 35
Profession: Pediatric Cardiac ICU RN, Pilates Instructor
Limitations: Tight shoulders that “stick”, Fatigue Posture and Lower Back Pain

I am an active female that enjoys jogging/running, pilates, yoga, TRX, HIIT training and paddle boarding. After a long day at work or full day of activity, I experience tight hamstrings, sore/tight hip flexors, lower back pain, neck/shoulder tightness and soreness and fatigue posture. My profession has caused flexion of the thoracic spine with a forward head and the long hours have caused me to “hang on my spine”. The intensity of the job causes repetitive stress and stressors, causing tight shoulders and neck.

The following considerations were addressed when planning my conditioning program:
- Upper back extensors need to be strengthened in order to correct the kyphotic curve in the thoracic spine and the forward position of the head
- Hip flexor strength and length in the hamstrings to help realign the pelvis
- Strengthening the quads to help provide balance and encourage a more neutral pelvis
- Focusing on a neutral pelvis and overall abdominal strength for lower and transverse abdominals
- Utilizing exercises that maximize lumbar flexion, deep C-curve, to develop flexibility in the lumbar spine
- Co-contraction of the abdominal and back extensors to provide trunk support and stability
- Shoulder strengthening and flexibility exercises to encourage proper alignment of shoulders.
## BASI Conditioning Program

<table>
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<tr>
<th>BLOCK</th>
<th>EXERCISE</th>
<th>GOAL/RATIONALE</th>
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<tbody>
<tr>
<td>Warm-up</td>
<td>Roll down, pelvic curl, spine twist, chest lift, chest lift with rotation, criss cross</td>
<td>To warm up the whole body; focus on abdominals, obliques and rotation. Working through the anterior, posterior and neutral pelvic positions. Working into and focusing on the breath</td>
</tr>
<tr>
<td>Foot Work-Reformer</td>
<td>Parallel heels, Parallel toes, V-position, Wide-V heels, Wide-V toes, calf raises, prances, single leg heels, single leg toes</td>
<td>Warm up/strengthen ankles, hamstrings, quads and improve trunk stabilization. Focusing on pelvic stability during single leg</td>
</tr>
<tr>
<td>Abdominal Work- Wunda Chair</td>
<td>Standing pike, Cat Stretch</td>
<td>Stretch the lumbar region, abdominal control, scapulae stabilization, back extensor control.</td>
</tr>
<tr>
<td>Hip Work-Reformer</td>
<td>Frog, Circles Down/Up, Openings</td>
<td>Focus on hip disassociation, hip adductor strength and stretch, knee extensor control, hamstrings and pelvic lumbar stabilization.</td>
</tr>
<tr>
<td>Spinal Articulation-Reformer</td>
<td>Short Spine</td>
<td>Abdominals, hamstring stretch, spinal articulation. Important to take weight on the shoulder girdle in a supported position</td>
</tr>
<tr>
<td>Stretch-Reformer</td>
<td>Kneeling Lunge</td>
<td>Deep hip flexor stretch, emphasis on the posterior tilt for the hip flexor stretch and anterior tilt for the hamstring stretch. Keep chest lifted and open.</td>
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<tr>
<td>Full Body Integration- Reformer</td>
<td>Up Stretch 1, Elephant</td>
<td>Strengthening the abdominals and back extensors, shoulder and hamstring stretch</td>
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<tr>
<td>Arm Work-Reformer</td>
<td>Supine Series- Extension, adduction, Circles Up/Down, triceps (Sitting Series)</td>
<td>Supine series used to encourage a greater range of motion in shoulders. (Increase focus on the upper back extensors)</td>
</tr>
<tr>
<td>Leg Work-Reformer</td>
<td>Skating</td>
<td>Maintain a neutral pelvis, pelvic lumbar stabilization, hip adductor strength</td>
</tr>
<tr>
<td>Lateral Flexion/Rotation- Wunda Chair</td>
<td>Side Pike</td>
<td>Abdominals- oblique emphasis Deltoids- scapular stabilization</td>
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Conclusion

After following this routine with some variations over the past few months, I have seen noticeable improvements in my ability to hold positions that require shoulder strength. I have witnessed significant improvement in my ability to move my shoulders with less fatigue, more flexibility and with increased range of motion. I have noticed less discomfort in daily activities and developed more body awareness, that allows a release of shoulder stress. I have become more aware of my posture while standing, sitting and during daily work activities and thus have seen an improvement in my fatigue posture. I have less lower back pain and have seen an increased range of motion in my spine.

The importance of a strong and flexible body cannot be ignored when looking at functional daily movement. Proper body mechanics and regular exercise are key to a long, healthy and mobile life. Pilates addresses my issues through controlled thoughtful movement.

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<th>Back Extensors- Wunda Chair</th>
<th>Pulling straps 1 and 2</th>
<th>Increase back extensor strength, shoulder adductor strength</th>
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<tr>
<td>Cool Down</td>
<td>Roll Down</td>
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