GOOD POSTURE: HYPER LORDOSIS AND THE BULGING BELLY

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6/2/17
BASI Course Year 2016
La Playa Pilates, Santa Barbara
Lordosis or hyperlordosis is an exaggerated lumbar curve in the lumbar spine, so an anterior pelvic tilt is the major factor of lumbar lordosis. Due to an increased curve of the lumbar spine, the lower back puts more pressure on the entire back and this can lead to many postural imbalances. The most common symptom of lordosis is muscle pain! When your spine curves abnormally, your muscles get pulled in different directions, causing them to tighten or spasm. There are many causes of Hyperlordosis and it can affect people of any age. For females in particular, the hyperlordotic posture is common in young dancers and gymnasts, but also some young girls and women adopt this posture because they think it gives the appearance of a slimmer belly and elongated body. Of course, we know the opposite is true; an adopted hyperlordotic posture actually creates a look of a bulging belly!

I will present a case study of an adolescent girl who adopted a hyperlordotic back posture to mimic swimsuit models in order to appear slimmer, the resulting negative postural imbalances she experienced, and her triumphant discovery of Pilates.
# TABLE OF CONTENTS

Title Page

1. Abstract Page
2. Table of Contents
3. Anatomical Description and Diagrams
4. Anatomical Description and Diagrams
5. Case Study
6. Case Study Photo
7. Conditioning Program
8. Conditioning Program continued
9. Conditioning Program continued
10. Conditioning Program continued
11. Conclusion
12. Case Study Photo
13. References
**Hyperlordosis** is a condition in which normal lordosis, or the curvature in the lumbar spine, is over exaggerated. This is common in some and non-existent in others and is dictated specifically by muscular imbalances around the pelvis and the way you stand. It can be an over extension in the lumbar spine itself, an over extension in the lumbosacral junction, -or possibly even an over extension of the thoracic/lumbar junction. This anterior tilt of the pelvis can create imbalances in the body which might lead to pain or injury.

Neutral spine and neutral pelvic position is the natural position of the spine when all 3 curves of the spine — cervical (neck), thoracic (middle) and lumbar (lower) — are
present and in good alignment. Simply explained, a neutral spine alignment is when the pelvis is balanced between the two exaggerated anterior and posterior positions. When the pelvis is in neutral, the bones at the top of the pelvis back--Posterior Superior Iliac Spine (PSIS)-- and front-- Anterior Superior Iliac Spine (ASIS)-- are level.
CASE STUDY

Shane is an upbeat and healthy fifteen year old high school student living in sunny Southern California. She lives a well balanced life, equally dedicated to her studies as she is to her busy social life. She is also an athlete for her high school’s tennis team. Shane had been complaining of lower back and hip pain and was missing tournament matches. Her Mom, an avid Pilates practitioner, noticed that Shane had been adopting a new postural affectation, sticking her butt out and thrusting her shoulders backward, creating an exaggerated curve, or sway in her lumbar spine, in an effort to appear slimmer. Alarmed, Shane’s Mom made dialogue with Shane regarding this new posture and the possible causes. Shane admitted that self-esteem issues related to adolescent weight gain contributed to this new postural affectation, but she wasn’t totally aware that it had become a habit. Shane needed some help to develop her body awareness and discover for herself that proper postural alignment was not only imperative to spine health, but also way more attractive! Shane did not have to be persuaded to try a Pilates conditioning program devised to address her hyperlordotic postural issues.
Case Study and Pilates Student, Shane at age fifteen on right
Conditioning Program:

This Conditioning program was devised to help Shane re-find confidence in, and hopefully re-adapte permanently to, her natural neutral pelvis posture. With Shane’s hyperlordotic posture; since the pelvis is in anterior tilt; the abdominals and hip extensors lengthen and hip flexors and back extensors shorten, attributing to her bulging belly posture, and low back and hip pain. We will work on engaging and recruiting her abdominal muscles as well as her hamstrings and glutes, and also stretching out those tight hip flexors. Our main focus will be to:

1. Improve abdominal strength
2. Stretch out the hip flexors and front thigh muscles
3. Stretch out the back
4. Improve thoracis mobility
5. Get her butt back under her pelvis

Pilates Conditioning Programs for Shane (this includes just two of many conditioning programs)

PROGRAM 1, Weeks 1-8

Warm up: we started each session with a roll down paying particular attention to gaining awareness of pelvis positioning ‘wheeling up’ over feet and ultimately standing in a plumbline neutral spine. Then we continued with fundamental Warm up Supine on the mat: Pelvic Curl, Chest Lift, Chest Lift with Rotation, Single Leg Lifts and Leg Changes.
**Foot Work:** on the Reformer: Parallel Heels, Parallel Toes, V Position Toes, Single Leg Heels, Single Leg Toes, Calf Raises and Prances- Focus on staying in neutral spine

**Abdominal Work:** on the Reformer: Hundred Prep, Coordination and Leg Changes-
Focus: special attention on keeping abdominals engaged and avoiding excessive arch of the spine.

**Hip Work:** on the Reformer: Frogs, Circles Down, Circles Up, Openings- Focus on engaging hamstrings while retaining neutral spine

**Spinal Articulation:** on the Reformer: Bottom Lift- Focus on rolling through the spine, hamstring strength

**Stretches:** on the Reformer: Standing Lunge- Focus on alignment and bias toward a posterior tilt of the pelvis during hip flexor stretch

**Full Body Integration:** on the Reformer: Up Stretch Series including Up Stretch 1, Up Stretch 2, Long Stretch and Up Stretch 3- Focus on maintaining stability of body movement thru abdominal engagement

**Arm Work:** on the Reformer: Arms Sitting Series including Chest Expansion, Biceps, Rhomboids, Hug a Tree and Salute- Focus on engagement of abs to spine and rooting up from sits bones through crown of the head to keep trunk upright and stable, shoulder flexor/extensor control (thoracic spine)

**Leg Work:** on the Reformer: Single Leg Skating- Focus on standing upright and maintaining a neutral pelvis

**Lateral Flexion:** on the Step Barrel: Side Lift- Focus on engaging abdominals to stabilize core
**Back Extension**: on Step Barrel: Swan Prep- Focus on engaging abdominals and wrapping lats and glutes while extending trunk

**PROGRAM 2, Weeks 8-16**

**Warm up**: we started each session with a roll down paying particular attention to gaining awareness of pelvis positioning, Then we continued with Intermediate Warm up Supine on the mat: Roll up, Hundred, Double Leg Stretch, Single Leg Stretch and Criss Cross.

Then to the Cadillac for Roll up with the Rollup Bar

**Foot Work**: on the Cadillac: Parallel Heels, Parallel Toes, V Position Toes, Wide V Toes and Heels, Single Leg Heels, Single Leg Toes, Calf Raises, and Hip Opener- Focus on staying in neutral spine and keeping pelvis stable- avoiding anterior tilt of pelvis

**Abdominal Work**: on the Cadillac: Mini Rollups, Mini Rollups Oblique, Rollup Top Loaded and Breathing with the Push Through Bar- Focus on postural alignment, abdominal strength and control, pelvic lumbar stabilization and rolling through the spine sequentially

**Hip Work**: on the Cadillac: Circles Down, Circles Up, Single Leg Frog, Hip Extension, Bicycle- Focus on engaging hamstrings while retaining neutral spine

**Spinal Articulation**: on the Cadillac: Monkey Original- Focus on keeping hip joints aligned, abdominal control, and keeping shoulders neutral
**Stretches:** on the Ladder Barrel: Gluteals, Hamstrings, Adductors, Hip Flexors- Focus on keeping pelvis level and stable, stretching glutes, hamstrings adductors and hip flexor muscles

**Full Body Integration:** on the Cadillac: Thigh Stretch with the Rollup Bar- Focus on maintaining posterior tilt of pelvis, and Saw with the Push Through Bar- Focus on back extensor and abdominal oblique control

**Arm Work:** on the Cadillac: Arms Standing Series including Chest Expansion, Hug A Tree, Circles Up and Down, Punches, Biceps, and Butterfly- Focus on maintaining balance between neutral and posterior pelvis, shoulder flexor/extensor control (thoracic spine), and equally rooted feet

**Leg Work:** on the Cadillac: Circles Forward and Back- Focus on keeping pelvis stable, maximizing hip external rotation, hip disassociation and stretch, lengthening body in opposition

**Lateral Flexion:** on the Cadillac: Side Lift- Focus on scapular control, oblique strength and maintaining abdominal engagement

**Back Extension:** on Cadillac: Hanging Back- Focus on lumbar/hip extension and articulation of spine
CONCLUSION

Ok here’s the real story. I’m Shane’s mom. I was the business manager at La Playa Pilates in Santa Barbara just two years or so when I noticed the new hyperlordotic posture my daughter Shane was well, - posturing. At the time we had a couple other female adolescent clients at La Playa; an injured ballerina and a tall teenager who was beginning to round at the shoulders, probably to appear less tall. Those girls walked out of each session visibly more aligned and looking more connected to their bodies. And when I convinced Shane to try Pilates, I saw magic happen before my very eyes. Shane gained strength throughout her entire body and began to notice a difference in her posture immediately. Her new body awareness made her more conscious of her tendencies and gave her the knowledge and confidence to self-correct. Shane’s Pilates life also inspired her to adapt new healthy eating habits. Shane’s hyperlordotic posture improved immensely. None of us are exhibiting good posture in the case study photo I included, but look at Shane! Three years later, when I decided to join the BASI Education program at La Playa Pilates, I thought it would be great for Shane to join me in the fundamental part of the BASI teacher training course before she left home for college. Now she not only practices Pilates regularly, but is knowledgeable in the science and body mechanics of Pilates. Perhaps she will continue with her BASI education and become a teacher one day. In the meantime she’s my client and we have a lot of fun practicing together.
Case Study, Shane practices Monkey on the Cadillac with our BASI Instructor, Meredith
References

Isacowitz, Rael. Study Guide: Comprehensive Course and all Movement Analysis Workbooks. Costa Mesa, California: Body Arts and Science International


Internet Documents:


http://www.thepilatesconsultant.com/pdfs/neutral_spine.pdf