

Office workers' syndrome and Pilates

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Abstract

Office workers' syndrome is a group of symptoms resulting from prolonged sitting and/or improper sitting habits, causing body pain and disrupting the nervous system. This syndrome has become commonplace among office workers due to their lengthy computer work sessions. It is recommended that while sitting at work, people should perform body movements frequently and take breaks at certain intervals. Even though many people may already know the risk of prolonged sitting, it is not easy for them to be aware of their prolonged sitting while concentrating on their work.

Office Workers Syndrome" is not an actual medically-diagnosed syndrome; it is a group of symptoms commonly found in office workers caused by unhealthy work habits. This syndrome results in musculoskeletal pain, headaches, aching arms, wrists and fingers, numbness of wrists or feet, rounded shoulders, kyphosis and other types of poor posture. It may also be due to a chronic underlying illness, such as arthritis or neuritis

Pilates has to perform with people who has office workers' syndrome in order to improve posture. Because, it is a form of exercise which concentrates on strengthening the body with an emphasis on core strength. It is concentrates on posture, balance, breath, flexibility, mobility and ROM of joints as well. Pilates focuses on the mind-body connection and it perfect way to break bad habits.

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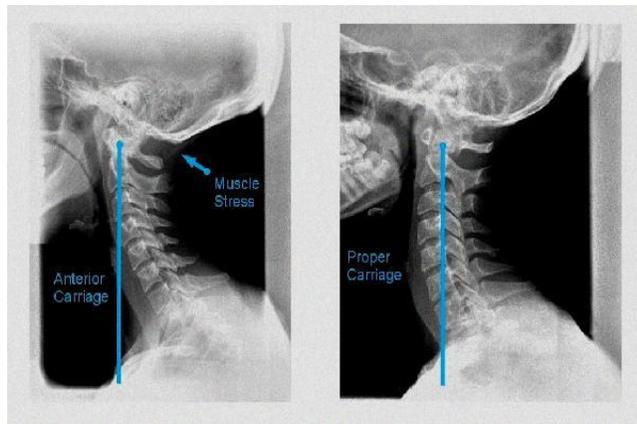
Anatomy

Typically, people working at a computer will be leaning forward into the computer screen, the shoulders will be rolled forward and the neck will be long. Over a period of time the pectoral muscles on the front of the chest will shorten which in turn will bring the shoulders forward and tighten the muscles on the upper back. This will have several effects.

Effects of postural kyphosis, hunchback, tight shoulders, compresses the lungs causing possible breathing difficulties, compresses the internal organs leading to possible digestion problems, energetically obstruction of the lung channel again leading to respiratory problems, instability of the shoulder joint, possible cause of headaches.

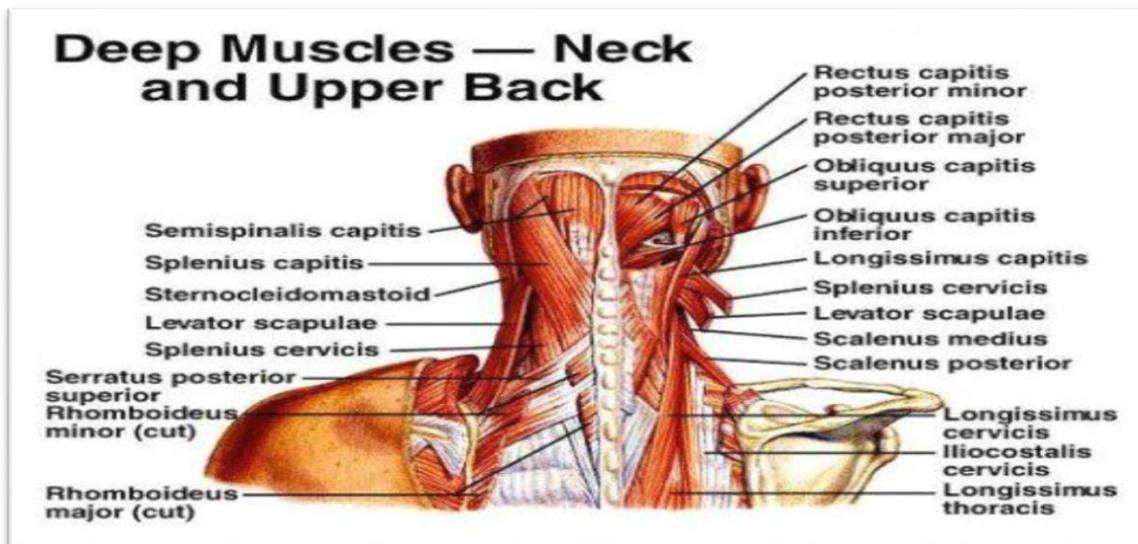
If you have “office workers” syndrome probably you have the same unnatural postural characterized below:

Forward Head Posture:

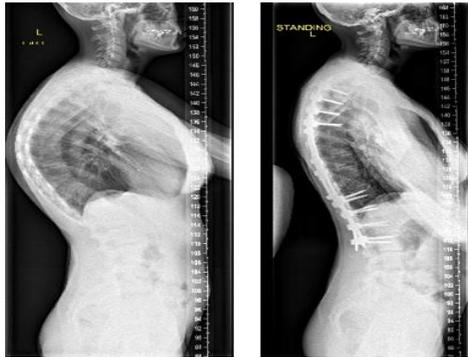


Forward head posture increases the workload for many of the muscles attached to the cervical spine, which has the job of holding up the head. Over time, forward head posture can lead to muscle imbalances as the body tries to adapt and find efficient ways to hold the head up for straight-ahead vision. Some muscles become elongated and weakened, whereas other muscles become shorter and tighter.

Common muscles that elongate and weaken due to long-term forward head posture are *Deep cervical flexors, Erector spinae, Shoulder blade retractors* and muscles that become tight *Suboccipital muscles, Chest muscles, Levator scapulae*

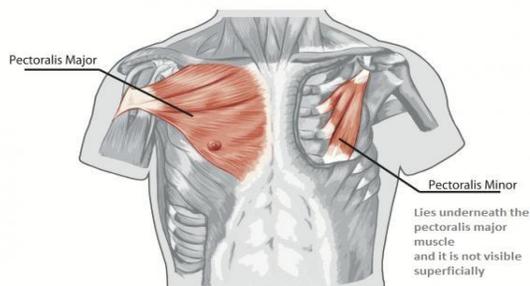
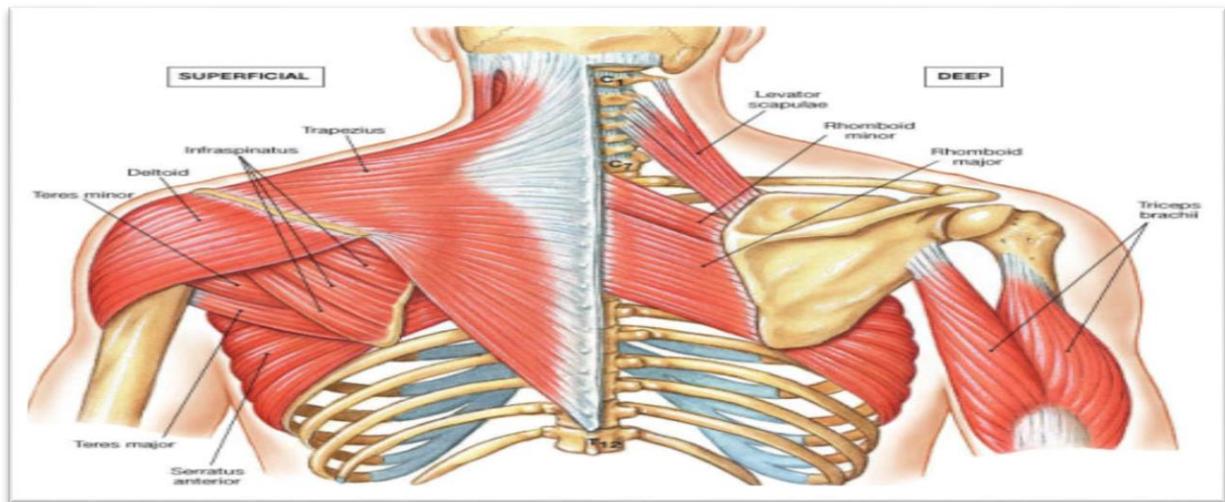


Kyphosis:



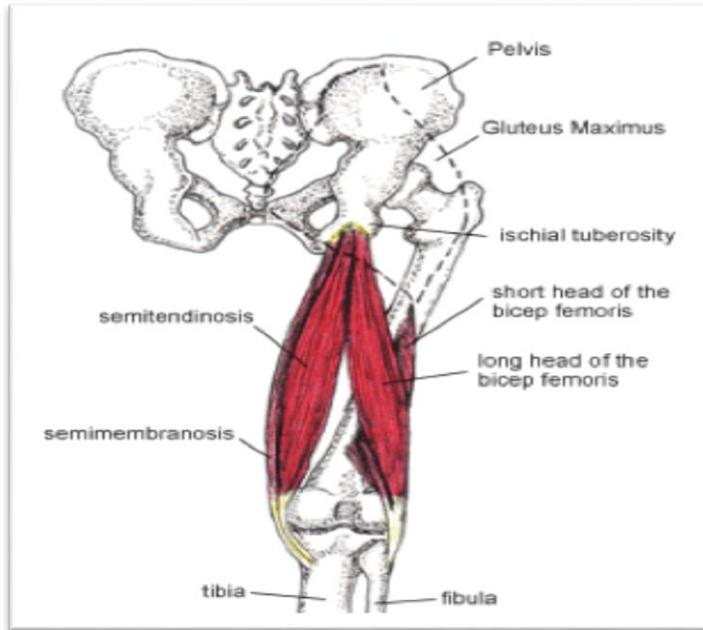
Kyphosis is a spinal disorder in which an excessive outward curve of the spine results in an abnormal rounding of the upper back. The condition is sometimes known as "roundback" or—in the case of a severe curve—as "hunchback." Kyphosis can occur at any age, but is common during adolescence.

Many people find themselves hunched over a keyboard or office desk for many hours throughout the day. This can have a huge effect on your posture over time. Hunchback, or rounded shoulders, occurs because we often do not have the muscular endurance in our upper back and shoulder muscles to resist and fight against gravity. When we allow our shoulders to round forward (known as kyphosis), our anterior muscles (pectoralis major and minor) become tight due to always being in a shortened state while our posterior shoulder muscles (trapezius, rhomboids, and rotator cuff muscles) become lengthened and weak.



Tight Hamstrings.

The Hamstrings consist of three muscles the Biceps Femoris muscle, the Semitendinosus muscle, and the Semimembranosus muscle. These muscles combined are primarily responsible for the flexion of the knee joint (bending of the knee) as well as assisting the extension of the thigh. The hamstring muscles also play a role in our posture.



Tight hamstring muscles are a common contributor to lower back pain. Because tight hamstrings will pull pelvis back and put pressure to lower back. So, lengthening your hamstrings is key to moving your body as it is intended to and not putting unnecessary stress on your spine.

Case Study

My name is Khayala. I worked in the office for more than 5 years and more than 56 hours per week. I never paid attention to how I sit during work time. But my friend-physiotherapist always yelled at me and tried to correct my posture. He tried to explain to me that I would have problem with my spine. But I did not realize what kind of stress it puts on the body. Human body was not designed to sit almost 12 hours. Everyone knows the pain that they get from working at the computer. I start to wonder then “what do I have to do to make the pain stop?”.

I know that it is very important to do sport regularly. But it was impossible with my work schedule. I had a job without a healthy life. So I decided to change my life. I took the opportunity and participated in BASI training session. Only after that, I understood what my friend-physiotherapist meant.

What I have found is when we are sitting for so much time during our day that our structure starts to change. When sitting down your hamstrings and adductors are in a shortened position. When you take into account the amount of time that you are sitting each day, the body will adapt to this problem. I am finding that your hamstrings will shorten in response from sitting all day. This shortening puts a constant force acting on your hips, this force will rotate your hips, the curve in the lower back has increased, this will cause your lower back to hurt. This rotation will start a chain reaction all the way up your body.

I created Pilate’s program that will address strength core muscles, stretching tight muscles and increase mobility, stability and flexibility. Restore ROM of joints

Program:

❖ Warm up:

1. 3 Roll downs
2. Pelvic Curl
3. Spine twist supine
4. Chest lift
5. Chest lift with rotation

Engage correct muscles as Hamstrings and TA(Transverse Abdominis).

❖ Foot Work / Reformer:

1. Parallel heels
2. Parallel toes
3. V-position toes
4. Open V-heels
5. Open V-toes
6. Calf raises
7. Prances
8. Prehensile
9. Single leg heel
10. Single leg toes

During Footwork – Focusing on the neutral pelvis and initiate movement from hamstring and work to strengthen quadriceps muscles in order to prevent knee injuries.

❖ Abdominal work/ Spine corrector:

1. Chest lift
2. Reach
3. Overhead Stretch
4. Teaser Prep

Focus on thoracic and shoulder stretch. Strengthening abdominal to reduce pressure to the spine

❖ Hip Work/ Reformer

1. Frog
2. Circles (Down, Up)
3. Openings

Focusing on pelvic lumbar stabilization (circles can be small due to keeping the pelvis in neutral position) and strength hamstrings and adductors.

❖ Spinal Articulation/Wunda Chair:

1. Pelvic Curl

Exercises for spinal articulation play a big role for persons who sit more than 10 hours per day. Back problems appear because of the immobility of the spine.

❖ Stretches/Reformer

1. Lunge Kneeling

Stretching is one of the most important parts to correct anterior tilt.

❖ Full Body Integration/Reformer:

1. Up Stretch 1
2. Elephant

Focusing on shoulders and trunk. Trying to keep them stable and stretching Hamstrings.

❖ Arm Work/ Reformer:

1. Extension
2. Adduction
3. Up Circles
4. Down Circles
5. Triceps

Restore range of motion of shoulder joints. Strengthening triceps.

❖ **Leg Work/Wunda Chair:**

1. Hamstring Curl
2. Hip Opener

Focusing on pelvic lumbar stabilization, engage Hamstrings and strengthening hip external rotators to correct anterior tilt.

❖ **Lateral/Wunda Chair:**

1. Side Kneeling Stretch

There is 3 key points-lateral flexor stretch, abdominal with oblique emphasis and scapular stabilization.

❖ **Back Extension/Cadillac:**

1. Prone 1
2. Prone 2

Maintaining the stability of the scapula during spinal articulation.

Conclusion

As mentioned above, the human body is not designed to sit long. As a result, simple movements, such as sitting up straight, was difficult for me. I felt pain in my back and stretching my hamstrings. I could not straighten my knees because of the pain under my knee. I realized that I bend the knee when I walk. Therefore, the program was created in two key points - stretching and strengthening. I felt relieved after practicing this program. The first thing I would like to point out is that the back pain has decreased and it became easier to breathe. The movements that were difficult for me after each lesson become easier.

Knowledge is power when you understand what your body needs to feel free from the pain, you can work on it. Movement such as stretching the hamstrings, shoulders, chest and strengthening the muscles of the back and deep abdominal muscles, can help everyone who has office workers' syndrome.

Bibliography

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