



Developing Good Habits

Why are stretch, strength and yoga classes not part of a dental school curriculum? And why do most schools have outdated or ineffective stools, despite rising tuition and the fact that dentists sit for the majority of their career? It is so important to develop good habits early on in your career in order to prevent strain and injury later. by Juli Kagan, RDH, MEd

While excellent care is being provided to patients, dental students are neglecting their own bodies. It is mind-boggling that more than 3,000 hours are required to fulfill dental school requirements, yet little time, is spent on spinal health and injury prevention. With less than 10 minutes per day, you can complete effective exercises that can help prevent neck, shoulder and spinal trouble. Is your valuable time worth it? Absolutely! If you exercise on a daily basis your body will take care of itself so you can, in turn, take care of your patients. More importantly, you can avert potential disabilities, which are always much more difficult to manage.

The following exercises can be done chairside, before seating a patient, while working and even while sitting at a computer.

Exercise 1: Navel In and Up!

Targets: Core and back posture

Inhale and gently pull your navel toward the spine, then, pull your navel up toward the ribs. Sit tall, with your shoulders relaxed and drawn down. Hold for five to 10 seconds and release. Repeat five to 10 times. Notice how your spine automatically elongates; reducing intervertebral joint compression. This exercise can be done anytime throughout the day.

Exercise 2: “U” First!

Targets: Neck

Beginning with the chin down, draw your nose up toward the right shoulder and then toward the ceiling. Draw back down and repeat to the other side. Make the shape of a horse-

shoe or a “U.” Repeat four complete cycles. Stretching the neck improves range of movement and will ease stiffness, reduce stress and provide relief for recurring cervical muscle tension.

Exercise 3: Fingers Clapsed and Arms Up to the Ceiling

Targets: Shoulders

Clasp your fingers in front of your chest and turn the palms outward. Lengthen your arms out. Inhale and lift your arms straight up to the ceiling, by the ears if possible. Hold for five seconds and exhale as your arms descend out to the sides, down toward your outer thighs. Try to maintain a lift in the sternum. Looking up enhances the stretch. Repeat four times.



Exercise 4: Lateral Trunk Stretch

Targets: Upper Body

You can perform this exercise either sitting or standing. Clasp your hands and lift them up overhead. Sitting tall with the abdominals slightly contracted, bend the trunk laterally to one side. Inhale on the lift and exhale on the lateral stretch. Hold for five seconds. Keep breathing. Repeat four times on each side.

Exercise 5: Quadriceps Stretch

Targets: Legs

Standing next to a wall or desk, bend one knee back and reach for your ankle with the same side hand. Hold the ankle. Attempt to draw your knees together. To stretch the hip flexors, which are shortened and tight all day, gently pull your tail under, in a counterclockwise rotation, to bring the front hipbone backward. You should feel a stretch at the top of the thigh, at the insertion of the muscle. Hold for about five to 10 seconds or two breath cycles. Repeat three times for each leg.

Exercise 6: The “III-E-O-So-As” Stretch

Targets: Legs

Standing at a wall or counter, place one foot about a foot away from the wall and the other foot about two feet away from the wall. Bend the front knee and press the back heel down in line with the hip. For a deeper stretch, push the hips forward and counterclockwise, so the tail pulls under, while maintaining your heel on the ground.

For an enhanced stretch, take your arm that is on the same side as the extended back leg straight up by your ear. Lift up and over to the opposite side. Hold for five to 10 seconds. The stretch should be felt along the entire side of the body, as well

as inside the abdominal wall. Release. Complete three stretches on each side.

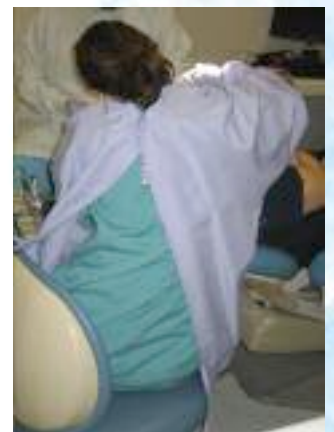
Choosing a Dental Stool

In addition to developing good habits with stretching and keeping active, choosing a good dental stool is equally as important. Your posture throughout the day greatly affects how you look and feel now and for years in the future.

Of all the equipment in an operatory, the stool seems the most important in the prevention of most musculoskeletal injuries. Almost every syndrome or condition stems from improper seating. If the hips are offset, most every other body part is unbalanced. For example: When the pelvis is not centered in the middle of the chair or is placed back into the seat pan, one hip is commonly off center. If one hip is misaligned then one hip is higher than the other. This translates to one side of the body being shorter and lower; often the right side for right-handed clinicians. Like a cascading effect, a lower right hip brings the right shoulder down, unparallel, with the left shoulder. Because the shoulder is lower, the elbow must overcompensate and be lifted up in order to bring the arm up into to a more stable parallel position. The lifted elbow contracts and fires up the deltoid and trapezius muscles, which fatigue quickly. This contributes greatly to trapezia myalgia. If the elbow is not lifted enough the wrist must blatantly flex in order to create parallelism of the instrument so that it can function most effectively. This entire sequence is simply because of sitting improperly. If the clinician merely sat up in the chair, with the rear end at the back of the chair, this entire progression would be eliminated. It is easy to see how carpal tunnel syndrome is often not a problem that originates at the wrist, but truly begins at the seat (both the buttocks and chair). Actually, most conditions of the body are due to improper alignment of the spine, the shoulders and the hips.¹

The spine's natural curves should allow the head to be directly over the shoulders, which should be directly over the hips while seated. Most importantly, the coccyx or tailbone should be raised or even extended posteriorly to allow the pelvis to rotate forward, clockwise. In its final position, the anterior spine of the hips (ilium) should be slightly forward of the sit bones (ischial tuberosities), so a person can “sit up,” with the tailbone (coccyx) back.

The simple goal of sitting is to maintain this pelvic and spinal alignment. This concept



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makes it crucial to find a chair or stool that places the pelvis in an anterior position (anteversion) in a supportive manner. This reduces muscle strain and decreases intervertebral disk pressure. An anteverted pelvis facilitates healthy posture.² An elongated spine is integral to the health of the back, especially while seated.

With the thighs parallel to the floor, the hips are often at a 90-degree angle. In this position, the lower back is frequently flattened. It loses its natural lumbar curve and the pelvis rolls backward. This pelvic arrangement is exceptionally common and a major reason for back pain. Conversely, when the pelvis is rotated too far anteriorly, the back muscles require constant contraction, expending tremendous energy.³

One way to open the pelvis, helping to create anteversion, is to increase the chair height so the angle of the hips opens to between 110 to 130 degrees. This way the hips are slightly higher than the knees. This downward slant of the thighs also lets you achieve closer proximity to the patient. A saddle-shaped seat also facilitates an opening of the hip angle and helps maintain the anteverted curve.

Alternating between two active and passive positions is called dynamic sitting, where you alternate between sitting and half standing. In the active stance, the clinician is literally in a “ready” position, like an athlete ready for action. This dynamic process is ideal as it keeps the clinician moving throughout the day while working. In addition, sitting with the pelvis forward and the hips open to about 110 degrees, requires the least amount of muscular effort to maintain the natural spinal curves and reduces disk pressure – all factors in eliminating or reducing back pain.

A new innovative chair called the Virtù by Crown Seating has ZenWave motion that provides mild support while in a forward tilt position. This allows the pelvis to rotate forward in a natural position, which permits it to be more anteverted, and aligns the spine to be more neutral and unstressed. Both of these qualities protect the spine from further injury. The best component of this inventive chair is the strategically placed backrest moves with the operator in both the active and passive position, and massages the vulnerable lumbar region, promoting blood flow and nutrients to the lower back muscles and intervertebral disks. Like a perfect pair of jeans, a stool or chair must fit just right or you will be uncomfortable. Invest in one wisely.

Another Note on Posture

An excellent alternative to sitting while working is standing. Few articles and books are written about the subject. Standing is a natural human posture and by itself poses no particular health hazard.⁴

Standing while performing clinical dentistry allows the large muscles of the legs and torso to actively contract, while

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providing a break for the vulnerable back and lumbar region. It improves circulation in the lower extremities, allows the upper body to be more relaxed, relieves stress on the intervertebral disks of the back to about 100 pounds,⁵ promotes increased cardiovascular blood flow throughout the body,⁶ allows for greater mobility around the patient chair and provides more stability for the operator.

Prevention of work-related musculoskeletal disorders is crucial. The majority of dental school programs provide basic ergonomic education (patient/operator positioning and instrumentation), but additional education such as body mechanics or preventive exercises are generally unavailable or available only on a limited basis to students. Performing simple exercises, such as those noted, and acquiring a personalized dental stool is vital for a long and healthy dental career. ■

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Author's Bio

Devoted to wellness, and passionate about physical and mental fitness, as well as proper posture, **Juli Kagan, RDH, MEd**, is a certified pilates instructor, yoga teacher and professor of health education. With an energy and enthusiasm that transforms knowledge into practice, Juli wrote *Mind Your Body: Pilates for the Seated Professional* and has created numerous free videos on her Web site. To purchase her book and/or obtain more information visit JuliKagan.com.