

DENTAL HYGIENIST NEWS

The Alexander Technique

Postural and Neuromuscular Re-Education

by Carol D. Coady, RDH, BA

This is an extraordinary time to be a dental hygienist. There are exciting new ideas, techniques and strategies that dental hygienists are incorporating into practice. Among these is the growing realization of the need to address occupational health issues related to the prevention of cumulative trauma disorders.

Why is it that some dental hygienists work their entire careers pain-free while others develop serious disabilities that severely compromise or even end their careers? Pre-existing and/or concurrent conditions, work procedures, workload management, and work station design are among the contributing factors. Additionally, a substantial reason for pain and disability is related to how a hygienist uses her or his body. The cumulative effect of personal habits, developed over a lifetime, has a profound impact on health.

Recently, we have witnessed an outpouring of articles related to ergonomics in dental hygiene literature. We know that attention must be paid to posture, instrumentation techniques, work habits, and workplace layout in order to optimize good body use.

The Mind-Body Connection

To best understand why some hygienists remain healthy throughout their careers while others develop problems related to cumulative trauma, we must address the connection between mind and body. There is a growing

awareness of the inter-relatedness of the mind and the body and how each impacts the other. Important contributions to our understanding of mind-body medicine have been made by such prominent authors as Norman Cousins, Bill Moyers, Bernie Siegel, Jon Kabat-Zinn, Dennis T. Jaffe, and Dean Ornish. These individuals address the connection between emotions, attitudes, thoughts, and behaviors and the resulting physiologic responses.

Medical research has shown that we can be taught to alter many of our bodily functions including heart rate, blood pressure, arterial plaque formation, skin temperature, immune response, brain waves, and pain response. Researchers have also confirmed that we have a more acute ability to control neuromuscular tension than was previously recognized.

Pause for a moment to visualize the beauty, grace, and poise of a well-trained dancer in action. Picture the movement, the ease, the flexibility, the balance, and the lightness of body use. Experienced dancers have been trained to employ their bodies well, and for good reason. A dancer's body is her or his instrument. It is vital to the health of the dancer that she or he understand how to best manage this instrument to accomplish feats that require a great deal of strength, skill, and agility.

Now visualize how you use your own body while performing your clinical hygiene tasks. Do you work with a kinesthetic sense of lightness, grace, poise, calm, ease and balance? Being able to employ your body in this manner allows you to work with just the right amount of neuromuscular tension to accomplish the presenting task. Granted, there are tremendous differences in neuromuscular patterns between dancers and dental hygienists. Dancers' work involves incredible large-motor skills, while our work is much more stationary, with greater focus on precise small motor skills. However, dancers and dental hygienists alike require strength, finesse, endurance, concentration, and skill in performing their crafts.

Cumulative Trauma Injuries

Think about the amount of neuromuscular tension that you generate while performing your clinical tasks. How would you describe your body use? Would you use words such as 'bearing down,' 'tense,' 'fixed,' 'compressed,' 'contracted,' 'held' or 'stabilized' to describe any of your neuromuscular patterns while performing intensive work? Are you, your employer, or your patients demanding too much work be done in too little time? How is your mood? Are you angry, hostile, tired, frustrated, stressed, excited, uncomfortable, or agitated? Hygienists who frequently contract their bodies while working are at risk for creating harmful alterations to themselves. The following descriptions explore how compounding problems can contribute to the development of cumulative trauma injuries.

1. Frequently holding excessive tension may condition the body to accept excessive tension as a 'normal' state. The body holds the tension longer than is needed or desirable. Instead of the excessive tension completely dissipating when a challenging task is complete, more tension is added the next time an intensive procedure is carried out, and the tension continues to build. Excessive tension can then become chronic, causing the involved muscles to remain tight and short, thereby altering muscle balance.

2. This shift to an unbalanced state of the muscles places excessive force on the affected skeletal structures. If the muscles involved are those supporting the spinal column, the spine may shorten (compress), and the natural curvatures of the spine may eventually be altered.

3. If the muscle imbalance involves the area in and around the peripheral joints, the dramatic muscle tension created may eventually lead to the loss of joint mobility. Problems such as tendinitis*, bursitis, and osteoarthritis may occur. *Continued on other side.*

*Tendinitis (tenosynovitis) is thought to be the primary mechanism involved in the development of carpal tunnel syndrome. Irritation of the tendons and/or their synovial sheaths can cause swelling in the narrow carpal tunnel passageway and compression of the median nerve.

4. Alterations generated in the spinal column from muscle imbalance create excessive pressure within the intervertebral disks which, over time, may damage the disks and adjacent spinal joints.

5. Chronically compressed spinal joints provide an environment for excessive wear, thereby setting the stage for the development of osteo-arthritis of the spine and/or possible cervical radiculopathy (nerve root symptoms.)

6. Chronic pain may become a disease process within itself. Pain that is persistent can create dysfunctioning of the central nervous system, which amplifies and perpetuates the pain response. This alteration to the central nervous system may provide sustained pain and tension even after the hygienist incorporates improved ergonomics into her or his work habits.

The potential for developing and perpetuating these serious alterations to health is sound reason why we as dental hygienists should learn how to best use our bodies while at work and at play.

The Alexander Technique

Dancers, musicians and actors from institutions such as the Juilliard School in New York, the American Conservatory Theatre in San Francisco, the London Academy of Music and Dramatic Art, and dozens of other performing arts centers and training schools around the world have learned specific techniques which promote release of excessive muscle tension. This training in postural and neuromuscular re-education is known as the Alexander Technique and is part of the *required* course work of many of these institutions.

Students of the Alexander Technique learn how to regain muscle balance, allowing for the restoration of muscle tone, spinal lengthening, and proper joint biomechanics. The purpose of incorporating the Alexander Technique into the learning process is to teach students how to employ their bodies to maximize performance while reducing the potential for injuries.

History

The Alexander Technique was developed by Frederick Matthias Alexander, who lived from 1869-1955. F.M. Alexander devoted most of his life to better understanding and teaching good body use. His relentless pursuit of

optimal neuromuscular and postural function began as a consequence of his own faulty occupational habits which threatened his career as a promising orator. His postural and neuromuscular patterns while reciting generated so much muscle tension that his voice would give out. Alexander spent the next ten years in intensive self-observation of postural and neuromuscular activity. From the knowledge he gained during self-observation, he dramatically improved his own body used. In all, Alexander committed more than 60 years of his life to teaching others how to employ their bodies to promote ease of functioning while diminishing dysfunctional neuromuscular habits. His contribution to the understanding of the importance of good body use has been lauded by many people worldwide. Professor Nickolaas Tinbergen, in his acceptance speech for the 1973 Nobel Prize for Physiology and Medicine, described the Alexander Technique as "an extremely sophisticated form of rehabilitation, or rather of deployment, of the entire muscular equipment, and through that of many other organs."

Learning the Technique

The Alexander Technique provides a means of incorporating improved balance of the skeletal and muscular systems, resulting in less wear and tear on the body and therefore less risk of cumulative trauma injury. Often, people unfamiliar with the Alexander Technique incorrectly assume that this method revolves around performing physical exercises. Instead, students of the Alexander Technique learn, through a series of lessons, what their misuse patterns are and how to replace faulty use with healthier patterns. Improvements gained through this educational process in neuromuscular tension levels posture, and movement are noticeable and measurable. Students often witness an increase in height due to spinal lengthening. The resultant reduction in the intervertebral disk pressure is thought to be a key factor in the kinesthetic experience of lightness and ease. Our work becomes less laborious and fatiguing. We can end each day with more residual energy, improved alertness, and greater comfort than previously experienced.

The best way to learn the Alexander Technique is to take private lessons which address your specific individual

neuromuscular and postural habits. Retraining your habits requires active participation and the willingness and ability to change. Students of the Alexander Technique should expect to take a minimum of 20 to 30 lessons in order to learn the critical neuromuscular patterning necessary for optimal body use.

The Alexander Technique is not a quick fix or a cure-all. It is an educational process that is learned experientially with the guidance of an astute teacher. Reading about the Alexander Technique primarily provides the opportunity for cognitive understanding. Private lessons are the most effective way to gain kinesthetic learning. It is the experiential or kinesthetic learning that allows the body to move toward postural and neuromuscular homeostasis.

Improvements gained in health and performance can be profound. Hygienists who currently rely on passive therapies for work-related pain relief are likely to find that learning and applying the Alexander Technique can greatly reduce, if not eliminate, the need for alternative therapies which provide only short-term pain relief.

For More Information

If you would like more information on the Alexander Technique consult the:

North American Society of Teachers of the Alexander Technique (NASTAT)
800 473-0620

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For additional reading:

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