

# SURVIVING ORTHODONTICS: A Bodyworker's Exploration into Orthodontics and CranioSacral Therapy

by Nancy Burke, B.A., C.M.T.

Perhaps in your practice as a bodyworker or massage therapist, you have come across certain physical and emotional issues with your clients that struck a chord, causing you to delve more deeply into these problems. That is what happened when I realized that many of my clients' life experiences mirrored my own.

I sucked my thumb—to my mother's chagrin—until I was six years old. This habit created a series of problems including speech difficulties and crooked teeth. When I was 11, I got braces. I survived the monthly adjustments by digging my fingernails into my palms as the orthodontist tightened the already uncomfortable braces. For two years, I endured the braces, then headgear and, finally, a retainer.

I thought I was finished with braces forever. Then, about five years ago, powerful memories of my orthodontics experience came up during a session at my Advanced CranioSacral Therapy class. Suddenly, I became aware of the connection between my pain and orthodontics. It turned out that I was not alone. As a CranioSacral Therapy practitioner, I began to notice that my clients were having symptoms similar to those I had experienced and attributed in part to orthodontics.

Stimulated by my experiences, I began to ask my clients if they had orthodontic treatment. I was amazed at the response—32 out of 67 current clients said they had orthodontics. The symptoms my clients displayed included “heavy head syndrome” or venous back pressure that involves too much fluid remaining in the head and not enough blood returning to the veins. Inability to think clearly, headaches, low back pain and sciatica, TMJ syndrome, and facial, muscular, and neck pain were some other symptoms.

I had believed that my neck pain and headaches were the result of a minor car accident that happened when I was 18.

Since receiving CranioSacral Therapy in 1990, my condition improved. It also was around that time that I began studying the therapy, which led to that profound experience in my Advanced class when a classmate began to release my teeth (a process I will explain later in this article). I remembered the traumatic adjustments, the mouth pain, and how tight and achy my body felt. I knew that the neck pain and headaches I felt as an adult were caused by orthodontics. I resolved to find out more about what goes on in the mouth—including the possible role of genetics and thumb sucking—how it can lead to painful symptoms later, and how CranioSacral Therapy may be able to help.

Orthodontics are widely accepted as a means to correct a number of problems, whether they are caused by genetics or by environmental forces like thumb sucking. In the United States, orthodontists have mainly been proponents of fixed appliances that attach to the teeth and are effective in the precise control of tooth positioning. Primary examples are braces, wires, brackets and bands. Braces are the handles that hold onto the teeth while the wires move the teeth. The brackets are bonded onto the teeth and bands secure orthodontic attachments to the tooth. Bands are thin metal rings, usually made of stainless steel, that are cemented into place. The band is adapted to form to the tooth along with the other orthodontic attachments, which are either soldered or welded to it.

Removable appliances, which work with the supporting structures around the teeth, have been popular in other parts of the world. Examples of removable appliances include retainers, headgear, rubber bands, night guards and dentures. My informal survey of orthodontists indicates that braces are currently the mainstay of orthodontics, although both types of appliances (fixed and removable) are used everywhere.

In the dental field, orthodontists are the specialists who most often deal with the issue of genetics. Although at times there may be differences between parents and children, genetic factors and environmental issues are instrumental in the growth and development of craniofacial structure. Many malocclusions can be produced by a combination of genetics and environment. A malocclusion is a deviation in intra- and/or inter-maxillary relations of teeth that presents a hazard to the individual's well-being, most often associated with other dento-facial deformities. Genetics also play a part in issues such as the number, shape and size of teeth, as well as when the teeth come through the gums and the position of the teeth. Some genetic diagnoses include overbites, crossbites, and clefts of the lip and palate. One of the case studies we will look at is a Class II Division I malocclusion that may have been caused by genetics.

**Another issue for me** was to find out more about the problems that arise from thumbsucking. I learned that if a child sucks his or her thumb for an extended period of time, it can disfigure the arches of the mouth. This habit also may make it difficult to close the mouth without straining the muscles, and the tongue and lips may become irritated and parched. If an anterior crossbite or an open bite are caused by thumb sucking, speech difficulties may arise. (For me, the difficult letters were R and S.) It is possible to reposition the teeth with orthodontics, enabling the child to speak properly. Some children also may need speech therapy to complete their course of treatment.

Some other problems that orthodontics may resolve include airway problems (the maxillae may be underdeveloped and not carry teeth) and skeletal skewing, according to Dr. Dwight Jennings in an April 1997 interview. Braces can be effective in correcting problems such as cleft palates as well.

Fortunately, there have been a number of significant innovations in orthodontics since my childhood encounter. The application of braces used to be a long, tedious, and painful four-hour process of welding, measuring, and bonding. Bands, brackets, and wires had to be custom-made for each patient; now they are standardized for maximum consistency in the outcome of the treatment. There are 32 standardized sizes of bands with prescriptions that vary depending on the manufacturer and orthodontist, as each has his/her own prescription.

These new materials hold fast to the teeth with less pain and damage. Braces today allow for fine-tuning of each tooth,

which distributes the impact on the mandible. When the bracket is made precisely for each tooth, there is less friction on the gums. Alloy wires, which can move teeth farther with single adjustments due to their flexibility, are being used instead of the stainless steel. Orthodontists also may choose a standardized straight wire technique. The headgear and rubber bands may be replaced by telescoping rods and push-and-pull coil springs, as some orthodontists believe they improve patient compliance as well as the accuracy and consistency of corrections. Removable retainers and positioners are becoming the preferred methods of retention during post-orthodontic treatment. According to orthodontists Ram S. Nanda and Surender K. Nanda, "Teeth move as long as we live, just as surely as our hair color changes throughout our lives." For this reason, a patient may be given a set of removable retainers that may be worn indefinitely to ensure that tooth alignment is maintained.

While these innovations have made orthodontic treatment easier and more comfortable, braces have been implicated as the cause of other difficulties such as bite problems and tooth displacement, as well as sinus, eye, and ear problems later in life. It has been suggested that the profound systemic influences of orthodontics can lead to spinal subluxations, scoliosis, pelvic imbalance—which may become impacted via restrictions in the sacrum—and organ dysfunctions. Orthodontics also impact the craniosacral system, as well as the chakras and acupuncture meridians, particularly the stomach, bladder, and gallbladder meridians, according to Dr. David Lerner in a January 1997 interview.

I came to realize that CranioSacral Therapy is an important modality for dealing with these and other orthodontic issues as well as the after-effects of thumb sucking. Cranio-Sacral Therapy is a gentle hands-on technique that supports the body's natural self-correcting abilities. The major focus of the work is on the head and sacrum. The craniosacral system is comprised of the meningeal membranes, including the dural tube, the bones to which they attach, and the cerebrospinal fluid that protects and nourishes the brain and the spinal cord. The cerebrospinal fluid also removes waste products from the regions of the central nervous system. In response to the rise and fall of cerebrospinal fluid production, the entire body, as well as the bones in the head, subtly move outward in flexion and inward to extension. This movement in the cranium is facilitated by the sutures between the cranial bones. These sutures contain connective tissues as well as vascular networks, nerve plexuses, and receptors. The sacrum, too, needs to move

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freely in flexion and extension in order for the dural tube and cranium to function properly, according to John E. Upledger, D.O., O.M.M., developer of CranioSacral Therapy.

To understand what orthodontics has to do with the craniosacral system and the body in general, it is helpful to review the anatomy involved. The upper teeth are attached to the maxillary bones that form the major part of hard palate. In turn, the hard palate attaches to the sphenoid, a butterfly-shaped bone that, along with the occiput and petrous temporal bones, form the base of the skull. The skull is connected to the neck and the rest of the spine, down to the sacrum. The lower teeth are connected to the lower jaw (mandible), which meet the paired temporal bones of the cranium forming the temporomandibular joints in front of each ear. CranioSacral Therapy practitioners use the cranial bones as handles to release restrictions in the membranes attached to the bones. This enables the cerebrospinal fluid to flow properly. Because so many bones are affected by orthodontics, the interrelationship between orthodontics and CranioSacral Therapy seems clear.

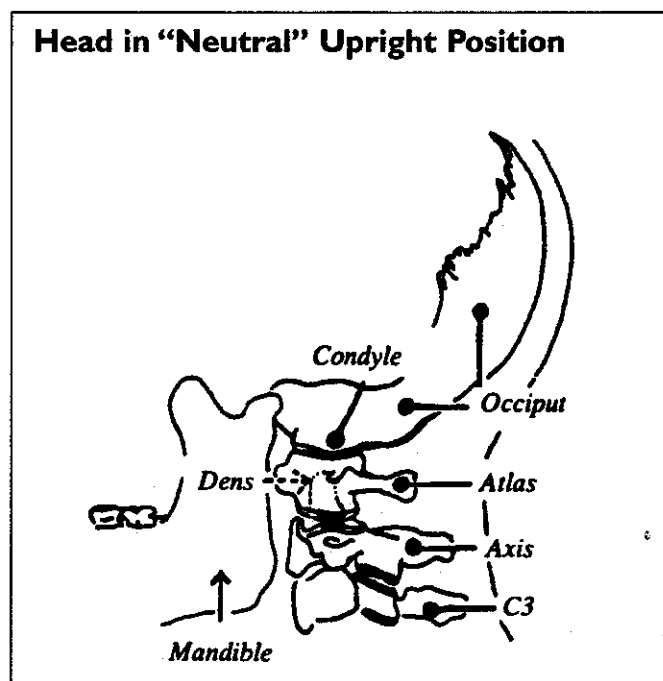
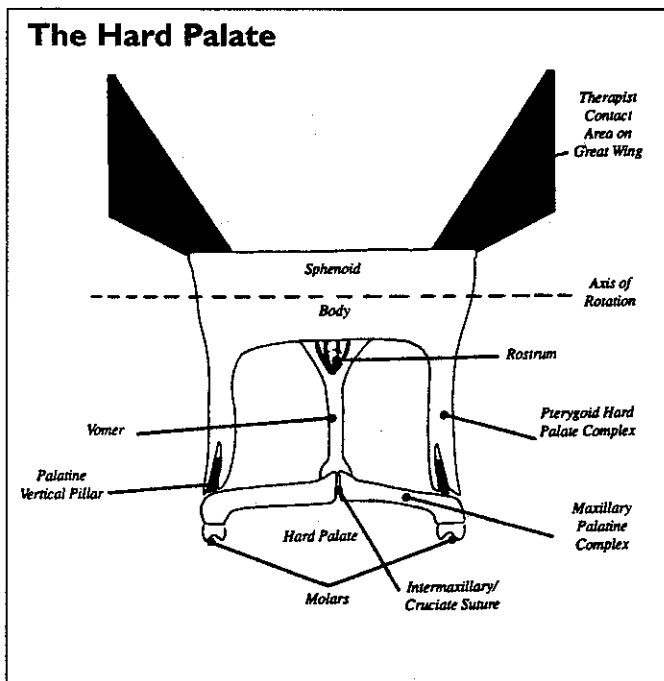
With CranioSacral Therapy, facial structures and tensions in my clients who previously had orthodontic treatment shifted and changed. They reported that their heads felt lighter as the cerebrospinal fluid moved properly through the dural tube and membrane system. There was cessation of low back pain and

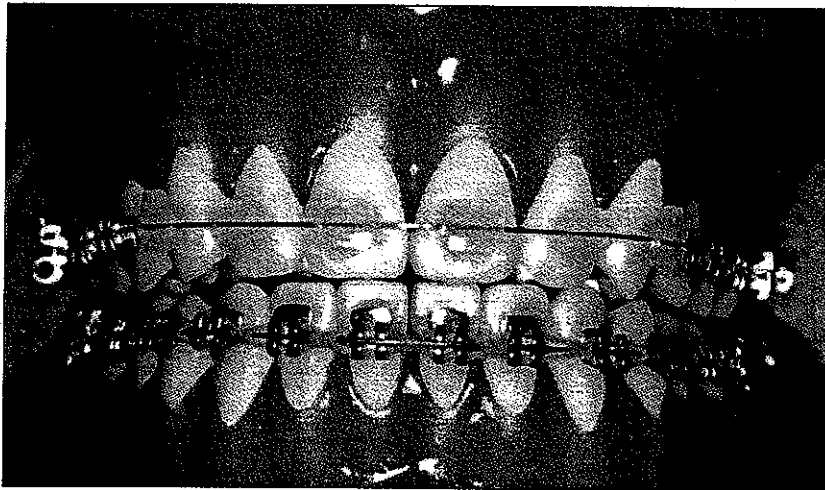
concurrent sciatica. Neck and headache pain lessened, and in some cases disappeared. Symptoms of TMJ syndrome improved and mood swings appeared to stabilize.

Medical and dental students generally are not educated in the movement of the cranial bones or the craniosacral rhythm. They are taught according to the British anatomical model—that the cranial bones do not move; therefore, the jaw moves in relation to a fused skull. These beliefs have resulted in braces being applied in such a manner that the craniosacral rhythm is stopped or interrupted by restricting the rhythmic subtle movements of the mandible and maxilla. Craniomandibular symptoms can be created by the use of many appliances such as arch wires, headgear, retainers, dentures, fixed prostheses, or any other device that crosses the midline and stops the flexion and extension of the maxillae. The maxillae move as the rest of the body does in flexion and extension, bending slightly at the midline of the palate. If the maxillae are restricted, the craniosacral system is at least partially restricted. Dentistry can have a positive or negative affect on the craniosacral system; therefore, dentists and orthodontists need to come to the awareness that dentistry and the craniosacral system are very interconnected to each other.

In order to avoid restriction patterns and other dysfunctions in the body becoming permanent, intervention must occur after the braces are removed. Using CranioSacral

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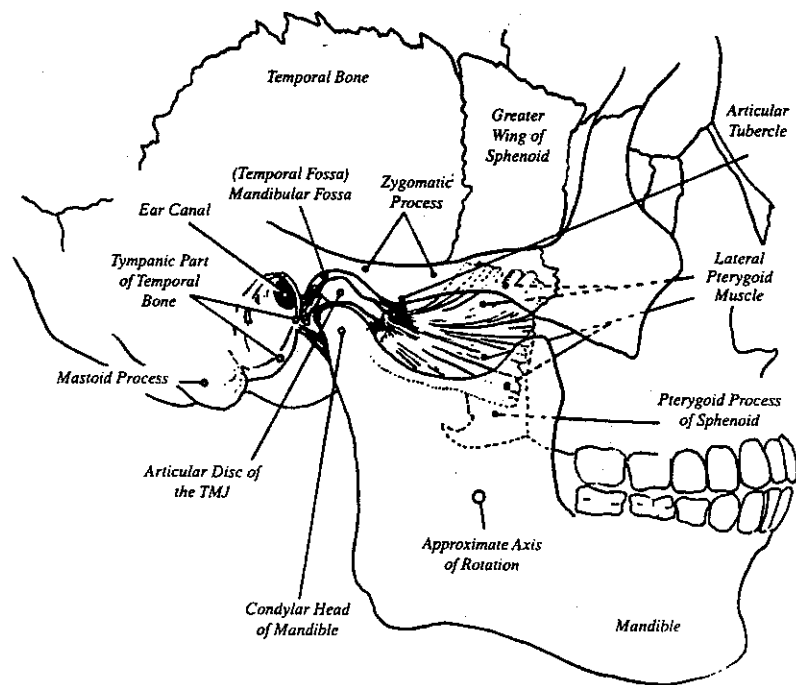




**Ceramic and metal braces with arch wires.**

*Photo by Dr. Robert Iezman. Copyright free.*

**TMJ and Temporal Bones**



*(Please note — Disc and space in fossa exaggerated for purposes of illustration)*

Therapy techniques, treatment is done to the hard palate and the sphenoid, as well as any other restricted areas. Through these techniques, restrictions to the membrane tissues are removed, enabling the cerebrospinal fluid to flow properly.

Orthodontists are increasingly alert to the development of TMJ syndrome, which can have far-reaching effects on the body. Symptoms include: neck and facial pain; pain when chewing, closing or opening the mouth; headaches and migraines; ear ringing; ear pain and infections; clicking and popping in the joints; teeth grinding; and difficulty swallowing. Recently, there has been more recognition that the maxilla determines how the lower jaw aligns with the cranium, according to Dr. Lerner. Consequently, the goal in orthodontics today is treatment that balances the structure of the face and not just the teeth.

When the jaw is small and the teeth are crowding, orthodontists have traditionally chosen to extract teeth. Extractions historically have not led to stability, which then obligates orthodontists to provide long-term stable alignment. Today's orthodontists are not using extraction; instead, the teeth are ground where they contact each other. This approach, used particularly with adult patients, also has its critics. "Recent studies assessing long-term post-treatment results have indicated that relapse occurs in most cases. Contemporary orthodontics has no satisfactory solution to the problem of achieving long-term stability," according to Ravindra Nanda, B.D.S., M.D.S., Ph.D., and Charles J. Burstone, D.D.S., M.S. When the teeth are extracted in orthodontics, the orthodontist typically does not realize the connections between the bones and the craniosacral system, and may use the maxillae as a fulcrum. This can induce lesion and strain patterns in the maxillae and, by chain reaction, in other bones.

Orthodontics can have an effect not only on the bones in the head, but on other parts of

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the body as well. For instance, one side of the palate can get stuck in flexion and the other in extension. This can affect the sphenoid and the occiput creating dural tension that then transmits to the pelvis, which can in turn become less functional and imbalanced. If one side of the tissue around the midline bones (sacrum, sphenoid, mandible) becomes taut in relationship to these bones and the other side is slack, it can create problems such as scoliosis.

Another consequence of orthodontics can be an energy cyst trapped in the teeth or other adjacent body tissues. When an injury occurs, the force or energy of that incident may either dissipate or it may gather into what is called an energy cyst—a focused area of energy that is walled off from the rest of the body. Over time, the body adapts to this energy cyst and may establish compensating mechanisms. In CranioSacral Therapy, a releasing process is helpful in dissipating an energy cyst. For example, the CranioSacral Therapy practitioner places one finger on either side of the tooth and allows any residual

energy of the trauma locked in those tissues to release.

Releasing the teeth may change their position in the sockets, making room for other teeth to erupt. In some cases, CranioSacral Therapy has been helpful in eliminating the need for braces. Releasing my teeth—particularly the rear molars that took the brunt of the braces—was a major piece of the work I needed and memories of my orthodontics experience were recalled and released by this process.

### scope of the dentist's practice

Some dentists have integrated CranioSacral Therapy in their practices with good results. The effectiveness of CranioSacral Therapy, in particular for TMJ dysfunction, was addressed by the Colorado Court of Appeals when it considered whether CranioSacral Therapy was in the scope of dental practice. The decision, rendered March 22, 1990, states that: 1) TMJ dysfunction can be treated effectively with craniosacral manipulation; 2) any treatment that relieves pain or corrects a physical

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*Keeping Those Who Touch — In Touch*

# Massage Magazine



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condition occurring in the teeth, jaws, or adjacent structures constitutes dentistry (based, at least, on the Colorado statute); and 3) craniosacral manipulation and the treatment of TMJ syndrome are to be included in the practice of dentistry.

One dentist, Karl K. Nishimura, D.D.S., of Tustin, Calif., has taken this integration much farther and has developed Trauma Release Therapy (TRT). This method is based on the understanding that all living tissues of the body relate to each other. The mandible and teeth, therefore, may react to various difficulties such as scoliosis, or head or neck problems by shifting their own alignment. Traumas elsewhere in the body can cause teeth and the jaws to move to dysfunctional alignment even when teeth are not directly impacted.

Conversely, any changes that are made to the teeth can influence the rest of the body. If the teeth are not stable, the rest of the body cannot be structurally sound. In his practice, Dr. Nishimura uses fixed dental orthotics called *lifts* made of clear bonding material which attach directly to the teeth to rebalance them and by extension, rebalance the craniosacral system, the jaw, head, face, and even the rest of the body. In addition to the lifts, Dr. Nishimura uses TRT to make the orthodontic process more comfortable.

TRT may reduce disorders in the cranial or mandibular areas, increase stability from orthodontics by dealing with factors that relate to the etiology of malocclusions or address issues such as snoring, sleep apnea, clenching, teeth grinding, TMJ symptoms, and tongue thrusting. TRT may improve energy and body functions, lessen inflammation and pain such as low back pain and headache pain. Even mood swings appear to stabilize. TRT, like CranioSacral Therapy, supports the body in self-healing.

## leading edge treatment

There is a movement at the leading edge in orthodontics toward CranioSacral Therapy. Some dentists and orthodontists use CranioSacral Therapy or sacral occipital techniques (SOT) along with acupuncture.

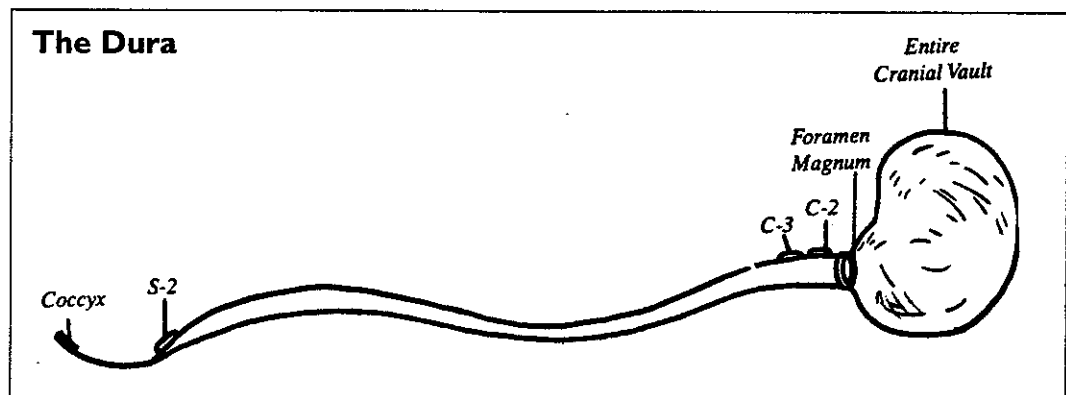
Of the dental practitioners interviewed for this article, some treat 80 to 90 percent of their patients with these techniques. Others use CranioSacral Therapy for their most difficult cases,

where appliances are not enough to bring about positive change. Some practitioners evaluate for CranioSacral Therapy as they go and base the use of the techniques on achieving optimal balance in the body. The practitioners I contacted found CranioSacral Therapy to be extremely effective.

Dr. Dwight Jennings, a general dentist whose practice is limited to pain management and orthodontics in northern California, has an interesting theory and process that dovetails with CranioSacral Therapy. The root of his premise lies in the trigeminal or the fifth cranial nerve. The trigeminal has the thickest density of any nerve in the body—28 per cent of the sensory cortex is devoted to this nerve. The trigeminal is involved in activating jaw movements and generally is the primary pain sensor for the head.

If the trigeminal becomes overactive from a misaligned bite, the entire body may be affected through multiple neural mechanisms. This nerve is known to have the ability to modulate all sensory input into the brain as well as controlling the blood flow. It also is the predominant influence on the activity level of the brain. Unfortunately, even with correction of alignment, many orthodontists believe that slight overbites (when the front teeth overlap the bottom teeth) are the correct treatment goal. These slight prescribed overbites can also cause the jaw muscles to over-stimulate the trigeminal nerve.

With chronic jaw problems, Dr. Jennings explains, the levels of Substance P (the neurotransmitter that is a chemical that passes information inside the brain) will rise. Substance P influences the hypothalamus and immune function and is involved in the stress response. Substance P is secreted primarily by pain sensory receptors. The *dura mater*—the membrane that envelops the spinal cord and brain—is the only known division of the meningeal membrane system that contains pain receptors. The trigeminal nerve system receives some impulses from pain receptors within the *dura mater*. When the frequency and intensity of these impulses and/or the secretion of Substance P



are increased, the trigeminal system may become hyperactive (facilitated.) This hyperactivity can be therapeutically affected by CranioSacral Therapy.

Indeed, Dr. Jennings uses CranioSacral Therapy as part of his practice, in addition to using plastic inserts that help the jaw realign. Dr. Jennings calls this part of his work jaw orthopedics, which he says can be effective in working with migraines, neck pain, middle ear infections, and other issues such as backaches, uneven leg length, hip and knee pain, scoliosis, chronic fatigue, and fibromyalgia. Other complaints that may be jaw-related include mood disorders, epilepsy, and multiple sclerosis.

Dr. Jennings' primary dissatisfaction with the dental profession is that they often fail to take functional records, relying instead on skeletal records. CranioSacral Therapy is a functional process and, as orthodontics does not have an orthopedic model, this difference in view must be resolved before CranioSacral Therapy can become integrated into orthodontic treatment.

## building a bridge

The results of my informal studies have led me to a clear conclusion that much more research should be done on the connections between orthodontics and CranioSacral Therapy. As more information becomes available, it is important to clients that these findings be made known. Despite the research and development over the last decade in the area of CranioSacral Therapy, many orthodontists do not know anything about this therapy or how it can serve as a positive adjunct to their treatment protocol.

If you are a CranioSacral Therapy practitioner, you can take some steps to build a bridge between your practice and the orthodontic community. First of all, the simple act of one CranioSacral Therapy practitioner communicating with one orthodontist can have a positive effect—take your local orthodontist out to lunch. Also, arrange to give presentations at local and regional orthodontic study groups or organizations in your area. At every opportunity, refer people to published studies that illustrate the effectiveness of CranioSacral Therapy. Be creative, but remember that dentistry is, by tradition, a conservative field and it may not be easy to find a common language. Tolerance and patience on both sides are important.

Orthodontists themselves play an important role in building understanding. Some dentists are open to or have attended courses in CranioSacral Therapy. Keeping an open mind, though, is perhaps the most important thing dental practition-

ers can do. I am glad to say that the orthodontists I spoke with for this article were very helpful, supportive of my research, and interested in the possibility of CranioSacral Therapy being used along with orthodontics.

One potentially touchy issue is that of fixed appliances. Not only are they attached to teeth for extended periods, but they also cross sutures—particularly the midline—which restricts cranial movement and even stops the cranial rhythm. As this article has illustrated, fixed appliances do not work well with the body's systems. Unfortunately, according to Dr. Jennings, most orthodontists use them and may be extremely reluctant to change this practice.

As a survivor of orthodontics, I'd like my clients to feel better. I'd like to see CranioSacral Therapy practitioners and orthodontists working together to benefit their mutual clients. I want to see orthodontic patients getting CranioSacral Therapy concurrently with their orthodontic treatment. Making CranioSacral Therapy an integrated part of orthodontics each step of the way can provide the client with an invaluable source of balance, support, and nurturance. ■

*A bodyworker and herbalist for eight years, Nancy Burke, B.A., L.M.T., maintains a private practice near San Francisco in El Cerrito, CA. Burke specializes in CranioSacral Therapy and acupressure, as well as Chinese and Western herbology. This article was adapted from her presentation at Beyond the Dura, a bi-annual research conference sponsored by The Upledger Foundation, October 22-26, 1997, in San Diego.*

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