Smart Life Forum

Dwight Jennings, DDS

Impact of the Bite on Health:
Influence of the Trigeminal System

Cubberly Community Center
4000 Middlefield Road, Room H1, Palo Alto, California

July 15, 2004 at 7:00 PM

Future Speakers:
(every 3rd Thursday of the month)

- **August 19 -** Garry Gordon, MD:
"Nutritional Uses of RNA Therapies for Management of Many Diseases"
- **September 16** - Frank Shallenberger, MD:
"Health, Aging and Disease -- It's All About Energy "
- **October 21** - Ray Francis:
"Beyond Health and Bill Grant on Health Benefits of Sun and Vit. D"
- **November 11** - (****Second** Thursday**) Julian Whitaker, MD:
"Orthomolecular Treatments for Chronic Diseases"
- **January 20 -** Parris Kidd, PhD:
"Phospholipids and Omega-3 Fatty Acids for Brain Vitality - Recent Advances"

Mini-Presentation by Stan Field on "Methyl Magic"

Stan Field is a long-time member of Smart Life Forum and has given many presentations. Stan has a BS in chemical engineering and an MS in meteorology. His chemical engineering career was in the oil and petrochemical industries. In 1993, he retired from Stanford Research Institute where he had been Director of Energy Programs. Since that time, he has been avidly studying biochemistry and physiology with the aim of staying healthy despite the ever-increasing odds of age-related decline

Why is Methylation Important?

Methylation (the chemical transfer of a CH3- group) is an essential metabolic process that takes place in each of the cells of the body. Adequate methylation is required to attain a state of maximum physical and mental health. Conversely, lack of sufficient methylation is associated with poor health that is reflected in conditions such as heart disease, stroke, cancer, loss of memory, depression, arthritis, autoimmune diseases and aging.

Events Leading to the Discovery of the Importance of Methylation

Beginning in the mid-1800s, European pathologists discovered that blood clots formed layers on the internal lining of arteries. These layers became calcified into tough, hardened arteries. That disease was known as "arteriosclerosis."

In 1922, methionine was discovered and it was subsequently found to be essential for human life. In 1932, homocysteine was discovered, but its importance was not known.

In 1933, at the Massachusetts General Hospital, an eight year old boy with a rare inborn error of metabolism, died of a stroke. An autopsy showed he had advanced arteriosclerosis throughout his body, especially in the arteries of the heart, neck and legs. This provocative case could not be explained and was buried in the archives and forgotten.

In the 1950s, s-adenosylmethionine (SAM) was discovered at the National Institutes of Health in the United States. SAM was made from methionine, adenosine triphosphate (ATP) and liver enzymes. Subsequently, it was found that SAM effects nearly all methylation reactions in our bodies. Then, in the 1960s in Ireland, the disease called

"homocystinuria" was discovered. Homocystinuria is a metabolic disorder characterized by the dislocation of the lenses of the eyes, chronic fatigue, mental retardation, psychiatric disturbances and thromboembolic episodes. Thromboembolism occurs when a blood vessel is blocked by a clot (embolus) carried into the bloodstream from the site of formation of the clot (as in major surgery). A clot in the carotid arteries leading to the brain is serious because it causes death in the brain.

In homocystinuria, the liver is unable to dispose of homocysteine because of a genetic error in the enzyme that converts homocysteine into cystathionine which would then be metabolized to useful products. Thus, the homocysteine accumulates to levels that are 10-100 times "normal." Homocystine (the condensation of two homocysteine molecules) also accumulates and it is detected in the urine as the body desperately tries to rid itself of homocysteine.

Also in the 1960s, pathologists (most notably Kilmer McCulley, MD) in the United States began to connect the dots accumulated over the previous century. The eight year old boy had probably died of homocystinuria. Subsequent animal experiments verified it.

So, what makes homocysteine rise to unsafe levels (> 7 micromols per liter)? The answer lies in eating too much protein and not having the vitamin nutrients to methylate the homocysteine. These discoveries gradually led to the realization that the transfer of a methyl group in many biochemical reactions was critical to achieving and maintaining good health.

The Good News: Methylation

Now that we know how some of the biochemical system works, we can take action to thwart the buildup of homocysteine and to encourage the formation of SAM. These reactions can be achieved with a source of methyl groups and other necessary biochemicals. The details of those reactions and the magic of other methylations will be explained at this meeting.

Main Speaker - Dr. Dwight Jennings

Dr. Jennings graduated from the University of Pacific school of Dentistry in 1976. He has taken extensive postgraduate courses in European orthopedic appliances, Crozat appliances, Neuromuscular Dentistry, acupuncture, craniofacial development, cranial therapy, pain management, orthodontics and sacral-occipital technique. For the past 25 years he has pursued extensive private studies and literature research in neurology in conjunction with clinical research on siezures and the effect of bite on immune function.

His practice is limited to nerological and orthopedic dental medicine and othodontics. His primary therapeutic modality is an orthosis (splint) which he uses to orthopedically align the mandible so as to quiet down the trigeminal nerve. He has pioneered the development of unique diagnostic tests (speech) therapeutic regimines, and physiopathological models which are causing a paradigm shift in the way medicine views this area.

IMPACT OF THE BITE ON HEALTH

Eating a compromised diet for multiple generations has place the human genetic pool in a situation where over 95% of humans have a compromised jaw alignment. Consequently, human health is being seriously impaired by a largely unrecognized condition. Multiple studies have shown that jaw dysfunction from a bad bite correlates very highly with chronic illness.

The nerve which provides sensory to the face is called the Trigeminal Nerve (fifth cranial nerve of twelve). About 28% of the area of the sensory cortex in the brain is devoted to it alone. This fact, in addition to other critical neurologic influences possessed by the trigeminal nerve makes the tonicity of this nerve a major modulator of many body functions, and hence health.

There are a number of pathological situations that can affect the tonicity of the trigeminal nerve, but the alignment of the bite is the most critical. The trigeminal nerve has approximately one hundred times denser pain fibers than other nerves in the body. This extreme sensitivity requires that the bite be aligned with the ut most precision - a level not appreciated by the vast majority of dentists (orthodontists included). Dentists have for over a century erroneously determined a correct bite from how teeth fit together, rather than from where the jaw muscles want the jaw to be. Hence, there is great confusion in the dental profession as how to assess a proper bite, causing jaw therapy to be

improperly done at times.

Treating jaw disorders has been the primary activity of Dr. Dwight Jennings, DDS for over 25 years. In his practice in Alameda, California, he has made many discoveries and gained insight into this poorly understood area of medicine. His clinical experiences in treating over fifty cases of epilepsy successfully, has led him to a number of new theories regarding the trigeminal systems role in health and disease. He has amassed considerable evidence as to the role of bite dysfunction in fibromyalgia, chronic fatigue, lupus, heavy metal toxicity, multiple chemical sensitivity, autoimmune disorders. His has developed a unique treatment approach with new theories of occlusion and biomechanical parameters which overlie occlusion.

His approach is called jaw orthopedics and he has also achieved a high success rate in eliminating neck pain, migraines, and cluster headaches. In addition, studies have shown that jaw therapy is about 95% effective in eliminating chronic middle ear infections. Jaw orthopedics typically includes the use of a dental appliance, such as a plastic insert, that gives the client a different biting surface to realign the jaw and reset the bite.

A problem with the jaw can create serious health conditions. A misalignment of the jaws, teeth, and face muscles, known as temporomandibular joint syndrome (TMJS) can definitely affect other parts of the body. The standard definition of TMJS is an obvious problem in the jaw. Here you have observable symptoms such as facial or jaw joint pain, clicking, popping, or grating sounds when the mouth opens, and difficulty opening the mouth wide.

But patients who have no facial pain may have hidden or covert TMJS problems. That is, there may be a problem in the jaw that produces no direct symptoms that they're aware of, but which may be affecting their health, elsewhere in the body.

TREATING TMJS TO REVERSE SEIZURES

Betty, aged 42, was involved in a car accident which led to her having many severe neck aches and headaches, sometimes lasting all day. Also, she had endured grand mal seizures about six times a year since she was three; she'd also had fainting spells as a child. After her accident, Betty tried physical therapy and chiropractic because she was resistant to using prescription medications due to the side effects. Over-the-counter pills, such as

Excedrin, Tylenol, and Aspirin, did not help her much.

To start with, Dr. Jennings did a jaw motion analysis on Betty. Viewed from the side, the jaw makes an arc as it swings down and closes back up. Typically, he wanted to see these lines superimposed on each other, on both opening and closing, but in somebody like Betty, whose jaw is dysfunctional, they'll often open on one side and close on another.

Another test, involving electrical readings on muscles, gives us information about the jaw muscles at rest in and function. From this he learned that when Betty clenched her jaw, one muscle (the anterior temporalis, which pulls your jaw back into your skull) was electrically firing much sooner than another (the masseter muscle, that closes your jaw). This meant that she had a musculoskeletal misalignment of the jaw. He made Betty a small wire appliance with little plastic pads that fit on top of her back teeth to build them up higher and allow her jaw to be supported in a more forward position. Eventually, this appliance will be adjusted to allow her back teeth to actually grow higher themselves, something that can't happen when the tooth surface is exposed to chewing and grinding.

Betty had one appliance for daytime use and different one for sleeping. This is because when you're awake your muscle tone keeps your jaw in a certain position, but when you fall asleep and lose muscle tone, your jaw tends to displace and you need appliance that will control your jaw position. Within three weeks, Betty's joint pain was better, and within six weeks, she couldn't remove her dental appliance without experiencing pain in the jaw muscles and joints. That was a positive sign that the appliances were working to correct the misalignment. After two months, Betty was mostly headache free. In all, it took about 18 months for her back molars to grow to the desired length.

Betty has one for five years now without a single seizure. In fact, she never had another seizure after the appliances were put in. She's still wearing them and probably will for 2-3 more years while her jaw is retraining.

CORRECTING THE JAW CAN REVERSE PNEUMONIA

Dr. Jennings treated an 8 ear old girl named Rosalind who had been hospitalized 12 times for chronic pneumonia. She had been on daily antibiotics, and monthly immunoglobulin (antibodies derived from a healthy human injections for 5 years) yet she continued to have infections. A cyst developed in one of her lungs and had to be removed. Chest X

rays showed that Rosalind had moderately severe scoliosis (sideways curve to the spine). Her father was a chiropractor and gave her frequent adjustments but her body was unable to hold them.

Of particular interest to Dr. Jennings when he met Rosalind was that she had a severe lisp. Some years ago he figured out that a person's speech is a clue to whether the jaw is lined up properly.

The fact that Rosalind had a speech defect told him she had a major jaw misalignment. To address this, he installed a plastic appliance in her mouth to slightly elongate her front teeth and to support her jaw. This immediately eliminated about 60% of her lisp. Rosalind wore the appliance for some months. To date, she has gone almost two years without any recurrent infections and she stopped antibiotics and immunoglobulin injections. In addition her spine is no loner unstable and holds the chiropractic adjustments.

EXAMINING THE TEETH AS THEY FUNCTION

Conventional dentistry and orthodontics have you bite your teeth together, then try to figure out what's wrong by studying the clenched jaw. In Dr. Jennings practice, he examines the teeth as the jaw functions in a swallowing, talking, chewing, or smiling. Rosalind's teeth with the jaws clenched were fine, but when her mouth was at rest or when she spoke, there was a gap between her upper and lower teeth. As yet, has has only partially corrected this because she is still a child and her permanent teeth have not all come in.

Rosalind's case implies that musculoskeletal stress from jaw problems appears to have a major impact on the immune system. There is clinical research that supports this idea. For example, the level of a brain chemical called Substance P, which transmits electrical information between brain cells, rises with chronic jaw problems.

Substance P affects immune function; it is known to influence the brain's hypothalamus and thereby interfere with both stress and immune response. He deduced that Rosalind's jaw misalignment negatively affected her immune system, making her susceptible to recurrent pneumonia.

MULTIPLE SCLEROSIS CAN BE CONNECTED TO THE JAW

Ellen, aged 40, originally came to Dr. Jennings with TMJS, including headaches and severe facial pain, of a year's duration. She hadn't been diagnosed with multiple sclerosis, but had received chiropractic care for severe numbness in her legs. He was able to eliminate Ellen's headaches and jaw pain with dental appliances which, as with Betty, were to correct the problem of back teeth which were too short.

Ellen wore the appliances for about three years, at which time her treatment with Dr. Jennings was finished. He suggested she continue wearing her appliance at night, but as time went by and she had no further symptoms, she stopped using it.

About 3 months later, Ellen developed severe numbness, tingling, weakness, and paralysis in her legs. During acute episodes, she couldn't walk. Conventional medical diagnosis said she had multiple sclerosis. She came back to Dr. Jennings after living with these symptoms for two months. He inserted appliances and from that moment forward – it's been two years now – she has had no more acute leg symptoms or walking problems.

Dr. Jennings contends that anybody with muscular-skeletal problems should be examined for jaw dysfunction. The problems may include tension headaches, neck and backaches, hip and knee pain, and uneven leg length or scoliosis. Most conventional medicine has not recognized the neurological connections between the jaw and the rest of the body.

A phenomenon that occurs fairly frequently after long term jaw dysfunction (in varying degree) is a situation in which the patient develops a generalized hypersensitivity syndrome. This condition is characterized by hypersensitivity to all sensory input, including light, noise, smell, taste, drugs, stress, etc. with a tendency to develop pain. Persons with this condition over react to all sensory input; hence they develop chronic pain and illness. Bite alignment therapy for these patients is essential yet severely challenging to all due to their hypersensitivity. The vast majority of dentists have no theoretical, neurological, or practical understanding of these patients.

TRIGEMINAL NERVE

The trigeminal nerve has many functions and neural connections that are mostly unknown

to the medical community.

1. Modulation of brain activity level- When over stimulated it can cause sleep disturbance, ADD, exhaustion, hyper vigilance, learning difficulties, etc.

2. Sensory modulation of spinal input- The trigeminal nerve modulates the ascending spinal signal through secondary neurons (this is why biting the bullet works). The trigeminal modulates both visceral and somatic sensory information.

3. Vascular supply to the brain- This is why strong stimulation of the trigeminal through head trauma often causes a person to become unconscious. Covert trigeminal stimulation can cause fainting spells, positional hypo perfusion, cognitive dysfunction, vertigo, TIA, ADD, etc.

4. Metabolic homeostasis modulation- Basic brain research has shown that the trigeminal has the ability to modulate nutrient levels in the blood. Through this influence trigeminal disturbance can induce a wide variety of disorders, as has been verified by treating asthma successfully with jaw orthopedic appliances.

5. Limbic modulation- The trigeminal modulates all sensory information to the limbic brain. Consequently it has a major influence on emotions and the neuroimmune complex. Hyperactivity in the trigeminal nerve can cause anxiety, depression, anger, phobias, eating disorders, hyper and hypo immune states (autoimmune diseases), etc.

6. Systemic muscle tonicity- Jaw alignment sensors (proprioceptors) modulate the golgi tendon apparatus systemically. In laboratory animals, when the bite is ground down on one side, they all develop severe scoliosis (spinal curvature due to increased muscle tension).

7. Vestibular modulation- Equilibrium disturb-ances as well as dizziness are frequent symptoms that correct with jaw orthopedic therapy. Trigeminal disturbances affecting the vestibular system can cause a large number of neuro-developmental disorders (ADD, autism, etc.)

8. Chemoreceptors in the nose- Very few people seem to know that we have two noses: olfactory and trigeminal chemo-receptors. Olfactory is discriminatory and trigeminal is modulatory of body functions. Trigeminal dysfunction leading to generalized hypersensitivity is the typical situation causing multiple chemical sensitivity syndrome.

9. Modulation of senses- Trigeminal modulates sensory input to the brain through multiple pathways. Hearing, smell, taste, and vision can all be effected by trigeminal tonicity. This can lead to a number of disorders, including loss of taste, smell, hypersensitivity to noise, light, etc.

10. Predominant influence on substance P levels- The trigeminal system is the predominant influence on substance P levels in the body, the neuropeptide which transmits pain signals to the brain. This is due to the massive amount of pain fibers within the trigeminal nerve and other pathways. Substance P, unlike regular neurotransmitters, has no uptake mechanism and consequently lingers in the body with endocrine like effects. It hyper sensitizes all sensory neurons, mediates the stress response, and the inflammatory response. This would suggest that jaw alignment should be assessed in all inflammatory conditions (irritable bowel syndrome, iritis, bladder inflammation, etc).