

The Dental Distress Syndrome Quantified

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The W. B. Saunder's Medical Dictionary defines a syndrome as a complex of symptoms; a set of symptoms which occur together; the sum of any morbid state.¹

Research has demonstrated that excessive dental distress routinely coexists with a pattern of chronic symptoms that are found throughout all systems of the body.^{2-21,31,32} These problems quite routinely normalize when the dental dysfunction is eliminated.^{8,15,30,32,38,43,52,53,88,89} Why?

There appears to exist a controlling relationship within the body that puts the dental system into a causative role of symptomatology, where a dysfunctioning dental occlusion creates ill-effects throughout many distant areas of the united body. Fonder has termed this the Dental Distress Syndrome.²⁰⁻²³⁻³²

Seemingly scientists have not fully digested all of the discoveries that have appeared in the medical literature, or they have simply brushed aside very important findings that did not fit into preconceived ideas.

Embryology

The aspect of human embryonic development that this treatise will zero in on is the origin of the exquisite bodily control system and the dental role in this process.

The body's control system is seen developing during the 4th week of embryonic life. The neural plate folds into a tube which detaches from the general ectoderm and creates the bodily control system as developed from the cells of the neural crest and tube.^{22,32,40,42} The neural crest cell derivatives are found throughout the body. Basically they gather information from the outer and inner aspects of the body, and feed it into the neural tube derivatives which are designed to monitor and direct the quadrillions of cells of the united total person.^{20,21,32}

According to Netter's illustrations²² and embryonic text books,⁴⁰⁻⁴² the brain and central nervous system develop from the neural tube cells. These "control derivative" cells also form the master pituitary gland, the midnose, premaxilla and four maxillary incisors. The neural crest cells produce the balance of the nervous system - the satellite cells, golgi cells, Schwann cells and all sensory receptors; the rest of the hormonal system; and the remaining parts of the dental system, with the exception of the tooth enamel, which is ectodermal in origin.^{11,22,23}

These three systems, for bodily control, are intimately related in origin, and are associated throughout life in all bodily functions, in health and in disease.^{20,21,40,42}

Penfield and Rasmussen, a half century ago demonstrated that almost half of both sensory and motor aspects of the brain are devoted to the "dental area." So, approximately half of the programming of the computer-brain, that runs the body, comes from the dental system.^{8,11}

Interestingly, mix-ups have occurred in the organ development from the embryonic crest and tube cells.⁶⁴ Occasionally a tooth is found in a female endocrinal tumor.

Medical science looks upon the body as being mostly motor. Our findings coincide with Brockman, that the body is mostly sensory.⁹⁰

Mandibular Function

To better understand how the dental system can effect distant bodily alterations in disease and health processes, we must consider the 68 pairs of muscles above and below the mandible.²² Together these 136 muscles determine head, cervical, shoulder and jaw posturization during all of life's functional processes.

Our Dental Research Group of Chicago began studying the functional movements of the mandible during the 1940's.^{35,36} This research shed new light on mandibular and condylar movements.²⁹ A student of physics and engineering, Casey Guzay, put our findings into a sophisticated series of drawings entitled, The Quadrant Theorem.²⁸ As determined, the muscle controlled pivotal axis of the mandible occurs at the dens between the atlas and axis vertebrae,^{11,13,28,29}

Therefore, the mandibular dysfunction effects a disturbing posturing of C1 and C2.¹¹ These vertebrae are intimately related to spinal and head posturing.¹¹ How does the malposturing of these key vertebrae affect the spine and head?

Conclusions of the Dental Research Group of Chicago

Under the mentorship of Chet Frank the Dental Research Group of Chicago, beginning in the 1940's and continuing into the 1980's researched mandibular function. Jim Rikertts and others studied head plate x-rays at different openings of the mouth. Jack Stenger used cinefluorography to demonstrate mandibular, condylar, cervical and sot tissue position and motion during function, before and after vertical and support corrections. Fonder did bodily postural studies using full spine x-rays. Casey Guzay, a student of physics, medicine and engineering, put these research findings into a series of drawings entitled The Quadrant Theorem.

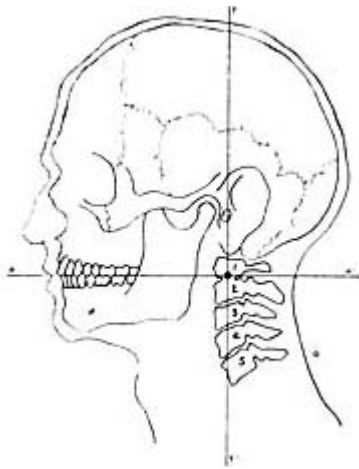


Fig. 1 The apex of the combined muscular control of the mandible in all functioning movements is located at the dens between the atlas and axis cervical vertebrae.

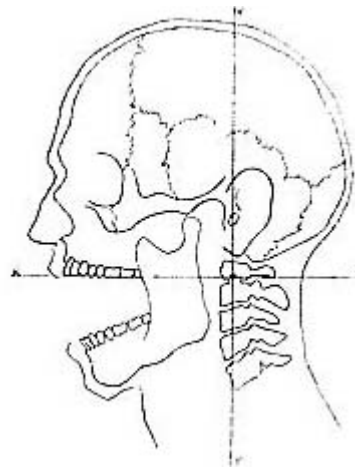


Fig. 2 When the mouth opens the 136 muscles above and below the mandible pivot the jaw at the xy-axis. The condyle translates forward and downward as the mouth opens.

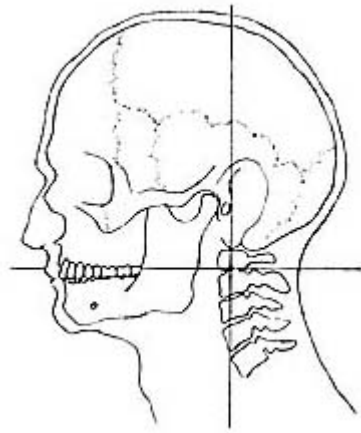


Fig. 3 When the mandibular teeth occlude above the x-x plane, a pathologic Curve of Spee exists and the head of the condyle moves superiorly and distally.

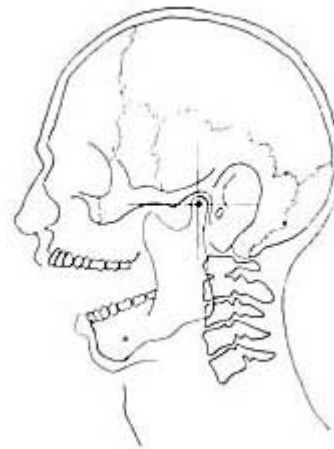


Fig. 4 If the mandible did actually pivot in the TMJ as has been accepted as fact, the mandibular positioning as herein depicted would be able to occur.



Fig. 5 Motor homunculus illustrating motor representation in Area 4 (anterior central gyrus). (After Penfield and Rasmussen, *Cerebral Cortex of Man*, The Macmillan Co.)

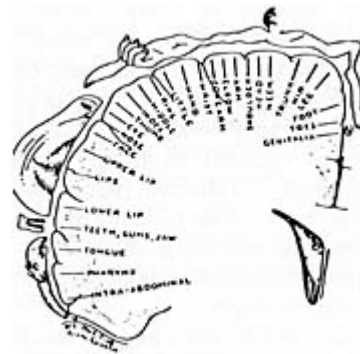


Fig. 6 Sensory homunculus showing representation in the sensory cortex. (After Penfield and Rasmussen, *Cerebral Cortex of Man*, The Macmillan Co.)

Posture

The dura mater is a thick and dense inelastic membrane that envelops the brain and medulla spinalis. The dura of the brain lines the interior of the skull adhering closely to the inner surfaces of the bones, the adhesions being most marked opposite the sutures and at the base of the skull.

The four processes of the dura mater: 1. the falx cerebri is narrow in front and is attached to the crista galle of the ethmoid; and broad behind where it is connected to the upper surface of the tentorium cerebelli. Its upper margin is attached to the inner surface of the skull in the midline as far back as the internal occipital protuberance. The lower margin is free. 2. The tentorium cerebelli is free at its anterior border; is attached to the transverse ridges of the occipital bone. The free and attached borders meet at the apex of the petros portion of the temporal bone, crossing one another and are fixed (forward) to the anterior and posterior clinoid processes. 3. The small triangular falx cerebelli is attached to the tentorium and the occipital bone. 4. The diaphragma sellae is a small circular fold.

The spinal dura mater is a loose sheath around the medulla spinalis. It is attached to the circumference of the foramen magnum and to the frontal and dorsal aspects of the atlas and axis; it is also connected to the posterior longitudinal ligament,

especially near the lower end of the vertebral canal by fibrous slips; it descends to the back of the coccyx where it blends with the periosteum.^{37,38}

The malposturing of C1 and C2, through the dental malocclusion and the resultant mandibular dysfunctioning, torques the dura mater because of the frontal and dorsal attachments to C1, C2 and C3. Torquing of the dura causes scoliosis, cervical hypolordosis (military neck), thoracic hyperkyphosis (hump back), excessive lumbar lordosis (sway back), rotation of the pelvis causing uneven leg length, uneven shoulder height, etc. It also aids in creating head tilt through the dura's attachment around the foramen magnum. The cranial bones, because of their multiple attachments to the dura can also be malpostured through this torquing stress of the dura mater.¹¹

When these 136 muscles are allowed to assume a more physiologically balanced relationship by the correcting of the malocclusion and improper vertical (free way space) the head immediately assumes an upright posture, the shoulders level off, the pelvic rotation ceases allowing the leg length to equalize, and overall bodily posture dramatically normalizes. These changes are instantaneous and can be reversed by altering the occlusal support.³¹

Cervical Vertebrae

Why is the malposturing of C1 through C4 so critical? This malposturing appears to be one of the most important but most often overlooked aspects of the sequelae of mandibular dysfunction.

We gain a better understanding of the complex interaction between the dental occlusion, TMJ kinematics, and cervical function with an overview of the structures involved.⁵³

- a. Rene Cailliet, Physical Medicine and Rehabilitation Director at U.S.C. states: "It's an axiom ... that the body follows the head ... You can realign your entire body by moving your head ... your head held in a forward position can pull your entire body out of line."⁶⁴ He goes on to explain that the vital lung capacity is reduced as much as 30%. The gastrointestinal system is affected, particularly the large intestine. When a hunched position is assumed, the body becomes rigid, and range of motion is affected. Since endorphin production is reduced, an increase in pain and discomfort results.
- b. Kapandji, in his classic text on spinal function states, "The anterior muscles of the neck ... act as the long arm of a lever ... they are powerful flexors of the head and cervical column ... flattening the cervical column."⁶⁷
- c. Numerous investigators describe the effect of altered mandibular position on cranial posture.^{10,13,23,31,53} forward and lateral head position changes the mandible, hyoid bone, and tongue.^{73,76} It compresses the upper cervical facet joints causing muscular nerve entrapments.²³ Nerve root compression or posterior vertebral facet irritation or restriction result in peripheral entrapment neuropathies.⁷⁷⁻⁸⁰ One common entrapment is the greater or lesser suboccipital nerves that pass between the occiput and atlas.²⁰ This may cause headaches or refer pain to the facial region.⁸¹
- d. Concentrating on the cervical apophyseal joints, we observe the role of the mechanoreceptors that dominate the vestibular system in relation to the reflex regulation of static posture and gait.^{82,83} If you place a cervical collar, it may cause the patient to stagger or lose positive control of the extremities.⁸⁴ The density of mechanoreceptors in the human are greater in the cervical apophyseal joints than in other levels of the vertebral column.⁶³ Cervical abnormal functions in aged people produce subjective and objective disturbances of posture and gait, known as senile dysequilibrium.^{85,86}

- e. The cervical mechanoreceptors also have a potent effect on eye control, speech, and manual dexterity.^{63,85}

Minutes after physiologically balanced molar support is provided at the proper vertical the head, shoulder, spine, and pelvic posturization begins normalization.³¹ The blood flow to the head, hands, and feet doubles and even quadruples when measured volumetrically as well as thermally and colorimetrically.⁸⁹ Chronic scalp and leg sores of many years duration that have not responded to conventional medical care heal in a matter of a couple of weeks (improved blood supply).¹⁰⁻³¹ Psoriasis, asthma, constipation, PMS, and numerous etiology unknowns normalize quite routinely, if the disease(s) have not progressed beyond the point of no return.^{10,88}

This research has been replicated by the Russian,³⁹ Japanese,^{12,13} German, Canadian, American and other individual medical and dental scientists, dental groups and medico-dental research teams.^{14,15} The Japanese medico-dental research team of fifteen specialists treated over 6,000 patients who had not responded to conventional medical care. (Dr. Maehara, the group leader, says that his success rate is 90% when proper dental support is provided.) These cases included Parkinson, epilepsy and all of the above.¹³

The Control System of the Body

Is Formed From

The Neural Tube Cells *And* The Neural Crest Cells

| | |
|---|---|
| The Brain Spinal Cord, and the Central Nervous System | All Sensory Receptors: Golgi, Sattelite, Schwann, End Organ Cells, Etc. Plus the Remaining Nervous System |
|---|---|

| | |
|----------------------------|-------------------------------|
| The Master Pituitary Gland | All Remaining Hormonal Glands |
|----------------------------|-------------------------------|

| | |
|--|--|
| The Midnos Premaxilla, and Four Maxillary Incisors | The Balance of the Dental System (Except the Tooth Enamel) |
|--|--|

DDS patients complain of headache, dizziness, hearing loss, depression, worrying, nervousness, forgetfulness, suicidal tendencies, insomnia, sinusitis, fatigue, indigestion, constipation, ulcers, dermatitis, allergies, frequent urination, kidney and bladder complications, cold hands and feet, body pains and numbness and a host of sexual failures and gynecological problems. Elimination of the DDS reverses these chronic problems, the body chemistry and blood picture normalize. Even backward students when treated rapidly advance in classroom productivity often becoming honor students.

A growing entourage of health professionals now accept the fact that Dental Distress is the dominant stressor of the body and that a host of medical etiology unknowns will be understood when dental and medical researchers unite, for Selye's GAS (Selye, 1936, 1956, 1974) and Fonders¹⁰⁸⁻¹¹¹ DDS (Fonder, 1965, 1975, 1977, 1979, 1962, 1968, 1971, 1973) are one and the same syndromes.

According to the late A.B. Leeds, (Leeds, 1955, 1977) an internationally known physician, who devoted four hours daily for study throughout his entire medical career, who pioneered in orthomolecular and biomedics in the 1940's, introduced the Menninger brothers to psychiatric medicine, at an advanced age was made the chief consultant to the American Armed Forces in World War II, consultant to the Atomic Energy Commission, tended Roosevelt, Eisenhower, Patton, Stalin and other international figures, then spent the final decade of his life researching over 120 chronically ill patients in collaboration with a dental colleague, the late Willie May, to quote, "When this treatment is fully researched and understood, it will be capable of revising every diagnosis, treatment procedure and prognosis in the medical world." Other statements of this medical intellectual are, "This is the greatest treatment of chronic symptoms that I have come across in over fifty years of medical practice;" "This will be a focus around which all modalities in the medical world can begin to agree" and "If this treatment is done at middle age, it should extend life at least ten years."⁹¹⁻⁹⁴

When Leeds came to May for dental treatment and was exposed to this removal of stress, he had to pause once or twice in completing a sentence. He was so revitalized after a few weeks that he doubled his patient load. As physicians and dentists observed May in his dental treatment, Leeds would give a medical commentary on why these bizarre symptoms were present in the stressed patient and why they disappeared when normal jaw posture was provided, voiding the DDS.

Spinal Posture

The importance of such a balanced relationship of dental structures cannot be overemphasized. There is a reciprocal relationship between jaw posture and spinal posture - a condition upon which body comfort and health are dependent (Fonder, 1965, 1975, 1976, 1977, 1979, 1962, 1963, 1968, 1971, 1973; Khoroshilkina, et al,¹⁰¹ 1964). The correctness or incorrectness of either of these postures seriously affects the functioning of the other.

The jaws, the teeth and their supporting tissues, the muscles of mastication, and the temporomandibular joint are all components of the masticatory system. However, these are not the only structures necessary for such activities as speech, respiration, chewing and swallowing. Whole systems of muscles in the head, neck and shoulder girdle are also affected by these actions. In the neck, the hyoid bone forms another integral part of the dental mechanism. On a smaller scale, the hyoid bone resembles the U-shaped mandible, and together with the mandible and the anterior part of the shoulder girdle, forms a series of bow-shaped structures with interconnecting musculature. This musculature works in conjunction with the musculature above the mandible, and together the two create a suspensory apparatus that controls mandibular function and aids in head balance.

Besides the hyoid mechanism, the neck contains vital circulatory vessels, the the trachea, larynx, and thyroid and cricoid cartilages with their accompanying musculature. Taken together, these structures provide a link between the head and chest systems. Therefore, if there is maladjustment of any of these structures because of incorrect positioning or functioning of the mandible, reactions will be visible in the interruption of proper function in swallowing, speech, hearing, breathing and other processes.

Feedback

It must be emphasized that each movement of the dental mechanism reinforces the previous patterns registered in the brain. When we consider that approximately half of the sensory and motor cortices of the brain are devoted to the oro-facial area (Penfield & Rasmussen, 1966¹⁰⁴) the significance of the accuracy of the feedback information that is stored in the computerized brain and used in asserting functional commands to the entire body gains in importance. Also, let us consider that the facial muscles of expression accurately and instantaneously register happiness, anger, fear, elation, animosity, love, hatred,

sadness, pain, sickness and all attitudes of the body. If there are malalignments in the oro-facial mechanism, the impulse patterns will transmit stressful messages, eventually to all parts of the body. Clearing up these pathological impulses through the correction of the mandibular posture problem offers possibilities for the elimination of many chronic and seemingly unrelated conditions. Distress can be replaced by eustress so that the GAS can build up body tissues, heal previous injury, and even retard the aging process, since all structures are now functioning with only the stresses for which they were designed.

We swallow twice a minute when awake and once every minute during sleep. If we subjected the teeth to only one pound of pressure per square inch with each act of swallowing the dental structures would absorb approximately one ton of intermittent pressure daily. However, the average person exerts at least three and one half pounds of pressure during swallowing, while the habitual clumper and nocturnal bruxer far exceed this norm (Garliner, 1973¹⁰³). So stressful malocclusion results in many tons of intermittent dental distress, in erroneous feedback, that constantly upsets the balance of the body's systems until the dentist intervenes. Such is the importance of the stimulus sent out by the chewing mechanism that one physician's study (Leeds, 1977^{93,94} stated that if an individual made sure his dental structures were in correct order by middle age, he could look forward to approximately ten additional productive years.

The 1973 Nobel Prize In Medicine and Physiology

Dentistry and medicine should take notice of the research work of Tinbergen, ⁹⁵ winner of the 1973 Nobel Prize for medicine and physiology. His paper read before the Nobel dignitaries December 12, 1973 is associated with dental stress findings. Nobel laureate Tinbergen (1973) refers to Alexander's (1932)⁹⁸ normalization of body musculature. By removing poor-posture-distress a variety of somatic and psychic illnesses are thereby eliminated. Barlow (1973)⁹⁷ describes the successes of Alexander's pupils as the "rag bag" of rheumatism, arthritis, respiratory problems, asthma, high blood pressure, circulation defects, heart conditions, gastrointestinal disorders, gynecological conditions, sexual failures, migraine, depressions, depth of sleep, overall cheerfulness, mental alertness, resilience against outside pressures, refined manual skills and a wide spectrum of disease, both somatic and psychic.⁹⁸

John Dewey (1932)⁹⁹ stresses the importance of Alexander's therapy as does Aldous Huxley (1937)¹⁰² and more convincingly such renowned scientists as Coghill¹⁰⁵ (1971, Dart¹⁰⁶ (1974) and the great neurophysiologist Sherrington¹⁰⁸ (1946).

Recent neurophysical discoveries make the Alexander therapy more plausible such as the key concept of reafference, the discovery of van Holst and Mittlestaedt¹⁰⁷ ((1950).

Tinbergen and others are searching for the primary cause of bad posture. The physiologic dentist has long known that spinal posture and upper respiratory problems are routinely present in the patient who has maloccluded teeth and that conditions normalize when this dental distress is eliminated.²⁻¹⁴

Fonder's Dental Distress Syndrome

I. Auriculotemporal Symptoms

A. Symptoms of the TMJ area and masticular manifestations

1. Crepitation 100%
2. Subluxation 100%
3. Pain or tenderness 100%
4. Disturbance in opening and closing "Z" wandering jaw 100%
(These four 100% symptoms are the basis for this study)

Oral Subgroup

- a. Numbness of and around the teeth 13%
- b. Aura of toothache 14%
- c. Dry mouth 18%
- d. Facets (worn flat surfaces) 89%
- e. Periodontitis (gum problems) 68%
- f. Burning sensation 14%
- g. Puffy and distended lips 9%
- h. Ropey saliva 64%
- i. Calculus deposits, which seem to increase with the severity of the malocclusion and are observed in some children

(Symptoms w, f, and g were observed in more advanced cases.)

B. Pathology of the ear (in one form or another) 100%

1. Otitis media (frequent among children, occasional in adults) -
2. Excessive cerumen (ear wax) 85%
3. Itching (occasional) 74%
4. Tinnitus (varies from ringing to roaring sounds) 92%
5. Ear aches (occasional) 23%
6. Vertigo (dizziness and loss of balance) 74%
7. Falling (sudden loss of static sense)
8. Hearing loss (typical pattern; severe loss frequent) 97%

C. Pain in the Head and Neck

1. Headache
 - a. Women (migraine - frequent, sinus - frequent) 99%
 - b. Men (migraine - infrequent, sinus - fairly common) 47%
2. Sensitive scalp (frequent among females)
3. Neuralgic pains (constant or intermittent) 82%
4. Nape of neck and shoulders (tired dull ache or numbness) 94%

II. Respiratory Symptoms

- A. Sinus and throat (symptoms constant except for fresh-air addicts)
 - 1. Post nasal drip 93%
 - 2. Habitual clearing of throat 84%
 - 3. Sinusitis (chronic with acute flare-ups) 86%
 - 4. Chronic colds 58%
 - 5. Laryngitis (chronic or only occasional) 17%
 - 6. Chronic sore throat (tonsillitis frequent among children)
 - Allergy Subgroup
 - a. Sneezing (occasional or spells) 57%
 - b. Hay fever 21%
 - c. Asthma 7%

III. Ocular Symptoms

Some symptomology of the eye is usually found. 84%

- A. Injection (very common)
- B. Iritis (occasional)
- C. Scleritis (occasional)
- D. Photophobia (frequent)
- E. Blurred vision (common in advanced cases)
- F. Itching (frequent)
- G. Burning (fairly common)
- H. Tearing (fairly common)
- I. muscle twitching below eye (periodic)

IV. Skin and Hair Symptoms

- A. Dry skin (hands and scalp - frequent, face and torso - less common) 93%
- B. Skin rashes (a common problem) 9%
- C. Dermatitis 6%
- D. Acne (frequent among teenagers) 6%
- E. Dry and brittle hair (common complaint of women)
- F. Diffuse hair loss (common among women)

V. Visceral Symptoms 94%

- A. Upset Stomach 59%
- B. Heartburn 27%
- C. Gas and/or puritis 29%
- D. Nausea 13%
- E. Constipation (occasional to chronic) 92%
- F. Loose Bowels (occasional diarrhea) 4%
- G. Bladder Infection (chronic among women) 26%
- H. Frequent micturation (requiring getting up nights) 29%
- I. Kidney infections (especially among women) 24%
- J. Bed wetting among children 8%

VI. Gynecological Problems 99%

- A. Irregularity (menstrual cycle) 99%
- B. Premenstrual tension 96%
- C. Cramps or pain (pre-menstrual or mid-menstrual) 97%
- D. Menstrual flow (heavy - then flows 5 or 6 days to 15) 94%
- E. Amenorrhea 4%
- F. Frigidity (usual onset after two children) 85%
- G. History of miscarriages and/or inability to conceive 51%

VII. General Symptoms

- A. Chronically tired (lowered hemoglobin, immature cells) 89%
- B. Increased nervous tension 86%
- C. Malaise 61%
- D. Restless sleep (awaken tired) 78%
- E. Numbness in hands (awaken with arm or leg asleep) 32%
- F. Cold hands and feet (poor circulation) 67%
- G. Back aches and leg aches (tired, ache-all-over feeling) 47%
- H. Thirsty (much water doesn't satisfy) 43%
- I. Restless nibbling at food (never satisfied)
- J. Blood (variations in count and quality; many irregularly formed cells; cell walls even thickness one week after treatment)
- K. Lowered hemoglobin
- L. Lower thyroid activity (an almost constant finding)
- M. Facial pallor
- N. Dull, non-sparkling eyes

VIII. Mental Symptoms

- A. Depression (especially during menstrual periods) 97%
- B. Easily irritated (temper loss especially among men) 86%
- C. Worrying (routine among women especially) 84%
- D. Melancholia (not uncommon)
- E. Hypochondria (especially frequent among females)
- F. Excessive dreaming (disturbing dreams, rarely pleasant)
- G. Forgetfulness (common complaint)

IX. Body Posture Problems

- A. Scoliosis (a constant finding)
- B. Kyphosis (Hump-back)(especially in older people with closed bite)
- C. Lordosis (Swasy-back) (especially among children before the molars erupt to give posterior tooth support)
- D. Uneven shoulder height
- E. Head tilted to the higher shoulder
- F. Rotation of the pelvis (an almost constant finding)
- G. Uneven leg length (almost constant)
- H. Rounding of the shoulders (not uncommon)
- I. Disturbed posture of the atlas and axis vertebrae (constant).

Postural problems are rather obvious before treatment. Upon closer observation one eye is often higher than the other and set slightly forward. One side of the face or jaw is sometimes overdeveloped. When balanced physiologic occlusion is established, these features will normalize, possibly due to the normal muscle tension being restored to these tissues.

Legend

Some of these symptoms may be common to any stress situation. However, the majority are present before treatment to relieve the DDS problem, and just as soon as proper occlusal support is provided, all of the aforementioned chronic problems cease to exist. As soon as the patient's posture normalizes enough for the occlusion of the teeth to settle into a new pathological relationship these symptoms begin to recur, usually in the reverse order of their disappearance.

If these findings were reported only by the author, the results might be suspect, but hundreds of physiologic dentists report these same findings.

Basic Anatomy

The essentiality of the role of the dental structures can be easily demonstrated through observance of basic anatomy. The jaws and spine are gathered into one basic system by the various fascia surrounding them, (Gray, Philadelphia) so that stress in one area is readily transmitted throughout the region. Any stress or muscle spasm in these areas is reflected in tension in the various fascial sheaths and their corresponding attachments. This is especially true with the masticatory system and the atlas and axis vertebrae in the neck since the masticatory muscles are the most powerful, the most freely movable and the major weight-bearing mechanisms in the head and neck system. Now research has shown how closely these two structures, the jaw and the atlas and axis vertebrae, are linked. Strain or pressure on one will produce a correlative attempt at adjustment on the part of the other. This correlative adjustment in the body's systems is evidenced in the consistency which research has demonstrated of short or reactive leg length and the laterality of axis to the maloccluded side of the temporo-mandibular joint (Berkman,⁹⁶ 1971). The intricately linked web of the muscles of the body result in reaction of neck muscles when one muscle is changed in the leg and when a neck muscle is released, the toes are affected even when one is lying down (Tinbergen, 1973).

Elimination of Problems

This correspondence of the musculature and the autonomic nervous system explains the marvelous effects which are achieved when the dental mechanism is properly aligned and balanced (Fonder, 1975, 1976, 1977, 1979, 1963, 1962, 1968, 1971, 1973). Such adjustments often are the initial step in elimination of such obvious problems as difficulty in swallowing, asymmetrical facial features, one-sided chewing, migration of the jaw in closing, taut muscles in the cervical area, tension in the nape of the neck, arthritic conditions in the TMJ and ligaments and improperly-fitting dentures and the repetitive sore-spots. So, it will no longer come as a surprise that the long list of remissions of systemic and mental problems that Nobel laureate Tinbergen and other renowned scientists attribute to Alexander's muscle therapy are

routinely mitigated by physiologic dentistry. This is demonstrated by our research.

Background History

The author began his practice of dentistry doing full mouth rehabilitation on all patients. Those not interested in such thorough care were taken out of pain and referred elsewhere for treatment. No one was considered a neurotic and solution to the problem was earnestly sought. Thusly, research and patient treatment were carried on in private practice and at three dental educational institutions.

During the early years of providing "ideal" dental occlusion and relationship of dental structures, patients would say, "Doctor, since you fixed my teeth I no longer have the numbness in my hand ... or arm or face ... no longer have headaches or backaches ... the aching in my legs stopped ... my sinusitis is gone ... my upset stomach and ulcer no longer bothers me ... I sleep well ... no longer tired ... quit having terrible nightmarish dreams ... no longer have cold hands and feet ... my jaws are no longer tired all the time, et cetera." Their statements were ignored believing that their problems had been psychosomatically induced and that fastidious treatment and loving care had psychologically eliminated their problems. Only after the author's realization that his own dental distress was creating similar problems that the medical experts were unable to solve was a new dental practice established in a distant location and set up for controlled research studies on all patients to determine the affects of dental distress on the different areas and systems within the body.

Early Discoveries

The first area to be researched in this painstakingly thorough manner was hearing loss and ear problems as related to malocclusion of the teeth. A pilot study demonstrated a pattern loss of hearing in every malocclusion patient tested that was similar to the "aviator's notch" type hearing loss. Subsequent testing of 3,000 consecutive ears of patients with dental malocclusions demonstrated a loss in hearing acuity in addition to this notch-type hearing loss in every male and female adult and child tested. Almost routinely the notch-type hearing loss was eliminated when the malocclusion was corrected and the hearing usually was restored to normal, with few exceptions, by establishing a physiologically balanced relativity of dental structures.

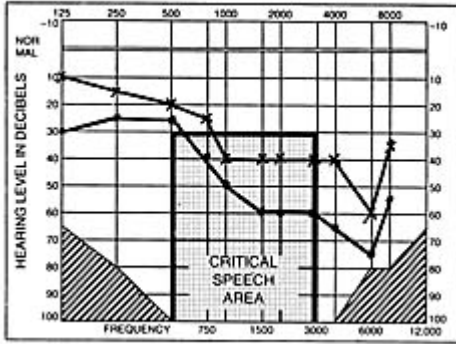


Figure 21 - Audiometric test showing typical Aviator's Notch type hearing loss found in all dental malocclusion patients.

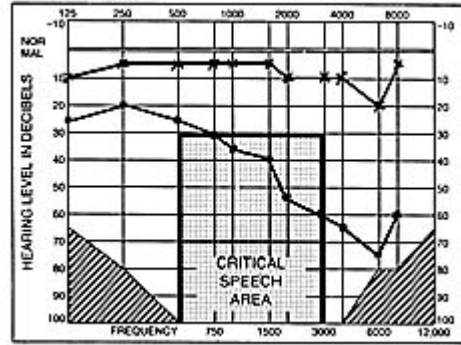


Figure 22 - Audiometric test showing typical Aviator's Notch type hearing loss found in all dental malocclusion patients.

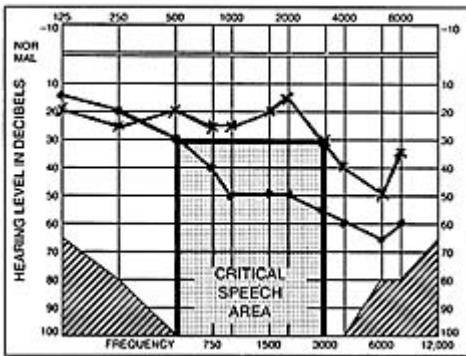


Figure 23 - Hearing acuity before definite dental treatment.

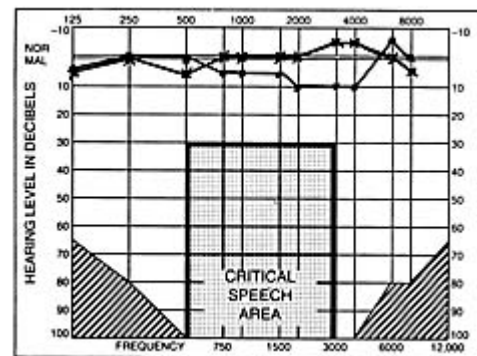


Figure 24 - Hearing acuity one month after dental distress was eliminated.

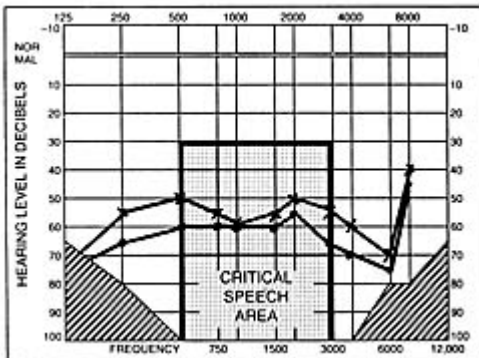


Figure 25 - Hearing acuity before definitive dental treatment.

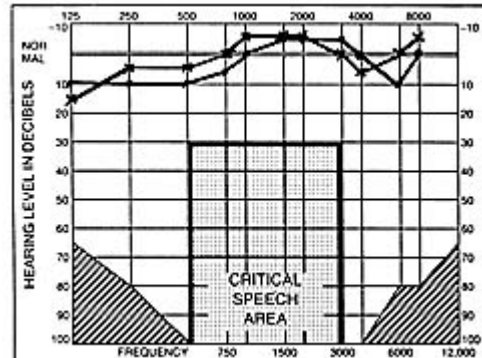


Figure 26 - Hearing acuity one month after dental distress was eliminated.

Statistics from a study of gifted and backward elementary school students demonstrating the relationship of health problems, I.Q., and educability to the occlusion of the teeth and resultant stress.

Remedial Group

100% were working below level
 83% had ear and hearing problems
 83% had respiratory problems
 84.4% had systemic problems
 31.9% had serious psychological problems
 45% had over 20% hearing loss
 100% had malocclusion problems and varying degrees of psychological problems

Enrichment Group

100% were working above grade level
 4% had ear and hearing problems
 6% had respiratory problems
 5% had systemic problems
 0% (none) had severe psychological problems
 2% had severe hearing problems

The enrichment group had significantly better occlusion and were considerably less disturbed emotionally.

Statistics from a study of high school students demonstrating the relationship of pain and respiratory problems to the occlusion of teeth.

52% had shooting head pains
 84% experienced facial pains
 59% had scalp and temporal tenderness
 70% had neck and shoulder pains
 65% experienced backaches
 65% had chronic sinusitis
 15% had frequent acute sinusitis attacks

Normal Occlusion Group

22% experienced shooting head pains
 7% had facial pains
 26% had scalp and temporal tenderness
 48% had neck and shoulder pains
 33% experienced backaches
 30% had experienced sinusitis
 0% (none) experienced acute sinusitis

Sinusitis and Upper Respiratory Problems

It soon became apparent that patients with maloccluded teeth had sinusitis and attendant respiratory problems. An occasional patient did not demonstrate the co-presence of malocclusion and sinusitis. Two years passed before it was discovered that "fresh air addicts," who either slept with the window open or were out in the fresh air much of the time, developed a resistance to local infections within the sinus cavities. However, almost without fail, these malocclusion patients exhibited the other syndrome of disorders throughout the soma and psyche that the malocclusion patients with sinusitis developed.

Tonsillitis

Studies were done on children with grossly enlarged and infected tonsils, who were chronically ill. Although it is difficult to do exacting work on youngsters, there was a dramatic reversal of the health picture and tonsillar size within a two-week period following minor corrections of the dental occlusion on a high percentage of the treated children. Some dramatic cases, who had been repeatedly placed on antibiotics for the chronic tonsillitis and ill-health problems to little avail, experienced a complete remission when the dental malocclusion was eliminated. Others scheduled for tonsillectomies and removal of adenoid tissues were declared normal by the examining physician two weeks after dental treatment to correct the occlusion of the teeth.

Study of Two Extreme Groups in a Large Elementary School

An interesting and revealing study of the gifted students and the backward group needing remedial help in order to pass to the next higher grade level was finalized during a summer school session in which the gifted group explored the arts, sciences and a foreign language and the backward group received remedial help in mathematics and reading.

Exhaustive preparation was done for this study over a two year period. Repetitive I.Q. testing using three different national testing procedures was done on all of the children involved in the study, health tests, hearing tests, dental examinations, psychological evaluations etc. by competent people in the fields. In questionable areas, such as psychological evaluation, several people evaluated each child. The final research statistics were calculated by an independent statistician.

The conclusions clearly demonstrated that the gifted students had relatively ideal dental profiles and the backward group had poor dental health profiles with missing teeth, malocclusions, etc. Hearing tests, health profiles, psychological evaluations, I.Q. testing, etc., followed the same divisional pattern.

Subsequent treatment of a number of backward students to eliminate the dental distress factors resulted in a dramatic reversal of the scholastic and health profiles of these children. Some of the treated children became straight A students, receiving such grades throughout their remaining elementary schooling, high school and college. One recently graduated with honors from a state university. Where there was thought to be a potential, the children usually blossomed when the dental distress was eliminated and their physical and mental health improved.

A Pain and Respiratory Study in a Large High School

Next a high school numbering over five hundred students was studied to determine head and neck pain, allergy, respiratory and auditory statistics in relationship to the dental health profiles of the male and female teenagers. The results showed a higher percentage of problems in all areas studied in the malocclusion group.

A Gynecological Study

Subsequent studies into endocrine, body chemistry, blood and other systems within the body demonstrated the influence of dental distress and the removal of this distress factor on these symptoms within the body. A very conclusive study was conducted on 329 mature females to determine the relationship of dental distress to gynecological problems, fertility, miscarriages, etc., with similar conclusions to the other studies. Finally, a random survey was made of the mature females treated in our center over the past years. A high school student was instructed to search our files to find several patients with long case histories. She was then instructed to fill out before and after charts from the before and after treatment cases histories on the first twenty-five treated patients. Next she was asked to contact a sufficient number of untreated patients to determine their present female health profile until she had twenty five control charts completed. The findings will shock the gynecologist who tells his patients that it is normal for "65 percent" of the females to have bizarre female problems.

These research and treatment results have been achieved by others. Approximately 150 members of the American Academy of Physiologic Dentistry and the American Academy for Functional Prosthodontics achieve comparable results to those herein reported. Stenger and his associates report some very substantial results with Notre Dame and Big ten football players. Frank and Guzey of the Denture

Research Group of Chicago handled more than 500,000 full denture cases, so the dental distress area has been well researched and it is surprising that the dental schools have not become more involved in dental distress research.

Chart A

| | Irregular Menstrual Cycle | Menstrual Flow Excessive in Amount and Duration | Heavy Black Clotting First Days of Menstruation | Pre-Menstrual Cramps and Backache | Infertile or History of Miscarriages | Depression | Irritability or Anxiety | Crying Spells | Headaches | Fragility |
|-----|---------------------------|---|---|-----------------------------------|--------------------------------------|------------|-------------------------|---------------|-----------|-----------|
| 1. | yes | yes | yes | yes | S | yes | yes | yes | yes | S |
| 2. | yes | yes | yes | yes | no | yes | yes | yes | yes | yes* |
| 3. | yes | yes* | yes | yes | no | yes | yes | yes | yes | yes |
| 4. | yes | yes* | yes | yes | yes 3 | yes | yes | yes | yes* | yes |
| 5. | yes | yes | yes | yes | no | yes | yes | ? | yes | yes |
| 6. | yes | yes | yes | yes | no | yes | yes | yes | yes* | yes |
| 7. | yes* | yes* | yes | yes | no | yes | yes | ? | yes | yes |
| 8. | yes | yes | yes | yes | S | yes | yes | yes | yes | X |
| 9. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 10. | yes | yes | yes | yes | no | yes | yes | yes | yes | no |
| 11. | yes | yes* | yes* | yes | yes | yes | yes | yes | yes | yes |
| 12. | yes* | yes* | yes | yes* | yes 2 | yes | yes | yes | yes | no |
| 13. | yes* | yes* | yes | yes | yes | yes | yes | yes | yes | yes |
| 14. | yes | yes | yes | yes | no | yes | yes | yes | yes | yes |
| 15. | yes | yes | yes | yes | no | yes | yes | yes | yes | no |
| 16. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 17. | yes* | yes | yes | yes | no | yes | yes | yes | yes | yes |
| 18. | yes* | yes | ? | yes | yes | yes | yes | yes | yes | yes |
| 19. | yes | yes | yes | yes | no | yes | yes | yes* | yes | yes* |
| 20. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 21. | yes* | yes | yes* | yes | no | yes | yes | yes | yes | ? |
| 22. | yes* | yes | yes | yes | no | yes | yes* | yes | yes | yes* |
| 23. | yes* | yes* | yes | yes | yes | yes | yes* | yes* | yes | yes |
| 24. | yes | yes | yes | yes* | yes | yes | yes | yes | yes | no |
| 25. | yes* | yes | yes | yes | no | yes | yes | yes | yes | yes |
| 26. | yes | yes* | yes | yes* | yes | yes | yes | yes | yes | ? |
| 27. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 28. | yes* | yes* | yes | yes | S | yes | yes | yes | yes | S |
| 29. | yes | yes* | yes | yes | yes | yes | yes | yes | yes | yes |
| 30. | yes | yes | yes | yes | S | yes | yes | yes | yes | S |
| 31. | yes* | yes | yes | yes | no | yes | yes | yes | yes | yes |
| 31. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 33. | yes | yes | yes | yes | yes 2 | yes | yes | yes | yes | yes |
| 34. | yes | yes | yes | yes | no | yes | yes | yes | yes | yes |
| 35. | yes* | yes | yes | yes* | yes | yes | yes | yes | yes | yes* |
| 36. | yes | yes* | yes* | yes | yes 2 | yes | yes | yes | yes | yes |
| 37. | yes | yes | yes | yes | yes 1 | yes | yes | yes | yes | yes |
| 38. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 39. | yes | yes | yes | yes | yes 2 | yes | yes | yes | ? | yes |
| 40. | yes | yes | yes | yes | S | yes | yes | yes | yes | S |
| 41. | yes | yes | yes | yes | no | yes | yes | yes* | yes | yes |
| 42. | yes | yes | yes | yes | no | yes | yes | yes | yes | no |
| 43. | yes | yes* | yes | yes | no | yes | yes | yes | yes | yes |
| 44. | yes* | yes | yes | yes | no | yes | yes | yes | yes | ? |
| 45. | yes | yes | yes | yes | yes | yes | yes | yes | yes | no |
| 46. | yes | yes* | yes | yes | no | yes | yes | yes | yes | ? |
| 47. | yes | yes | yes | yes | no | yes | yes | yes | yes | ? |
| 48. | yes | yes | yes | yes | yes 1 | yes | yes | yes | yes | ? |
| 49. | yes | yes | yes | yes | yes | yes | yes | yes | yes | ? |
| 50. | yes | yes | yes | yes | no | yes | yes | yes | yes | ? |

? - Unknowns (this information was never requested)
 yes 1 in column 5 indicates 1 miscarriage.
 yes 2 in column 5 indicates two miscarriages.
 yes in column 5 indicates infertility (inability to become pregnant).
 * denotes a very severe problem
 S - Single

Chart B

PATIENTS NUMBERED FROM 1 THROUGH 25 WERE TREATED TO ELIMINATE THE DENTAL DISTRESS

| | | | | | | | | | | | |
|-------|----------|------|------|------|------|------|------|------|------|------|----|
| 1. | no | no | no | no | no | no | no | no | no | no | |
| 2. | no | no | no | no | no | no | no | no | no | no | |
| 3. | no | no | no | no | no | no | no | no | no | no | |
| 4. | no | no | no | no | no | no | no | no | few | no | |
| 2. | no | no | no | no | no | no | no | no | no | no | |
| 6. | no | no | no | no | no | no | no | no | no | no | |
| 7. | no | no | no | no | yes | no | yes | no | no | no | |
| 8. | no | no | no | no | no | no | no | no | no | no | |
| 9. | less | no | no | no | no | no | no | no | no | no | |
| 10. | no | no | no | no | no | no | no | no | no | no | |
| 11. | no | no | no | no | no | no | no | no | no | no | |
| 12. | no | no | no | no | no | no | no | no | no | no | |
| 13. | no | no | no | no | no | no | no | no | no | no | |
| 14. | no | no | no | no | no | no | no | no | no | no | |
| 15. | no | no | no | no | no | no | no | no | no | no | |
| 16. | same | same | no | no | no | no | no | no | no | no | |
| 17. | no | no | no | no | no | no | no | no | no | no | |
| 18.* | same | same | same | same | same | same | same | same | same | same | |
| 19. | same | no | no | yes | no | no | no | no | no | no | |
| 20. | no | no | no | no | no | no | no | no | no | no | |
| 21. | no | no | no | no | no | no | no | no | no | no | |
| 22. | no | no | no | no | no | no | no | no | no | no | |
| 23.** | same | same | same | same | same | same | same | same | same | same | |
| 24. | Pregnant | | | | | | no | no | no | no | no |
| 25. | no | no | no | no | no | no | no | no | no | no | |

*Ten days after treatment she reported that she had just finished menstruating and that there was considerable improvement. We will await the results of the next few menstrual periods before we comment further.

**Will be recalled for re-treatment if this can be arranged.

CHART C

PATIENTS FROM 26 THROUGH 50 WERE CONTROL CASES (UNTREATED)

| | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 26. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 27. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 28. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 29. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 30. | yes | no | yes | yes | yes | yes | yes | yes | yes | yes |
| 31. | yes | yes | yes | no | yes | no | yes | yes | yes | yes |
| 32.* | no | no | no | no | no | no | no | no | no | no |
| 33. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 34. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 35.** | no | no | no | no | no | no | no | no | no | no |
| 36.** | no | no | no | no | no | no | no | no | no | no |
| 37.** | no | no | no | no | no | no | no | no | no | no |
| 38.** | no | no | no | no | no | no | no | no | no | no |
| 39. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 40. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 41. | yes | yes | yes | no | yes | yes | yes | yes | yes | yes |
| 42. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 43. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 44. | no | yes | yes | yes | yes | yes | yes | no | yes | no |
| 45. | yes | yes | yes | yes | yes | yes | yes | yes | no | yes |
| 46. | yes | yes | no | no | yes | no | yes | yes | yes | no |
| 47. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 48. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 49. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| 50. | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |

*Moved from farm to the city. (Less stress)

**On birth control pills. This upsets their reliability as control patients.

Menstruation is suspended by the action of birth control pills. Therefore, the associated female problems are also suspended, but the other symptoms of dental distress throughout the body remain active and unchanged in these patients.

Conclusion

Selye's universally accepted General Adaptation Syndrome, the discovery that the Dental Distress Syndrome activates the GAS, and Tinbergen's acceptance paper of research associated with dental distress findings read before the Nobel dignitaries when he was awarded the 1973 Nobel prize for medicine and physiology research should whet the appetites of researchers, educators, and practitioners in the health fields. For, Selye's (distressful) General Adaptation Syndrome and Fonder's Dental Distress Syndrome are one and the same reaction but, Fonder's Syndrome has "additional powerful built-in" distressors, the resultant upper respiratory problems, that Ribicoff states are responsible for 91 percent of the diseases of teenagers and the shock troops of the armies of diseases, are routinely co-present with dental malocclusions and the additional distress of bad body posturization with the resultant displacement of vessels and organs that magnify the distress.

It is impossible to divide a patient into neat little areas to be treated in dichotomized fashion without consideration of the resultant affect upon the total person, psyche and soma.

There is clearly much need for co-operation between dentistry, medicine and the allied fields in research and treatment of patients to better understand the total person, for these various sciences should not and cannot be separated.

Case 1

A 39 year old clergy man was referred by a specialist, who suspected a connection between the psoriasis and the malocclusion of the teeth and the resultant respiratory and allergy problems. The patient stated that he had visited every major medical center in the USA seeking relief from the psoriasis-itching without getting relief and that he was on allergy pills around the clock for all four seasons of the year and yet he had repeated colds and spent a minimum of one week in the hospital every spring and fall with pneumonia or near pneumonia. He carried a handkerchief in his hand and was repeatedly wiping his cheeks because of the tearing from both eyes. He wore dark glasses to protect his sensitive eyes. He stood flat footed on one foot and on the toes of the other.

Oct. 5 Self-curing acrylic inlay-overlay fillings were placed on all mandibular and maxillary first and second molars to "open the bite" 5 mm leaving minimal free-way space.

Oct. 7 The patient reported that he had not taken an allergy pill since the mandibular reporturization and that three parishioners had come to him the following day after services to inquire what had happened to him because his voice was so clear during his homily. He stated that he now stood comfortably on both feet and that he could not remember ever being able to stand properly.

Oct. 10 He reported that there had been no itching from the psoriasis and that the skin of his legs seemed to be changing, that it no longer was bleeding nor as scaly and that the psoriasis had been spreading since he was 19 years of age.

Oct. 26 He returned from a trip to the east coast and was elated by the fact that he had driven two days into the morning sun without his dark glasses before he realized that he had not needed to put them on.

June 13 Gold inlay-overlays were placed on all posterior teeth. The patient went four years before he developed his first cold. Numerous chronic problems disappeared along with the sinusitis, rhinitis, psoriasis, kyphosis, lordosis and scoliosis. He has needed only two minor occlusal adjustment since the permanent restoration replaced the acrylic treatment inlay-overlays that he wore the first two years.

Sept. 7 (seven years later) He reported that he was still asymptomatic.

(Figures 7 through 13)



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12



Fig. 13

SCOLIOSIS AND PSORIASIS - 39 YEAR OLD CLERGYMAN. He stood on one foot and the toes of the other foot. The psoriasis was of twenty years' duration, for which he had sought treatment from every major medical center in the USA, to no avail. He was on allergy pills around the clock and was hospitalized every spring and fall with pneumonia or near pneumonia. Two days after molar support was provided, he stood normally. The itching of the legs stopped the first day. He discontinued the allergy pills and went five years without a cold. After six weeks the skin of the legs appeared normal.

Case 2

A 16 year old male student presented for a routine dental examination and the parents were informed of the relationship of his scoliosis to the occlusion of the teeth. He had premature contact in the premolar area. With a minimal amount of pressure the molars came into contact. There were no alarming health problems although the routine DDS symptoms were apparent.

June 10 Occlusal amalgam fillings were placed in the mandibular second molars to provide dominant molar support "opening the bite" one-half mm. The patient did not return for any post-operative care.

Nov. 25 After several telephone calls to his residence, the patient finally consented to these follow-up radiographs when he was promised that there would be no expense involved in any of his care.

This was our first case of before and after radiographs of spinal reposturization. Prior to this time the recordings were made by photographing the patients. With this case we standardized our radiographic procedures. Full spine radiographs are normally made by a single exposure for the anteroposterior views but to get optimum detail in lateral views two separate exposures are made. Note that Figure 23 is a double exposure film and that Figure 24 is a single exposure radiograph. We are primarily interested in recording spinal posture accurately and not in the detail in the thoracic area we have since used single exposure on all spinal radiographs.

(Figures 14 through 16)



Fig. 14



Fig. 15



Fig. 16

SCOLIOSIS - 16 YEAR OLD MALE. Posture normalization was achieved by placing fillings in the lower second molars to provide dominant and equal molar support bilaterally at the proper vertical. No follow-up support was needed.

Case 3

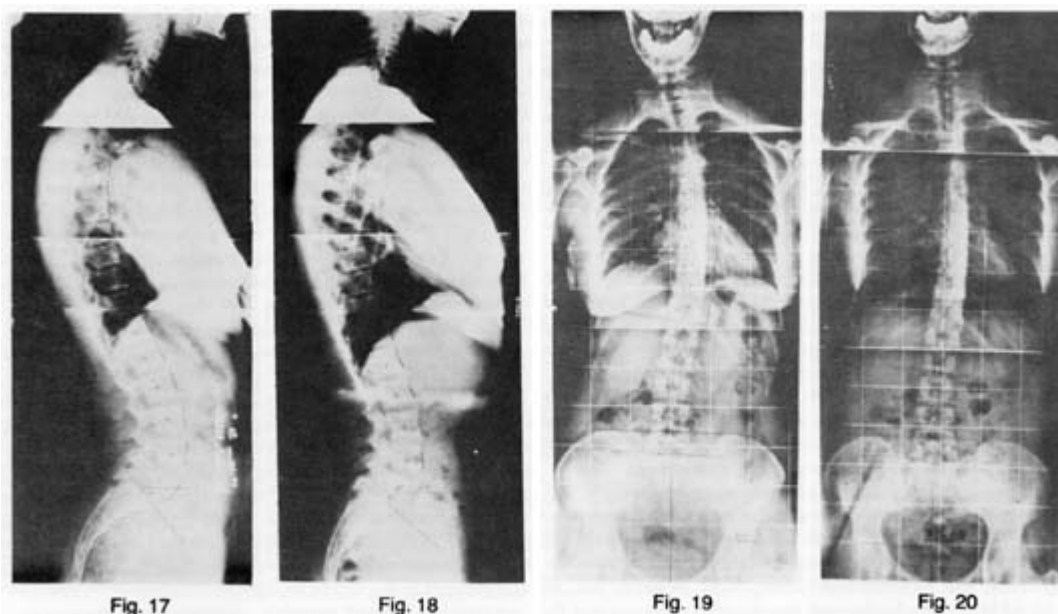
A 21 year old male chiropractic student was interested in having his occlusion corrected to normalize his posture. His deep over-bite was principally due to the fact that all posterior teeth were in linguo-version.

Oct. 19 Removable mandibular and maxillary expansion appliances were placed to upright all posterior teeth.

Dec. 19 Full spine radiographs confirmed an approximate one and one-half inch reduction in the kyphosis and lordosis with a slight improvement in the scoliosis. He was now one full inch taller after the initial two months of orthodontic treatment and the spinal posture normalization.

This case was chosen for this presentation because we have found that it is helpful, in difficult cases, to work with a chiropractic doctor in resolving long standing spinal curvature cases. This final case (Case 4) demonstrates this fact.

(Figures 17 through 18)



Case 4

This chronically ill and despondent housewife had contemplated suicide for she felt that she could no longer endure the pain. Severe headaches had been constant for years and would force her to bed for days at a time. Backaches were intense and she was unable to raise her arms above her shoulders. She found it extremely difficult to negotiate stairs. She was chronically ill and had worn out her welcome at several physicians offices. They told her she needed psychiatric help but she felt that her problems were real and not mentally induced. She complained of equilibrium problems, blurred vision, hearing loss, gastrointestinal problems, gynecological disturbances with severe premenstrual cramps and upsets that would put her down in bed for days and a host of other complaints.

Dec. 20 We placed temporary fixed-bridgework to replace missing posterior teeth and to provide dominant molar support. Before she left the office the extreme tension in the cervical area that had been almost constant had subsided.

Dec. 21 She demonstrated that she was able to raise both arms above her head, negotiate steps with ease and get up and move about without losing her equilibrium. She said that she had been free of headache and backache since her occlusal corrections.

Dec. 27 She reported that she was running up and down the stairs and that her son had returned from military service and that he was dumfounded at her activities and begged her to demonstrate over and over again how she could run up and down the stairs.

Jan. 18 She was still free of the headache and back pain that had plagued her for years and a host of other problems. She was so energetic that she had taken a job as a bridal consultant and was on her feet all day long six days a week, up and down stairs and felt very fit all the time.

July 16 She admitted that she had never been back to see her medical doctor even though we had insisted that she do so. Her only additional care had been the chiropractic adjustments made immediately before each occlusal adjustment.

(Figures 19 through 20 - *see above*)

Comment: She has not had the spinal normalization that we have felt was possible mainly due to the fact that she has been enjoying her freedom from pain and illness and has not kept her appointments but has returned sporadically, when she felt like coming. To date we have been unable to get her to take the time to have the temporary acrylic bridgework replaced with permanent bridgework.

ABBREVIATED CASE HISTORIES

Full texts can be found in THE DENTAL PHYSICIAN, 2nd ed., 1984

Sexual problems

Housewife, age 26 (Barren). The wife of a young gynecologist, after 4 years of marriage, had been unable to conceive. She presented with a full complement of teeth, with 4 mm free-way space, and premolar prematuritis. Occlusal inlay overlay (plastic) fillings were placed to provide bilateral, balanced occlusion at a vertical so tight that the molars barely cleared in speech. (In my experience this is the proper vertical, free-way space, for many people. All musculature of the head and neck are most relaxed at this vertical.) Six weeks later she was pregnant to the amazement of the gynecologist-spouse.

Male laborer, age 41. Referred by a marriage counsellor. All legal work had been completed for a divorce. The wife believed he no longer loved her since it had been years since they had intercourse. Medical aid was unsuccessful in making it possible for him to have an erection. Both mandibular first molars were missing and there was considerable loss of vertical, crowding of the anterior teeth and all posterior teeth were in linguoversion. A mandibular splint was placed to provide dominant and balanced molar support at the proper vertical. He reported having intercourse two times that week. The marriage has been doing well for several years.

Male office worker, age 28. Low sperm count. He was childless and after medical care by a specialist his sperm count was only 10% of the "normal count" expectancy. There was hypermobility in the TM joints and a free-way space of 3 mm. Self-curing acrylic inlay-overlays were placed to provide bilateral molar support with a minimum of free-way space; the molar teeth barely clearing in speech. Two weeks later the sperm count was 80%. The patient did not return until 2 1/2 months later when the acrylic support had worn down and the sperm count had returned to 10%. Mandibular gold overlays were eventually placed for a permanent correction.

Comment: The author is convinced that dental distress is the dominant stressor of the body. He is constantly amazed how many severe, chronic health problems that have not responded to conventional medical treatment do respond to physiologic dental support that dramatically normalizes spinal posture and increases blood circulation.

Numbness (one-half of the body)

Housewife, age 43. The wife of a professor at the University of Illinois, School of Medicine had a history of numbness of one entire side of the body for a period of fifteen years. Medical science had been unable to help her. The patient was missing all six mandibular molars, three maxillary molars and three maxillary premolars. A mandibular splint was placed to provide bilateral mandibular, pivotal support slightly distal to the mandibular second premolars. The feeling returned to the numb side of the body within 24 hours. Several weeks later a maxillary removable bridge fractured and balanced occlusal support was lost. The numbness returned to half of the body within a matter of hours. After the bridge was repaired and the occlusion was balanced, normal feeling returned. Four years later the numbness has not returned.

Open sores of long duration

Housewife, age 63. The patient reported being hospitalized at least once a year over a period of 14 years due to open sores on the right ankle. Her nurse daughter had been changing the dressings twice a day. She walked with difficulty.

After an unsuccessful attempt by a "renowned clinic" to heal the sores, she came to the author for new full upper and lower dentures. There had been considerable loss of vertical and the mandibular ridge was almost entirely destroyed. New dentures were constructed at the proper vertical providing dominant-balanced molar support. Circulation immediately improved.

Two weeks later the daughter thought the sores looked like they were healing. After six weeks there was complete healing. Upon returning to the "famous clinic" for a "check-up" she was congratulated on the beautiful plastic surgery done on her ankles.

Comment: If circulation to the extremities was so poor that sores would not heal, no plastic surgery could ever succeed.

She said, "Now my husband has a difficult time keeping up with me when we go for walks."

Retired male, age 71. An open sore of four years duration on the scalp healed within a period of three weeks following proper dental care to provide balanced molar support at the proper vertical. Circulation improved throughout the body. It was especially apparent in the extremities.

Asthma

Building contractor, age 43 (Asthmatic on 40 mg prednisone daily). History as written by the patient: I was bothered by severe respiratory problems with profuse nasal drainage and congestion, allergy problems especially severe during pollen season, and frontal sinus headaches from childhood on with constant use of much aspirin. A diagnosis of high blood pressure and malaria was made in 1968. This required quinine and medication for blood pressure. After six years the malaria symptoms disappeared. Polyps on the vocal cords were removed in 1971. I stopped smoking. The postsurgical problems were post nasal drip and repeated head colds, followed by a morning cough and much increased nasal discharge.

Rounds of doctors and clinics for diagnostic work followed. Then skin tests and allergy shots with no relief. The problems worsened and headaches were extremely severe. More rounds of medical specialists, increased asthma attacks and no relief. During all these bouts with illness I was on and off of prednisone with temporary relief. It was impossible to sleep lying down due to drainage and congestion so I slept in a chair, was able to do no physical work and was barely able to manage my business.

August, 1977, I went to a "major medical clinic" for thorough testing and diagnostic work. They removed a dead 3rd kidney and performed a complete polypectomy of the nose and sinus areas. This gave almost total relief for two to three months. I could taste, smell and breathe with less asthma and tolerable allergies. After this brief reprieve all symptoms returned, as well as the nasal polyps.

Kidney "shots" and prednisone were administered "on and off" until September, 1978 when I almost died from an asthma attack. I returned to the "medical clinic" for hospitalization, for theophylline and preparation for more polyp surgery. There was some post-surgical relief but I have never regained the sense of taste or smell. I was also told I must stay on at least 20 mg prednisone daily for the remainder of my life.

I returned home extremely depressed. Sometime thereafter a friend recommended seeing Dr. Fonder. This made some sense since I had worn a "dental splint" that afforded brief relief.

Dental Findings: A severe caries problem with several crowns completely decayed away and a moderate periodontal problem but no abscessed teeth. The freeway space measured 11 mm.

Temporary treatment: Quite unexpectedly, caries control preserved all 32 teeth without an exposure and a treatment acrylic splint was placed.

Now, when the "shim" is correctly adjusted I am completely free of headaches. When the occlusion needs adjustment a slight headaches problem occurs. The nasal discharge is much reduced and I manage my business, do some physical labor, exercise and play tennis. I am very careful about what I eat or drink and have fewer allergy attacks. The asthma is always a constant threat but now I feel I can manage that problem.

When I came to Dr. Fonder for treatment I was on 40 mg prednisone a day. I was told that this dosage may need to be increased and in due time I must cease using the drug or it would cause my demise. As I became convinced that my health was improving I began to cut back on the prednisone dosage. After three months of care I was down to 30 mg of prednisone every other day (approximately 2/3 reduction in dosage). After an additional three months I had completely stopped using prednisone. This was August 1, 1981 and I have never felt the need for any prednisone since then.

I returned to the "major medical clinic" in November of 1981. Upon examination they eliminated some medicines and reduced the others. Each year I return to the clinic for a physical.

Final treatment history: Following the caries control and several months of splint therapy all maxillary and mandibular premolars and molars were covered with full cast gold crowns. A complicated "overdenture" was placed over all of the mandibular teeth and crowns to correct the 11 mm freeway space leaving 1/2 mm clearance in speech. Only minor occlusal adjustments were necessary during the next two years and no adjustments for the past year.

Emphysema

Male office worker, age 47. The patient presented with ill-fitting dentures and extremely severe breathing problems. Temporary treatment consisted of quick office relines and a flat acrylic occlusal plane was established on the mandibular prosthesis for an "acrylic" pivot of the maxillary first molar to allow the mandible to seek its "muscular" balance. Periodic adjustments were made over a three month period before new dentures were constructed.

Three weeks after the initial treatment the patient said, "My boss can't believe the change in my breathing. He said he could hear me through the door before I came into the office in the morning. Now I can walk up and down the stairs without any shortness of breath and I have started jogging again." **Mental**

Problems

Male laborer, age 48. He was a patient in the *THIRD* mental institution. He had undergone shock treatments and every possible medication and psychotherapy at two previous institutions with a gradual worsening of his condition. When the doctors were again planning to resort to shock treatment the wife protested. The patient's brother, a psychologist, had been gently advising dental therapy since he had referred many DDS patients for successful treatment. Now the wife was ready to listen to any possible solution. Six days after proper molar support was provided and "normal" circulation had been restored to

the head and extremities the patient was discharged from the institution. For the next five weeks he drove sixty miles *ALONE* for his follow-up dental adjustment care. On the sixth week the wife accompanied him. Her remark was "I watched him deteriorate over a period of many years. It is a miracle. He is now as normal as he ever was."

Male business executive, age 56. He had committed himself to a mental institution in search of help for his mental health problems. He had a long-standing malocclusion problem, a full upper denture against a free-end saddle lower partial denture, where the lower six anterior teeth had been retained to insure stability of the removable mandibular prosthesis. Due to a history of relining the free-end saddles providing occlusal support accompanied by a temporary remission of the sinusitis headaches and mental aberrations and the author's conviction that free-end saddles are a "no, no" that will never provide dominant molar support when premolar and anterior root supported teeth are present, the lower anterior teeth were removed and full (upper and lower) dentures were placed. The headaches, sinusitis and mental problems dramatically ceased. This patient was at the author's office on the day that the above 48 year-old laborer came for follow-up care. The executive's comments were significant. "The patient that just left your office was at the same institution to which I committed myself. He was the worst case in the hospital. He sat all day staring into space and never moved. To see him walking and talking normally is shocking. I can hardly believe what I saw."

Headache

Housewife, age 28. The wife of a chiropractor presented with a full compliment of teeth and a history of intense headaches and sinusitis. Chiropractic treatment was helpful but the adjustments would not hold and the headache problem would immediately return. A bionator was placed to allow molar eruption and mesial repositioning of the mandible. The patient has now been free of headaches for six months. She said on the last visit, "I haven't had a chiropractic adjustment in months. The adjustments held after I started wearing the bionator faithfully."

Mononucleosis

School girl, age 12. The child presented with a toothache. A diagnosis of mononucleosis has been made two days earlier following tests. She was rather listless and had no appetite. Complete bedrest for a few weeks had been ordered by her physician. The hypersensitive tooth was apparently caused by clamping and bruxing. All teeth were present. There was no decay in any teeth and no periodontal problems. Tonsillar swelling was extensive. Two occlusal fillings were replaced with new amalgam fillings 1/4 mm higher to eliminate the premolar prematurities and to provide balanced bilateral molar support.

The following day the mother reported the tooth no longer hurt and that the child had a ravenous appetite and was up and around with no fever or any signs of illness, when she had been listless for days. Two days later the tonsils that were the size of a small crab apple had reduced to normal. She returned to the family physician for further tests that indicated no signs of mononucleosis.

Epilepsy

Housewife, age 45. She wanted new dentures made because the old ones were so loose that it was difficult chewing. The dentures were 16 years old, with fractured teeth and in disrepair. Her major complaints were tiredness, headache, aching muscles in the neck and shoulders and lower back. She had been having epileptic seizures for a period of four years. New dentures were constructed according to the principles of the American Academy for Functional Prosthodontics utilizing the lateral palatal walls of the maxilla and the buccal plates of the mandible for support.

Two weeks later she reported that she awakened rested, was free of headaches, neck, shoulder and

backaches, and had not had a seizure since the dentures were placed. Two years later she reported continued freedom from seizures.

Student, age 22. She presented with a full compliment of teeth and premolar prematurities. A complete physical with a battery of tests had just been completed at a neighboring university medical center. The diagnosis was epilepsy along with multiple health problems. She was placed on 14 different medications and referred to me because of a TMJ problem.

Two occlusal amalgam fillings were replaced on the mandibular second molars sufficiently high to eliminate the premolar prematurities. She returned one year later and reported that soon after her first visit to the author her health was so improved that she had returned to the medical center and insisted on having all of the tests redone. They took her off of 13 of the medications but left her on the dilantin fearing she might still have seizures in spite of normal brain wave tests and normalcy in the other areas where formerly problems had been found.

When asked why she had returned she responded, "I have stuttered all my life. But after you corrected my occlusion the stuttering stopped. The past two weeks I have started to stutter again, so I felt it was time to see you."

The same fillings were replaced with slightly higher restorations. The stuttering again ceased. No epileptic seizures have occurred since her first dental visit.

Comment: All musculature in chewing, swallowing, breathing, etc., work in balanced harmony in normal occlusion. Maloccluded teeth disrupts this harmony. Choking on food, fluid or solids getting into the air passages, etc., quite routinely occur when synchronized muscle balance is lacking.

Hypothyroidism

School girl, age 18 and her mother, a 45 year-old housewife. The daughter of a medical doctor was having health problems. After discussing her problems with the mother, the author decided that they both presented with similar histories and needed similar treatment to provide proper occlusal support.

The physician, husband-father, was asked to run T3 and T4 tests since the author felt that both patients were hypothyroid. The irate doctor finally cooled off and did run the tests although he insisted that it was unnecessary.

Two weeks later the mother and daughter returned for follow-up dental care. When asked about the results of the blood tests she smiled and responded, "My husband came one day and tossed the thyroxin on the table saying you both should take this."

Comment: Dental Distress patients are routinely hypothyroid.

Housewife, age 50. She had been on thyroxin for a period of ten years. Her physician started her on 1/2 grain and this was gradually increased to 3 grains a day for the past 5 or 6 years. When her missing teeth were replaced she was warned to keep in close touch with her physician suspecting that "normal" occlusal support would stimulate the gland to properly function, a typical result. Within a matter of a week she was so hyped up by the oral thyroxin intake that she was retested by her physician. There has been no need for supplemental thyroxin over the past 24 years.

The Author, A.C. Fonder. A very low basal metabolism rate in excess of -20 had existed for many years

along with a history of a full body cast for a period of one year because of excruciating back aches accompanied by constant leg aches so severe that sleep was almost impossible. Life long chronic sinusitis and headaches, and a host of other health problems prevailed. My body temperature was abnormally low and the pulse almost imperceptible. Nurses taking my temperature and pulse rate often commented that I must be dead. Medical specialists often said that it was surprising that I was not a Cretin or myxedemic. Quite the contrary, I excelled as an athlete throughout grade, high school and college and have a high I.Q. No causation for my problems was discovered even though several specialists were consulted throughout my pre-dental and dental schooling and subsequent military service. Finally thyroid medication made life acceptable.

After nine years of "full mouth rehabilitation" practice and constantly hearing patients say they no longer had headaches, or backaches, or tennis elbow, or sinusitis, et cetera, I was still convinced that my meticulous dental care had psychologically aided these patients and that my devoted care was comparable to the work of a psychiatrist but the normalization certainly was not related to any dental care. Only after I developed a problem of tinnitus did it dawn on me that my dental occlusion may be associated with my general health problems and that instead of laughing to myself at the NAIVETY of my patients that teeth could possibly affect one's overall health.

A resolve was made to relocate and to set up my new dental practice as a controlled research study. This article is the result of 30 years of research into the systemic effects of maloccluded teeth.

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