Airway Centric

By Dr Michael L Gelb DDS, MS
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My introduction to centric relation and the temporomandibular joint dates back to about 1965 projected on to my living room wall by 2 kodak carousel projectors as a I sat and watched my father, Dr Harold Gelb prepare for his next lecture.

It is now 2012, 47 years later and the Gelb 4/7 position has serendipitously evolved into AIRWAY CENTRIC or the Gelb 4/7 Bite, balance, breathing method.

A little history — The fathers of Gnathology, Drs. Stallard, Stuart and McCollum followed Bonwill’s mechanical occlusion theory and translated the movement of the jaw to an articulator in 1930. They developed a jaw position called Centric Relation which was the most retruded superior position of the jaw joint.

Retruded jaw position

These men were revered at the time and are still in the USC Dental Hall of fame.

Around the same time Tweed had just graduated from Angle’s school of orthodontics and rejected non extraction theory as producing faces that were too protrusive. He began extracting permanent bicuspids to “flatten” profiles and supposedly give more stable results. Ron Roth and Robert Williams took the CR
concept to orthodontics in ensuing years.

**Dished in face with 4 bicuspid extraction**

Over the next 25 years, the Gnathologist's and Tweed orthodontists each contributed to a more retruded jaw position with fewer teeth.

To dentists like Bill Farrar, Barney Jankelson, and Harold Gelb, this made no sense. The condyle wars in the 1970's pitted gnathologists from Pankey, Dawson and SOS against Gelb, Farrar, Jankelson, and Witzig. Witzig taught the European school of functional orthodontics popularized by Schwartz and Frankel which used the Gelb 4/7 position in non-extraction expansive orthodontics. There was a landmark legal case involving a 4 bicuspid extraction patient who ended up requiring TMJ surgery following extraction orthodontics. Witzig was the expert witness and the patient ended up receiving over a million dollars, which was a huge settlement at the time.

Dawson realized in the 1980's along with the glossary of prosthodontic terms that the gnathologists had no biologic or physiologic evidence for a retruded centric position. They followed Gelb but in a more conservative anterior superior position.

**New prosthodontic CR**

Most prosthodontists and orthodontists still follow the “old” centric relation.

As my father was developing his approach to TMJ, head and neck pain, my mother was studying myofunctional therapy or oral myology and the effect of the tongue on facial development and the airway. We have come full circle with the excellent work of Lois Laynee Mueller and Joy Moeller as well as Dr. Brian Palmer teaching us about the importance of breast feeding, tongue posture, swallowing and breathing properly. Joy and Marc Moeller are working with excellent
researchers in Brazil to bring Oro Myology to the rest of the world. Chris Farrell from Australia after studying with Harold Gelb went on to develop the Myoresearch line of myofunctional appliances which are picking up steam in the US.

At the same time Epigenetics in facial development has been brought to the forefront by Dr Ted Belfor and Dr David Singh. Intermittent light forces from swallowing, tongue pressure and a vibrating wire lead to maxillary and mandibular development. This jaw development is being achieved with removable expansion appliances which open the airway and improve nasal and pharyngeal breathing. Maxillary expansion appliances are also being used as a cranial tool to assist cranial and craniosacral therapy.

40 years ago when Dr Harold Gelb was asked to lecture at conferences on Fatigue he didn’t realize that the MORA or Gelb appliance was one of the first sleep appliances on the market. Even the early Gelb appliances placed the jaw in the 4/7 position for ideal centric finishing in orthodontics or prosthodontics as well as to treat TMJ internal derangement, headache, neckache, earache and facial pain. We now understand that many 4 bicuspid extraction patients have obstructed nasal breathing, retruded palates and tongues, and retruded lower jaws exacerbating TMJ internal derangement, headache and breathing related sleep disorders. The same can be said of Gnathologic full arch cases placed in a retruded Centric relation.

The new Gelb 4/7 Airway Centric takes dentistry into the field of Dental Sleep Medicine and allows the dentist or physician to find a position to treat Apnea, Hypopnea. Upper Airway Resistance Syndrome as well as snoring.

Dr Michael Gelb has developed the Gel-b Bite Balance Breathing system to effectively manage energy, sports performance and concussion. Strength, balance and flexibility are improved while training and during competition.

The number one risk factor for bruxism is obstructive sleep apnea. By opening the airway Airway Centric concurrently treats bruxism as a universal appliance.

OTC Sleep and Snoring appliance. The airway now trumps everything else in dentistry. The Airway and proper or ideal breathing is hierarchically the most important function for humans. Ideal health and ideal facial development is dependent on correct tongue posture and nasal breathing. This requires a partnership between dentist, ENT, pulmonologist, lactation consultant, oromyologist, ObGyn, osteopath, chiropractor and physical therapist.

The Gel-b Bite, balance, breathing system recognizes these components and builds on the Gelb 4/7 position to establish Airway Centric so that dentists can now achieve a higher level of health and wellness with their patients.
The Airway Centric appliance combines the best of mandibular repositioning with tongue and hyoid advancement. This unique appliance is designed to promote a comfortable lower jaw position (Gelb 4/7) by notching anteriorly and a soft thermoplastic material which retains both upper and lower jaws even in a supine position. The lower jaw is prevented from dropping back or retruding even when sleeping on one’s back. Airway Centric maintains the jaw in the zone all night by allowing the tongue to achieve an ideal posture away from the back of the throat.

The dentist by using Airway Centric becomes a most valuable member of the patient’s overall healthcare team along with their internist, cardiologist, gynecologist etc.

Airway Centric is a new method to achieve a better nights sleep, with fewer awakenings and renewed energy in the morning and throughout the day. Airway Centric reduces sleep fragmentation, increases oxygen saturation, improves heart rate variability and of course reduces apnea, hypopnea, UARS and snoring. The number one risk factor for bruxism is obstructive sleep apnea. By opening the airway Airway Centric concurrently treats bruxism as a universal appliance.

The Gel-b bite, balance breathing system puts the jaw and tongue in the ideal position for each patient to achieve optimal performance, prevent injury and improve recovery time. It is also a fabulous pain management system managing, clenching, bruxism and headaches.

Dentistry will now start to understand that jaw position is dependent on the development of the maxilla and mandible. Most maxillas (82%) are underdeveloped insert figure and iatrogenically retruded by dentists and orthodontists as taught by the major dental schools and orthodontic programs in this country. We can now understand the folly of Stuart, Stallard and McCollum, perpetuated by Peter K Thomas, Pankey and Dawson in restoring a jaw in the most reproducible retruded non physiologic iatrogenic position. Even more harmful was the extraction of permanent teeth during orthodontics which closed airways and retruded jaws.

It is now time for the professionals to become aware of the benefits of the Gel-b bite, balance, breathing system and Airway Centric.
Dental Timeline

Bonwill 1858
Stallard 1924
Stuart and McCollum 1930
Peter K Thomas 1966

Peter Dawson 1960-2000
Pankey Institute 1972-present
Harold Gelb 1955-2010
Farrar and McCartey 1970-1990
Barney Jankelson 1970 -
LVI 2000-2011
Edward Angle 1860-1930
Tweed 1940
Ron Roth and Robert Williams 1975-2005
Witzig, Sprawl, 1975-1995