



Now more than ever, occlusion is the key

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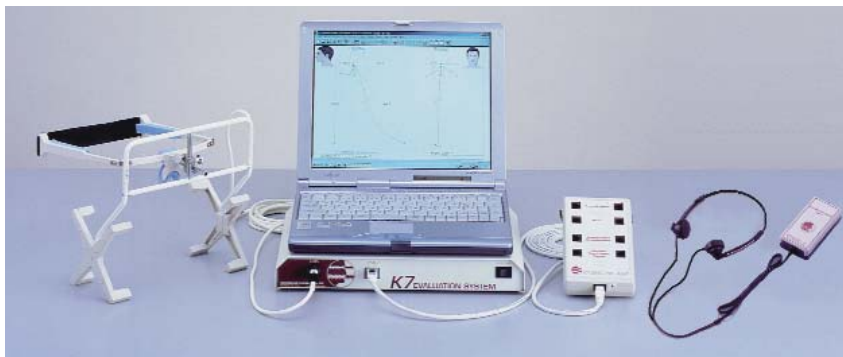
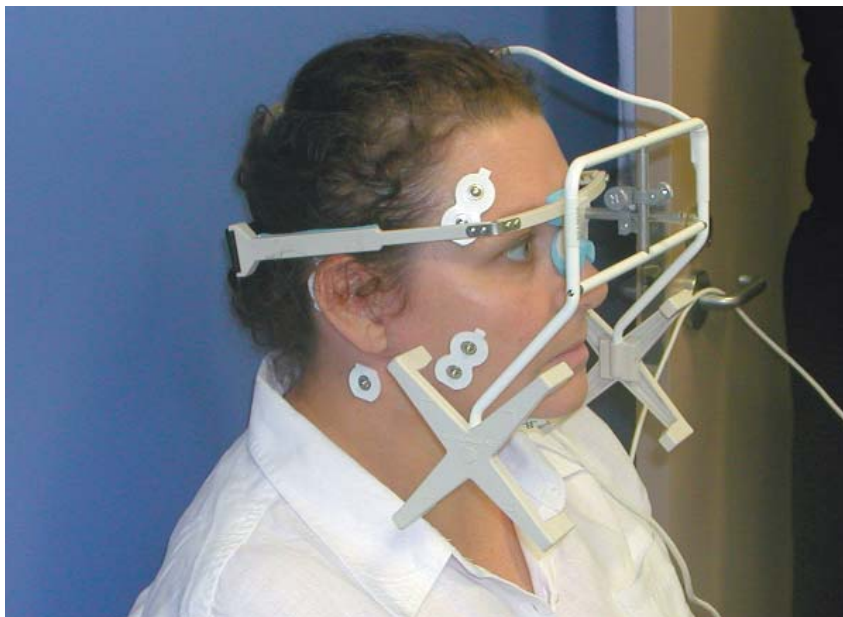
By the time a lot of our TMD patients get to see us, they've been through the mill so to speak. The migraine and pain patients have been to their medicos who have referred to the ENT surgeon with ear complaints or sinus pain. Once the medical specialists have ruled out tumors, aneurysms, sinus and ear problems, these patients start to think they are going mad. Indeed a lot of these people have been placed on anti-depressants because of the chronic pain they endure. As dental practitioners, we then have the opportunity to rule in or rule out musculoskeletal dysfunction which has been indicated as the main cause of pain and migraine in the head and neck. As Coy et al concluded: "Electronically derived measurement provides an objective quantitative data base for diagnosing the existence and extent of myostatic contraction and skeletal malrelation". Or put another way, the K7 evaluation system we use allows us to start from the beginning and diagnose the patient's condition and record their symptoms in a methodical repeatable way.

The K7 evaluation system is primarily used in the diagnosing of TMD and establishing a position in six planes where the stomatognathic system is in harmony. This position is otherwise known as the Neuro-muscular Myocentric rest position. At this position, the masticatory muscles are at their most efficient. The condyles are positioned so that there is minimal or no pressure on the retrodistal tissue. When the occlusion is built, moved or adjusted to this position, we get a cessation of TMD symptoms, improved masticatory function and relaxation of muscle accommodation and posturing.

The K7 system has three main components comprising of:

1. Electrosonography (joint sound analysis);
2. Surface Electromyography (Surface EMG); and
3. Computerized Mandibular Scanning (Jaw Tracking).

The K7 is connected to a surgery computer or laptop and can easily be networked between multiple surgeries. The Electrosonograph allows the clinician to record any aberrant sounds generated



from the TMJ. Whether the sound is low or high frequency and on what part of the opening and closing cycle it occurs. The Surface Electromyography measures the muscle activity in patients with TMD symptoms. It let's the clinician record both pre- and post- treatment muscle activity. In most TMD patients, this difference is staggering. The surface EMGs are also used to test clench ability of the muscles and first contact point on closing into bite. The computerized mandibular scanning is used to measure velocity of the mandible on opening and closing and deviation from centric occlusion when the muscles are relaxed. Most importantly, we can take the bite registration using the jaw tracker. This position is recordable and repeatable.

The K7 has a great patient education

section which can be used to show the patient the percentage change in muscle activity pre- and post- treatment. The education module has excellent graphics and goes a long way in explaining the treatment to the client.

There is a steep learning curve as with any new equipment. However, with training and a little practice, the K-7 can be incorporated into the dental practice quickly.

References

- 1 Neuromuscular Dentistry by Drs Calavassy and Guirguis.
- 2 Cay, Richard E, Flocken, John E, Adib, Fray (1991) Musculoskeletal Etiology and therapy of Cranio-mandibular Pain and Dysfunction. Cranio Clinics Intl Williams and Wilkens, Baltimore pp 163-173.

For more info on the K7 system, contact 1800-645-813 or NZ: 0800-440-883.