

# **OBJECTIVE BITE REGISTRATION DATA TO IMPROVE DENTIST-LABORATORY COMMUNICATION**

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In this age of data collection and high end computerized neuromuscular technology, many clinician's across this country are discovering the use of objective recorded jaw tracking and muscle tonus data to better communicate with the laboratory the accuracy and quality of the bite registration. The antero-posterior (sagittal), vertical, and frontal (lateral) relationships in which the bite registration was taken has never been adequately assessed objectively and measured to identify occlusal stability before comprehensive restorative procedures are rendered.

Physiologic stability of the masticatory system effects the final restorative and prosthetic result. The status of the patients muscle tonus, whether hypertonic or hypotonic, relaxed or hyperactive, the accuracy and consistency of the trajectory as it pertains to the antero-posterior relationships of bite recording and jaw joints, vertical, and lateral relationships all have been found to be critical factors in the finalizing any removable appliance and/or fixed restorative case. With objectively measured computerized mandibular scanning (CMS) and electromyography (EMG) data combined, the printed out data can be interpreted and properly communicated with the technician and dentist as to how stable was the bite registration when taken as it pertains to the patient's masticatory health, regardless of the accuracy of the bite registration material used. This recorded information assists both the dentist and dental technician in treatment planning and designing the case.

Hypertonic EMG recordings of the temporalis anterior, masseter, suprahyoid/digastric, and cervical muscles can signal the quality and of the bite registration, whether there are mandibular torque issues inherent in the bite registration taken prior to final restorative laboratory work. With the objective CMS data laboratory technicians, dentist and patients can be alerted as to potential follow up adjustment visits and be better informed without blaming one another as where best to finalize the bite registration for stable occlusion. With this high tech information the dentist is able to save chair time, laboratory expense, and unnecessary re-does, ultimately resulting in satisfied patients.

With the use of precision bite recording technology (Kinesograph K7, Myotronics, Inc, Tukwila, WA) the neuromuscular clinician and dental technicians have discovered that they can effectively communicate spacial relationships of their bites registrations with confirmed computerized six dimensional data. Physiologic data that records the status of muscle health combined with mandibular positioning will give the clinician and technician a perspective of bite registration dynamics not routinely seen in traditional bite management protocols.