

JVA RESEARCH PART III - AUSCULTATION, PALPATION AND PATIENT ASSESSMENT

#617

- Brooks, C.P.: Joint Vibration Analysis in 314 Patients Presenting with TM Dysfunction: Correlation with Clinical and Tomographic Data. *Presentation, 8th International Congress, International College of Craniomandibular Orthopedics, Banff, Alberta, Canada, October 1993.*

Diagnosis of TM joint degeneration and displacement were made by auscultation and palpation by trained observers in 628 joints. This was compared with results obtained with parasagittal tomography.

Using stethoscopic auscultation resulted in the correct diagnosis in only 43.8% of the 628 joints, amplified auscultation 45.1%, palpation 49.0% and doppler auscultation 46.0%.

Joint vibration analysis correlated with tomographic findings in **92.0%** of the 628 joints.

#424

- Christensen, L.V., Donegan S.J., McKay, D.C.: Temporomandibular Joint Vibration Analysis in a Sample of Non-Patients. *J Craniomandib Prac, 1992, Vol. 10; 35-41*

Patients with joint vibrations and dysfunction were only able to describe these vibrations in 50% of the cases. **Patients cannot reliably detect "weak" (early) symptoms of TMJ dysfunction.**

- deWujen, A. et.al. Reliability of Clinical Findings in Temporomandibular Disorders. *J Orofacial Pain, 1995, Vol 9, Number 2; 181-189*

A number of orthopedic and palpation techniques used in TM diagnosis were studied for interexaminer reliability. Joint sounds were evaluated on a 0-2 scale.

There was **only moderate agreement between examiners for identification of joint sounds** on active mouth opening ranging for **K=0.47 to K=0.59**. **Interexaminer agreement on crepitation was only 0.29.**

#514

- Dworkin, S.F., LeResche, L., and Derouen, T. Subject Reliability of Clinical Measurement and Temporomandibular Disorders. *Clin J of Pain, 1988, Volume 4 Number 2; 89-99*

Classifying joint sounds (among clicking, soft crepitus, hard grating) by **palpation and auscultation had the lowest reliability (<50%) of any clinical signs** or symptoms assessed in this entire study.

#511

- Dworkin, S.F., e.al. Assessing Clinical Signs of Temporomandibular Disorders: Reliability of Clinical Examiners. *Unpublished study, 1988*

Examiner reliability for agreement in evaluating joint sounds ranged from **marginally detectable** (for vertical opening) **to poor reliability** (lateral and protrusive excursions).

#412

- Eriksson, L., Westesson, P-L., Sjobert, H.: Observer Performance in Describing Temporomandibular Joint Sounds. *J Craniomandib Prac 1987;5:32-35*

In classifying sounds by auscultation into no sound, clicking and crepitation, **22 dentists/students showed 14% inter-observer agreement.**

#512

- Hardison, D.J., Okeson, J.P. Comparison of Three Clinical Techniques for Evaluating Joint Sounds. *J Craniomandib Prac., 1990, Vol. A, No. 4*

The study found **poor agreement between the patient's subjective reporting of joint sounds and the clinician's assessment** by palpation (lateral pole and external auditory) and auscultation.

#501

- Ishigaki, I., Bessette, R.W., Maruyama, T.: A Clinical Study of Temporomandibular Joint Vibrations in TMJ Dysfunction Patients. *J Craniomandib Prac, 1993, Vol. 11 Number 1; 7-13*

The accuracy of **patient perception and doctor's perception** (based on clinical exam) of internal derangement were compared with arthrographic findings in symptomatic subjects. **Diagnostic sensitivity was 43% and 54% accordingly.**

#500

- Ishigaki, S., Bessette, R.W., Maruyama, T. The Distribution of Internal Derangement in Patients with Temporomandibular Joint Dysfunction - Prevalence, Daignosis, and Treatments. *J Craniomandib Prac, 1992, Volume 10 Number 4; 289-296*

Forty percent of patients with MDR did not present with complaints or concerns over joint sounds: The evidence suggests that **the patient's or doctor's perception of TMJ sounds alone are not a reliable diagnostic**

indicator of TMJ internal derangement. Clinical examination resulted in a 27.8% false positive rate for internal derangement.

#513

- Paesani, D., Westesson, P-L., Hazala, M.P., et.al. Accuracy of Clinical Diagnosis for TMJ Internal Derangement and Arthrosis *Oral Surg Oral Med Oral Path*, 1992 Volume 73, Number 3; 360-364

The **overall accuracy of clinical testing** for TMD, using both auscultation and palpation, is **43%**.

#423

- Widmalm, S., Westesson, P., Brooks, S.L., Hatala, M.P., Paesani, D.: Temporomandibular Joint Sounds: Correlation to Joint Structure in Fresh Autopsy Specimens. *Am J Orthod Dentofac Orthop*, 1992; 101, 60-69

Auscultation and palpation have several distinct disadvantages v-v joint vibration analysis. TM joint sounds and vibrations may not be perceived by the human ear. The differences in hearing and perception of the observer, and lack of objective documentation.

- Widmalm, S. *Study Club Presentation; Milwaukee, WI; February 27, 1993*

The sensitivity of the human ear is 100 times less at 100 hz. than at 1000 hz. **Most vibrational energy from TM joint dysfunction occurs in the vicinity of 100 hz., where it is practically undiscernible by the human ear**, even with a stethoscope.

#503

- Williams, W.B., Brooks, C.P.: Correlation of TMJ Sonographic Analysis With Clinical and Tomographic Data in 52 Craniofacial Pain Patients. *Anthology of Craniomandib Orth Vol II*, 1992; 215-224

Joint vibration findings were compared with clinical joint sounds (auscultation and lateral pole palpation) in 104 joints. These joints showed tomographic evidence of internal derangement or degenerative joint disease.

Correlation of "sounds" in general with positive JVA findings were high, but correlation of these clinical signs **with specific findings (DJD or internal derangement) were low.**

The authors conclude that **auscultation and clinical palpation have "limited usefulness" and that stethoscopes are adequate for detecting "noises" but poor in differentiating "sounds" indicating specific disorders.**

Conclusion: Clinicians are accurate less than 50% in evaluating joint sounds. Patients are accurate less than 50%. Clinicians and patients don't agree on the presence of joint sounds.