Widmalm Current Research

Dr. Widmalm's research involves pain management in dental patient treatment, neurophysiology of the trigeminal system, functional jaw muscle anatomy, clinical use of electromyography (EMG), signal analysis applied to EMG, muscle force, and joint sound recordings, and epidemiology of signs and symptoms of TMJ related dysfunction/disorders in children. He has assembled a PC based signal collection and analysis system with software developed in cooperation with researchers at Department of Electrical Engineering and Computer Science here in Ann Arbor and in Singapore supported by Ministry of Education, Singapore. Presently that system is now being adjusted for use in clinics and research in cooperation with Faculty in the TMD Clinic at the Fourth Military Medical University, Xi’an, Shaanxi, PRC, where he is Visiting Professor. Widmalm's special interest is in the progress of TMJ related dysfunction/disorders, prophylactic procedures and methods for early detection of signs and symptoms of TMD. The results have been published in 140 journal papers and scientific meeting reports. In education, his special interest is in the use of electro diagnostic systems (EDS) in diagnosis, and treatment of temporomandibular disorder/dysfunction (TMD).