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New Treatment Using Computer-assisted Surgical Simulation for Jaw Joint Replacements and Facial Corrective Surgery Shortens Planning Time and Increases Surgical Accuracy

[Rosemont, IL, December 1, 2013] Jaw joint (TMJ) disorders and facial deformities commonly coexist and are usually addressed surgically in one or two stages. In the latter approach, the patient must undergo two operations, significantly prolonging overall treatment time. However, TMJ and jaw surgery done at the same time requires careful treatment planning and surgical proficiency in both surgical areas.

Over the past decade, computer-assisted surgical simulation (CASS) technology has been integrated into many maxillofacial surgical applications, including jaw and facial deformities and TMJ reconstruction. An article appearing in the December 2013 issue of the Journal of Oral and Maxillofacial Surgery presents a new treatment protocol for the application of CASS technology in facial deformity cases requiring reconstruction with patient-fitted total joint prostheses.

The article, entitled Protocol for Concomitant Temporomandibular Joint Custom-Fitted Total Joint Reconstruction and Orthognathic Surgery Utilizing Computer-Assisted Surgical Simulation, describes this protocol and compares it with the traditional approach. The investigators, Drs. Movahed, Teschke and Wolford from Texas A&M University, hypothesized that using CASS technology for cases where a TMJ was replaced at the same time a facial deformity was corrected would eliminate the “traditional” steps requiring the surgeon to manually set the lower jaw into its new final position on the stereolithic model, thus saving time and improving surgical accuracy.


The Journal of Oral and Maxillofacial Surgery is published monthly by the American Association of Oral and Maxillofacial Surgeons to present to the dental and medical communities comprehensive coverage of new techniques, important developments and innovative ideas in oral and maxillofacial surgery. Practice-applicable articles help develop the methods used to handle dentoalveolar surgery, facial injuries and deformities, TMJ disorders, oral cancer, jaw reconstruction, anesthesia and analgesia. The journal also includes specifics on new instruments and diagnostic equipment and modern therapeutic drugs and devices.

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