TMJ IMPLANTS
INCORPORATED

BIBLIOGRAPHY

B-001 **AAOMS Parameters of Care for Oral and Maxillofacial Surgery, *A Guide for Practice, Monitoring, and Evaluation* (AAOMS Parameters of Care – 95) Temporomandibular Joint Surgery**; JOMS, September 1995, (Vol. 53) No. 9, Supplement 5.

Issued by AAOMS (American Association of Oral and Maxillofacial Surgeons), this guide is the recognized standard for patient care. The 1995 revision focuses on temporomandibular joint surgery indications and its appropriateness.

B-002 Alexander R. **Total Temporomandibular Joint Replacement. Who? What? When? Where?** NYSDJ, December 1999, pp 28-32.

This article contains a general overview of the Christensen Total Joint Reconstruction Prosthetic devices. Attention is paid to the comparative differences in indications for stock versus Patient-Specific™ implants.

B-003 Alexander R. **Temporomandibular Joint (TMJ) Replacement: An Update on Methods.** Private Hospital Healthcare Europe; Theatre & Surgery, 2002, pp T35-37.

Designed for a multitude of TMJ indications, the Christensen partial and total joint prostheses are reviewed by the author. The article indicates use of alloplastic reconstructive surgery after more conservative treatments have failed.

B-004 Amstutz HC, Sparling EA. **Innovations in Total Hip Replacement for the 21st Century.** Res & Staff Phys, August 1999; 45 (8): pp 33-46.

The authors analyze the requirements for longer-lasting, lower-wearing hip prostheses in an answer to demands from a lower age patient population. The article concludes that the metal-on-metal articulation best serves these needs.

B-005 Anderson G, Russell R, Christensen R, Gerard D, Hudson J, Chase DC. **Thirty Year Follow-up of Patients with Alloplastic TMJ Prostheses.** Presented at AADR/IADR 1993 Meeting.

Two patients, both implanted in the 1960's with Christensen Fossa-Eminence Prostheses, are clinically examined 30 years post-surgery. Results suggest that the durability and efficacy of the implants has not varied over 30 years.

B-006 Britton C, Christensen RW, Curry JT. **Use of the Christensen TMJ Fossa-Eminence Prosthesis™ System: A Retrospective Clinical Study.** Surgical

Technology International X, 2002, pp 273-281.

A comprehensive retrospective study, involving 18 hemiarthroplasty patients treated with Christensen Fossa-Eminence prostheses is detailed in the article. Average implant duration is 7.4 years per patient with no reduced function.

B-007 Campbell P, Shen F, McKellop H. **Biologic and Tribologic Considerations of Alternative Bearing Surfaces.** Joint Replacement Institute and J. Vernon Luck Orthopaedic Research Center Hospital, Clinc Orthop, January 2004 No. 418.

The authors, experts in the field of wear and durability for alloplastic prostheses, analyze various combinations of materials in terms of performance and patient safety. The conclusion is reached that metal-metal couplings perform best.

B-008 Chase DC, Hudson JW, Gerard DA, Russell R, Chambers K, Curry JR, Latta JE, Christensen RW. **The Christensen Prosthesis: A Retrospective Clinical Study.** Oral Surg Oral Med Oral Pathol, 1995; 80: pp 273-8.

A total of 69 patients, receiving either partial or total joint Christensen prostheses were retrospectively followed in the study. Pain was greatly reduced for all participants, with opening and function improvements noted (VAS scale).

B-009 Chase D, Robinson A, Christensen R, Russell R, Gerard D. **Mechanical Evaluation of Alloplastic TMJ Prostheses**. Presented at AADR/IADR 1993 Meeting.

This study examines the wear performance of 4 TMJ Condylar prostheses made of PMMA, in vitro. Additionally, the wear is examined from an identical device, explanted from a patient after one year of successful service.

B-010 Christensen RW. **Chronic Unilateral Dislocation of the Mandibular Joint Treated Surgically by a High Condylectomy.** Oral Surg Oral Med Oral Pathol, January 1960 (Vol. 13) No. 1, pp 12-22.

The article demonstrates how surgical intervention can treat those patients with chronic mandibular dislocation. Conservative treatments are detailed, including equilibration, immobilization, and anti-inflammatory agents, and finally surgery.

B-011 Christensen RW**. Mandibular Joint Arthrosis Corrected by the Insertion of a Cast-Vitallium Glenoid Fossa Prosthesis: A New Technique,** Oral Surg Oral Med Oral Pathol, June 1964 (Vol. 17) No. 6, pp 712-722.

The author first describes the use of an alloplastic partial joint reconstructive solution in the treatment of mandibular joint arthrosis. The use of a metal implant is described, as is the technique that successfully treated the patient.

B-012 Christensen RW. **Arthroplastic Implantation of the Temporomandibular Joint (Chapter 29) Oral Implantology Vol. II No. 2,** Cranin N (ed.), 1970.

In this textbook chapter, the author presents a comprehensive overview of implantation options for the TMJ. Topics covered include; the mandibular condyle, the glenoid fossa and eminence, joint capsule, and the articular disc.

B-013 Christensen RW. **Letter to the Editor of JOMS.** In response to: Wolford L, et. al. **Comparison of Two Temporomandibular Joint Total Prosthesis Systems.** JOMS 2003; 61: pp 685-690.

The author responds to misstatements in the original article by pointing out the proven benefits of alloplastic TMJ reconstruction and the benefits of the partial joint reconstruction. The preferred use of metal-on-metal is also highlighted.

B-014 Christensen RW, Alexander R, Curry JT, Christensen MS, Dollar, JV. **Hemi and Total TMJ Reconstruction Using the Christensen Prostheses.** Surgical Technology International XII, 2004.

The use and results of the alloplastic TMJ prostheses (Christensen Partial and Total) are evaluated in the article. The study examines both retrospective and prospective results, with emphasis on stock versus Patient-Specific™ devices.

B-015 Christensen RW. **Surgical Correction of Complete Bilateral Ankylosis of the Mandible.** Oral Surg Oral Med Oral Pathol, December 1955 (Vol. 8) No 12: pp 1235-1244.

In this article, the author describes a pioneering effort in the treatment of bilateral ankylosis of the mandible. Through surgical means, a specific patient is restored to full function, and remains so through a one-year follow-up examination.

B-016 Christensen RW. **Surgical Treatment of Mandibular Ankylosis. Use of a Cast Vitallium Glenoid Fossa.** Dental Radiology and Photography, 1964 (Vol. 37) No. 1.

The author presents a discussion of intra-articular ankylosis of the mandible and proposes a new method of creating a barrier against the recurrence of the problem. The patient was clinically followed to the 18 month post-surgical point.

B-017 Christensen RW. **The Correction of Mandibular Ankylosis by Arthroplasty and Insertion of a Cast Vitallium Glenoid Fossa Prosthesis: A New Technique. A Preliminary Report of Three Cases.** AM J Orthopedics, January 1963; 5: pp 16-24.

The sources of ankylosis of the mandible are presented by the author. In three separate cases, a technique is described for creating prostheses to cover the glenoid fossa and articular eminence as a correction for mandibular ankylosis.

B-018 Christensen, RW. **The Temporomandibular Joint Prosthesis Eleven Years Later**. J Oral Implantology, 1971 (Vol. II) No. 2: pp 34-8.

The article presents a retrospective analysis of surgical successes since the first Christensen TMJ device was implanted 11 years earlier. A recap is presented of the successful results from over 100 subsequent partial and total joint surgeries.

B-019 Christensen RW, Alexander R, Christensen MS, Covey CJ, Curry JT, Masters TE. **Hemi and Total TMJ Reconstruction Using the Christensen TMJ Prostheses: A Retrospective and Prospective Evaluation.** TMJ Implants, Inc., Label 2-037, April 2003.

An exhaustive analysis by the authors illustrates the varying aspects behind use of the Christensen TMJ prostheses. Attention is well paid to history, the Fossa-Eminence Prosthesis, the Condylar Prosthesis, and several clinical trials.

B-020 Collins CP, Collins PC, Christensen RW. **An Alloplastic Alternative to Autogenous Material in Temporomandibular Joint Surgery.** Critical Reviews in Biomedical Engineering, 1998, 5: pp 403-4.

The stated purpose of this study is to compare the surgical treatment outcomes for patients requiring TMJ menisectomy. The results of alloplastic versus autogenous materials are compared, with the former yielding higher success.

B-021 Collins CP, Wilson KJ, Collins PC. **Lateral Pterygoid Myotomy with Reattachment to the Condylar Neck: An Adjunct to Restore Function After Total Joint Reconstruction.** Oral Surg Oral Med Oral Pathol Oral Radiol Endod, June 2003 95(6): pp 672-3.

In a 14 patient, 24 joint study, patients were implanted with the Christensen stock total joint prosthesis. Better interincisal opening was shown for patients where the lateral pterygoid muscle was reattached to the condylar stump.

B-022 Curry JT. **TMJ Replacement in a Case of Failed Prosthesis and Severe Giant Cell Reaction.** Private Hospital Healthcare Europe; Theatre & Surgery, 2003, pp T9-10.

This case study depicts the results of a failed TMJ reconstruction. The resultant destruction of the mandibular ramii supports the need for stereolithography anatomical (SLA) models and Patient-Specific™ Total Joint Prostheses.

B-023 Curry JT. **The Effects of Hemiarthroplasty Utilizing a Metal Fossa Prosthesis on the Mandibular Condyle: A Retrospective Review.** TMJournal, 2001 (Vol. 1) Issue 1: pp 6-12.

The author reviews the effect of hemiarthroplasty of the TMJ utilizing the Christensen Fossa-Eminence Prosthesis against the natural condyle. A review of 18 patients suggests that this metal-bone pairing does not harm the condyle.

B-024 Curry J, Latta J. **An Evaluation of Christensen TMJ Prostheses in 58 Consecutive Patients.** Presented at AADR/IADR 1993 Meeting.

The article reviews clinical results from 58 consecutive patients, during the span of three years, who were implanted with the Christensen Prostheses. The study shows predictable results, in terms of pain reduction and opening improvement.

B-025 Garabadian C, May BM, Saha S. **Reducing Condylar Compression in Clenching Patients.** TMJournal, 2001 (Vol. 1) Issue 1: pp 15-19.

The aim of the work was to evaluate the efficacy of an appliance designed to reduce loading at the TMJ. The introduction of the appliance showed a 40% reduction in loading, when applied in a 3-dimensional mathematical model.

B-026 Garrett WR, Abbey PA, Christensen R. **Temporomandibular Joint Reconstruction with a Custom Total Temporomandibular Joint Prosthesis: Use in the Multiply Operated Patient.** Surgical Technology International VI, 1997.

The authors set forth to report the development and use of the custom (Patient-Specific™) Christensen Prosthesis (Garrett Modification) as used for total TMJ reconstruction. Indications, protocol, treatment, and evolution are examined.

B-027 Garrett WR, Abbey PA. **Protocol for the Treatment of Heterotopic Bone Formation in the Temporomandibular Joint**. Surgical Technology International VIII,1999.

In the cases of multiply-operated TMJ patients, the potential for heterotopic bone formation increases dramatically, as this article suggests. The authors point out the benefits of fat grafts, debridement, autogenous material, and radiation.

B-028 Hensher R. **TM Joint Hemi-Arthroplasty.** TMJournal, 2002 (Volume 2) Issue 1: pp 10-13.

This article relates the clinician's experience with 42 patients in a three-year study of TMJ hemiarthroplasty using the Christensen devices. The results show noted improvement in opening, pain, and diet for each of the subjects tracked.

B-029 Jungles, BS. **Total Joint Reconstruction Utilizing the Christensen Prosthesis: A Preliminary Report**. Poster 14: AAOMS Annual Meeting, 1990.

The author reviews a study of 57 patients, who had a total of 77 joints replaced using the Christensen Prostheses. 60% of the patients were PJR, with the remaining 40% receiving TJR, all with improved functional and pain results.

B-030 Kummoona R. **Functional rehabilitation of ankylosed temporomandibular joints.** Oral Surg October 1978; 46 (4): pp 495-505.

In an animal study of six monkeys receiving Co-Cr-Mo TMJ total joint implants, the author presents positive results. Neither opening nor masticatory function was affected in both unilateral and bilateral cases and all six animals thrived.

B-031 Lippincott III AL, Chase DC, Christensen RW. **Alternative Total TMJ Arthroplasty: Metal-On-Metal for Longevity in Implant Survivorship and Patient Satisfaction.** Surgical Technology International VII, 1998.

Based upon a relatively young aged patient, longevity and wear for TMJ devices is critical. The authors support the fact that Co-Cr prostheses and the metal-metal coupling produced the most desirable long-term results for patients.

B-032 Lippincott III AL, Dowling JM, Medley JB, Christensen RW. **Temporomandibular Joint Arthroplasty—Using Metal-on-Metal and Acrylic-on-Metal Configurations: Wear in Laboratory Tests and Retrievals.** Surgical Technology International VIII,1999.

The authors present a head-to-head analysis of metal-metal versus Acrylic-metal

pairings of articulating surfaces in TMJ implants. Wear and durability testing suggests that the Christensen Co-Cr prostheses produce the best results.

B-033 Masters TE. **Anatomical Modeling: An Imaging Technologist's Perspective.** TMJournal, 2002 (Vol. 2) Issue 1: pp 38-39.

The author surveys the benefits derived for the TMJ surgeon in utilizing SLA (stereolithography anatomical) modeling. The advantages are detailed with respect to diagnosis, surgical planning, and prosthetic TMJ device design.

B-034 May B, Saha S. **Animal Models for TMJ Studies: A Review of the Literature.** TMJournal, 2001 (Vol. 1) Issue 1: pp 20-27.

The article reviews the criteria necessary to determine the best species to be used for a model study of the TMJ. In-vivo studies and trials are described, as are mathematical models that will better assist our understanding of the TMJ.

B-035 McKay E, Russell R, Christensen R, Curry J, Latta J, Gerard D, Hudson J, Chase D. **Placement of a Christensen Fossa-Eminence Prosthesis in the Absence of the Meniscus.** Presented at AADR/IADR 1993 Meeting.

In a study of 27 patients, who underwent reconstruction of 50 joints, the author follows the outcomes of these partial joint reconstruction patients. The article demonstrates significant improvement in both opening and pain measures.

B-036 McKellop H. **TMJ v. Orthopaedic Device / Materials Comparison.** The Joint Replacement Institute at Orthopaedic Hospital Internal Paper. Los Angeles, 1999: pp 1-2.

The article compares third body wear in metal-on-metal TMJ and hip implants, from both laboratory testing and retrievals. The author concludes that the Christensen TMJ device has acceptable resistance to third body wear.

B-037 McLeod NMH, Saeed NR, Hensher R. **Internal Derangement of the Temporomandibular Joint Treated by Discectomy and Hemi-Arthroplasty with a Christensen Fossa-Eminence Prosthesis.** British Journal of Oral and Maxillofacial Surgery, 2001 39: pp 63-66.

In a study of 42 patients with advanced internal derangement, subjects were implanted with the Christensen Fossa-Eminence Prosthesis. The author reports that all but one patient experienced improved opening and pain with the implant.

B-038 Park J, Keller EE, Reid KI. **Surgical Management of Advanced Degenerative Arthritis of Temporomandibular Joint With Metal Fossa-Eminence Hemijoint Replacement Prosthesis: An 8-Year Retrospective Pilot Study.** JOMS. February 2004 62: pp 320-8.

The authors describe the Mayo Clinic experience with the Christensen Partial Joint Reconstruction System. In an 8-year retrospective study, the article details that these multiply-operated patients experienced at least 56% reduction in pain.

B-039 Robbins JL. **Rehabilitation after Temporomandibular Joint Surgery: A Review of the Literature and Guidelines for Practice.** TMJournal, 2002 (Vol. 2) Issue 1: pp 39-41.

The article presents a regimen of rehabilitation that will allow both patient and doctor to enjoy enhanced outcomes. The author describes, in detail, a schedule of post-surgery efforts that both decrease patient pain and speed recovery.

B-040 Russell R, Christensen R, Curry J, Latta J, Gerard D, Robinson A, Hudson J, Chase D. **Total TMJ Reconstruction With Alloplastic Prosthesis**. Presented at AADR/IADR 1993 Meeting.

The authors describe the experience of eight patients, with a total of 15 total joint reconstructions, implanted with the Christensen Stock Total TMJ Prostheses. The patients were followed 24 months, and no additional surgeries were needed.

B-041 Saeed NR, McLeod NMH, Hensher R. **Temporomandibular Joint Replacement in Rheumatoid-Induced Disease.** British Journal of Oral and Maxillofacial Surgery, 2001 39: pp 71-75.

Seven patients, suffering from rheumatoid-induced TMJ disease, were implanted using the Christensen TMJ Prostheses. The article reports that all showed VAS scores for pain and diet, and most showed improved opening measurement.

B-042 Speculand B, Hensher R. Powell D. **Total Prosthetic Replacement of the TMJ: Experience with Two Systems 1988-1997.** British Journal of Oral & Maxillofacial Surgery, 2000 38: pp 360-369.

The authors compare the Vitek VK II TMJ Implant against the Christensen Total Joint TMJ Prostheses. Results published indicate that the Christensen TMJ Prostheses caused fewer problems in patients through a 24 month period.

B-043 Stack BC, Gregory E, Gjerde G, Hanssen JI, Leivseth G. **Modified Meiniscoplasty for Treatment of Chronic Disc Displacement without Reduction: 60 Patients; 117 Joints.** TMJournal, 2002 (Volume 2) Issue 1: pp 23-32.

The article details the results of a 60 patient, 117 joint study. Patients received a modified meniscoplasty for treatment of chronic disc displacement without reduction. The authors' experiences confirm clinical success for the procedure.

B-044 Tawfillis A, Chappell ET, Farhood VW. **Alloplastic Reconstruction of Temporal Bone and Glenoid Fossa Defect.** JOMS, 2002 60: pp 1079-1082.

The authors describe the use of alloplastic TMJ reconstruction for trauma cases. The Patient-Specific™ Christensen TMJ Prosthetic System is described as the implant of choice in cases of severe TMJ trauma, with temporal bone damage.

B-045 TMJ Implants, Inc. **Christensen TMJ Prosthesis System: The Product of Choice.** Private Hospital Healthcare Europe; Theatre & Surgery, 2003, pp T 54.

The Christensen TMJ Prostheses System has been in use for over 40 years. This article summarizes the advantages of alloplastic reconstruction, the use of metal-metal articulation, off-the-shelf availability, and overall reliability/durability.

B-046 Woodbury SC, Stanton DC, Quinn PD, Beanland DR, Foote JW. **Options for Immediate Reconstruction of the Traumatized Temporomandibular Joint.** The Journal of Cranio-Maxillofacial Trauma, 1998 4(2): pp 22-29.

The article provides a survey of treatment options for trauma-induced condylar fractures that are accompanied by damage to the TMJ. In several cases, the authors demonstrate the successful use of the Christensen Prosthetic System.

B-047 Van Loon J, De Bont L, Boering G. **Evaluation of Temporomandibular Joint Prostheses: Review of the Literature from 1946 to 1994 and Implications for Future Prosthesis Designs.** J Oral Maxillofac Surg, 1995 53: pp 984-96.

The authors describe the useful elements of applied temporomandibular joint (TMJ) prostheses and discuss the factors to be addressed in an appropriate TMJ prosthesis design. History and performance of several designs are analyzed.

B-048 Xia JJ, Gateno J, Teichgraeber JF. **Three-Dimensional Computer-Aided Surgical Simulation for Maxillofacial Surgery.** Atlas Oral Maxillofacial Surg Clin N Am, 2005 13: pp 25-39.

The article details problems facing current surgical planning methodologies and how Stereolithography Anatomical (SLA) modeling can facilitate enhanced results. The 3-D CT technology available is summarized as a planning tool.

B-049 Christensen RW, Walker CR, Dollar JV. **New Hope for Treacher-Collins Syndrome: A Surgical Case Report.** Surgical Technology XIV, 2005.

Treacher-Collins Syndrome has long been held as a malady with few treatment options. In this article the authors examine one particularly severe case, involving ankylosis and fusion in the open position, and the surgical treatment.

B-050 González Pérez LM, Oliveras JM, Christensen RW, Gutiérrez JL. **Surgical Treatment of Temporomandibular Pathology with Joint Replacement Prosthesis.** Journal of Cranio-Maxillofacial Surgery, Volume 34, Supplement 1, September 2006, p 223.

Surgical treatment of temporomandibular joint tumors and advanced degenerative arthritis with total and partial replacement. Prosthesis provides reduction in pain intensity and improvements in mandibular function. The surgical treatment is substantially less invasive and more conservative with associated musculature with partial joint glenoid fossa-eminence replacement.

B-051 Christensen RW. **Partial and Total Alloplastic Reconstruction of the Temporomandibular Joint.** International Journal of Medical Implants and Devices, Volume 1, Number 1, 2005, p. 32.

Alloplastic reconstruction of the temporomandibular joint has been accomplished using state of the art orthopedic type materials and principles. The need for alloplastic reconstruction of the TMJ joint has been confirmed by the usefulness of the Christensen TMJ Fossa-Eminence prosthesis. As an individual device used to cover the natural glenoid fossa of the temporal bone as an

hemiartroplasty device, it has been valuable in restoring pain-free function in many patients. The oral maxillofacial surgeon may elect to use TMJ Implants, Inc. condylar prosthesis along with the Fossa-Eminence prosthesis when a total joint replacement is required.

B-052 Worrall SF, Christensen RW. **Alloplastic Reconstruction of the Temporomandibular Joint in Treatment of Craniofacial Developmental or Congenital Anomalies: A Surgical Case Report.** Surgical Technology XV, 2006.

The objective of the article is to describe the surgical planning and treatment approach in addressing the oral and maxillofacial needs for one particular patient suffering congenital anomalies of the craniofacial anatomy. A secondary objective is to restore mandibular and maxillary function and esthetics to the young, adult patient. The tertiary objective is to educate the surgeon as to alloplastic implant options that may be available to restore function and relieve pain for the patient missing certain anatomical structures from birth.

B-053 Christensen RW. **Over Half A Century of Curing Internal Derangement: One Surgeon's Experience.** Journal of the American Academy of Craniofacial Pain, Fall/Winter 2006, Vol. 19 No. 2, pp 34-36.

The objective of the article is to discuss internal derangement of the temporomandibular joint and the successful treatment of this particular malady.

B-054 Christensen RW. **The Christensen Dental, Mandibular, and TMJ Reconstruction Devices – A Fifty-Five Year History.** International Journal of Medical Implants and Devices, 2005, Vol. 1, No 3/4, pp113-137.

The paper serves to inform the reader of the fifty-five year history of Christensen innovation in three different areas of surgical treatment. First, the development and usefulness of the first single unit dental implants used in the United States is examined. The second area was the development of mandibular replacement devices when segments of the mandible were necessarily resected or missing, and third, the development and usefulness of temporomandibular joint (TMJ) implants is reviewed, whether it be the Fossa-Eminence Prosthesis or the Condylar Prosthesis.

B-055 Malis DD, Zia JJ, Gateno J, Donavan DT, Teichgraeber JF. **New Protocol for 1-Stage Treatment of Temporomandibular Joint Ankylosis Using Surgical Navigation.** Journal of Oral Maxillofacial Surgery, Volume 65, Number 9, September 2007, pp 1843-1848.

Treatment of bony ankylosis of the temporomandibular joint (TMJ) presents a significant challenge to the surgeon. Complex and distorted anatomy with loss of anatomical landmarks makes this type of surgery particularly difficult, carrying significant risks of injury to vessels, nerves and middle cranial fossa. There are usually 2 steps in the treatment of TMJ bony ankylosis. The first step is to resect the ankylosis, creating a critical size gap that is wide enough to prevent further recurrence of bone growth. The second step is to reconstruct the TMJ with autogenous grafts or alloplastic materials.

B-056 Yoon HJ, Baltali E, Zhao K, Rebellato J, Kademani D, An KN, Keller E.

Kenematic Study of the Temporomandibular Joint in Normal Subjects and Patients Following Unilateral Temporomandibular Joint Arthrotomy with Metal Fossa-Eminence Partial Joint Replacement. J Oral Maxillofac Surg 65:1569-1576, 2007.

A study was conducted to quantify the kinematics of the temporomandibular joint in patients following unilateral TMJ arthrotomy with metal fossa-eminence partial joint replacement and compare them with TMJ kinematics of healthy individuals.

The results of the study suggests that the surgical reconstruction of the TMJ with partial joint replacement provided highly significant clinical improvement. Moreover, condyle and incisor kinematics were preserved to a significant amount as compared with the normal group.

B-057 Baltah E, Zhao K, Koff MF, Durmus E, An KN, Keller E. **Kinematic Assessment of the Temporomandibular Joint Before and After Partial Metal Fossa Eminence Replacement Surgery: A Prospective Study.** 2007 American Association of Oral and Maxillofacial Surgeons.

This study compared the functional kinematic outcome of the temporomandibular joint (TMJ) in patients with end-stage TMJ osteoarthritis before and after TMJ hemi-joint replacement surgery.

Kinamatic data support the functional efficiency of hemi-joint replacement surgery, with benefits of increased maximal mouth opening, preservation of operated and unoperated condyle translation motion, and increased mandibular rotation.

B-058 Baltah E, Zhao K, Koff MF, Durmus E, An KN, Keller E. **A Method for Quantifying Condylar Motion in Patients with Osteoarthritis Using and Electromagnetic Tracking Device and Computed Tomography Imaging.** 2008 American Association of Oral and Maxillofacial Surgeons.

The purpose of this study was to develop a method to accurately study the kinematic changes of the temporomandibular joint (TMJ) in patients treated with hemi-joint implant reconstruction for dysfunction of advanced degenerative osteoarthritis.

The results of this study suggest that it is possible to use the proposed methodology to accurately quantify the motion of the mandibular condyle in 3 dimensions. The developed technique is user-friendly and noninvasive to the patient. The proposed methodology is a potential clinical tool that may be used in the management of patients with TMJ dysfunction.

B-059 Speculand, Bernard. **Current Status of Replacement of the Temporomandibular Joint in the United Kingdom.** 2008 British Journal of Oral and Maxillofacial Surgery

Total replacement of the temporomandibular joint (TMJ) has been done in the UK since 1987. The three currently available systems are the Christensen system, the TMJ Concepts system and the Lorenz (BMF) system. Data from surgeons who replace TMJ were collated up to May 2007. There were nine units (eight NHS, one private) offering replacement. The TMJ Concepts system is the

most popular of the three systems. Units are treating between five and 12 patients each year with an estimated total annual workload of 60-65 patients. The current total costs range from £15 000 to £19 000 for bilateral replacement. The most worrying complication is infection, which may affect up to 2.6% of the patients.

The article is available online at www.sciencedirect.com.

B-060 Kashi A, Saha S, Christensen RW, **TMJ Implants, TMJ Reconstructive Surgery and Future Research Directions** 2007 Medical and Engineering Publishers, Inc., pp 67-69.

Treatment of temporomandibular disorders (TMDs) constitutes an important aspect of dental medicine. The use of custom made or pre-designed partial and/or total artificial temporomandibular joint (TMJ) replacement remains one of the surgical approaches for treating various TMJ diseases. A detailed literature survey reveals that autographs along with several different types of TMJ implants (alloplastic materials) have been successfully utilized for surgical correction of temporomandibular disorders, with both these types of biomaterials having benefits and drawbacks.