# Results

The patient was rehabilitated in three clinical sessions: (1) relief of impression, esthetic data, and maxillomandibular recording; (2) trial dentures; and (3) delivery. The usual small adjustments were performed during follow-up sessions.

## Discussion

SET is a flexible and modular method that permits denture completion and delivery in just a few appointments, as per patient needs and dentist preference. The method ensures precise and stable trial denture record bases and impression tray that is molded directly in the patient's mouth, thereby taking advantage of all desirable undercuts and favorable aspects of the defects.

## Conclusions

The described technique accurately records the defect morphology and permits simultaneous recording of the maxillomandibular relationship. The protocol is virtually error proof and ensures optimal precision during all of the clinical steps leading up to the delivery of the denture.

# Acknowledgments

The authors reported no conflicts of interest related to this report.

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### Literature Abstract

## Interaction of alcohol use and specific types of smoking on the development of oral cancer

This case-control study investigated the combined and interactive effects of different types of smoking and alcohol consumption on the development of oral cancer. A total of 350 cases and 350 controls from Morbai Naraindas Budhrani Cancer Institute, Pune, India, were interviewed. The case and control groups were matched in terms of age (mean age: 52.4 years versus 51.8 years), gender (male:female sex ratio, 2.5:1 versus 2.6:1), and residential status. Results showed that smoking and alcohol consumption were significantly higher in the case group (35.7% versus 17.4% and 30.3% versus 13.7%, respectively). Among smoking types, *bidi* (a thin, hand-rolled cigarette filled with tobacco flakes and wrapped in a leaf) showed highest association with oral cancer (odds ratio [OR] = 4.1; 95% confidence interval [CI], 2.4 to 6.9); followed by nonfiltered cigarettes (OR = 2.5; 95% CI, 1 to 6.7). Among alcohol types, hard liquor had the highest association with oral cancer (OR = 2.6; 95% CI, 1.2 to 5.5), followed by country liquor (OR = 2.5; 95% CI, 1.3 to 3.6), and beer (OR = 2.2; 95% CI, 1.2 to 5). Individually, filtered cigarettes (OR = 1.4; 95% CI, 0.8 to 2.3) and wine (OR = 1.7; 95% CI, 0.6 to 4.3) were not significantly associated with oral cancer. Use of both tobacco and alcohol has a multiplicative effect on risk of oral cancer. Bidi and alcohol had significantly higher risk of oral cancer (OR = 19.6; 95% CI, 4.6 to 83.5), followed by nonfiltered and filtered cigarettes and alcohol [(OR = 4.2; 95% CI, 1.8 to 12.0) and (OR = 2.3; 95% CI, 1.1 to 5.0), respectively]. The authors concluded that smoking and alcohol consumption have a significant, interactive role in oral cancer development.

Madani AH, Dikshit M, Bhaduri D, Aghamolaei T, Moosavy SH, Azarpaykan A. Int J High Risk Behav Addict 2014;11:e12120. doi: 10.5812/ ijhrba.12120. References: 20. Reprints: Abdoul Hossain Madani, Research Center for Social Determinants in Health Promotion, Department of Public Health, Hormozgan University of Medical Sciences, Bandarabbas, IR Iran. Email: amadani@huma.ac.ir;shmd\_md@yahoo.com—Simon Ng, Singapore

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(possibly because of greater tipping of the overdentures)<sup>2,4</sup>; while more anterior implant placement is reported to result in less peri-implant stress.<sup>1</sup> However, the authors' clinical observations did not reflect the reported ones, at least not over the limited time frame of this study's observation period.<sup>1,4</sup> Anterior cantilevering of 2MODs (CD) appeared to affect patient satisfaction and the OHIP-14's physical pain domain positively, whereas the increase of CDs may have improved the resistance to rotational movements and denture stability. Consequently, the design of 2MODs may have impinged the soft tissues less and led to a reduced perception of pain or discomfort. The observed results showed that higher IDs improved the social disability and handicap scores noted in the OHIP-14. The posteriorly placed implants may have improved the retention of the 2MODsespecially during chewing of sticky food-leading to enhanced perceptions of self-confidence that affected QOL.

It is acknowledged that potential factors such as fit of the dentures and wear of the attachments may have affected results. Moreover, this study's observations should be interpreted with caution because it is retrospective and lacks a control group. The evaluation also was carried out in a post hoc manner and may, therefore, not accurately describe actual improvement in the assessments. Nonetheless, it is the first clinical report to suggest the possible significance of a correlation between implant location and resultant patientmediated perceptions of improved outcomes.

# Conclusions

Clinical studies with larger patient groups and a more robust research design clearly need to be reconciled with diverse outcome success criteria to determine optimal implant location when prescribing MODs. Nonetheless, this preliminary study suggested that increased IDs might improve edentulous patients' satisfaction and QOL.

## Acknowledgments

The authors reported no conflicts of interest related to this study.

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#### Literature Abstract

A systematic review of implant-supported overdentures in the edentulous maxilla, compared to the mandible: How many implants?

There is much evidence for adopting two implant-supported overdentures as the treatment of choice for the edentulous mandible. However, evidence for a similar treatment modality for the maxilla is lacking. This systematic review focused on survival of the implants, maxillary overdenture, and peri-implant tissue condition over the course of a year. Twenty-four papers were included for meta-analysis. The results indicated that for 6 or more splinted implants, implant survival was 98.1% and overdenture survival was 99.5%. For 4 or fewer splinted implants, implant survival was 97.0% and overdenture survival was 96.9%. For 4 or fewer nonsplinted implants, implant survival was 88.9% and overdenture survival was 98.9%. The condition of peri-implant tissues was seldom reported. The authors concluded that fewer than 4 nonsplinted implants had an increased risk of implant loss. They highlighted the lack of reliable long-term data and poor radiographic assessment of bone loss—a predictor of future implant loss—as well as lack of studies determining restoration of function and quality of life as areas to be addressed to enable meaningful recommendations regarding this treatment modality.

Raghoebar GM, Meijer HJA, Slot W, Huddleston Slater JJR, Vissink A. *Eur J Oral Implantol* 2014; 7(suppl 2):S191–S201. References: 47. Reprints: GM Raghoebar, Department of Oral and Maxillofacial Surgery, University Medical Center, Groningen, PO Box 30.001, 9700 RB Groningen, The Netherlands. Email: g.m.raghoebar@umcg.ni—*Steven Soo, Singapore* 

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Literature Abstract

#### Public awareness of head and neck cancers: A cross-sectional survey

The authors conducted an online survey through Harris Interactive (Rochester, New York, USA) to assess the awareness and knowledge of head and neck cancer (HNC) among US adults. The survey respondents (n = 2,126), ages 19 to 92 years, were randomly selected from the Harrison Interactive online panel. Results showed that (1) 66.0% of the respondents reported "not very" or "not at all" knowledgeable about HNC. This low self-reported knowledge of HNC was unrelated to respondent's tobacco use, education level, gender, or race. (2) Only 22.1% of respondents correctly identified the throat as organs or tissues involved by HNC; mouth (15.3%); and larynx (2.0%). And 21.0% incorrectly identified the brain. (3) Concerning symptoms of HNC, 14.9% correctly identified "red or white sores that do not heal"; "sore throat" (5.2%); "swelling or lump in the throat" (1.3%); and "bleeding in the mouth or throat" (0.5%). A total of 19.0% incorrectly identified headache. (4) Regarding risk of HNC, 54.4% correctly identified smoking; chewing or spitting tobacco (32.7%); alcohol use (4.8%); human papillomavirus (HPV) (0.8%); and prolonged sun exposure (0.6%). (5) Specific question about association between HPV and throat cancer showed that 12.8% of respondents were aware, and most of them were with college or university degrees (14.8% versus 10.0%; P = .001). (6) In contrast, 70.0% of respondents were aware of HPV vaccines. Most of these respondents were with college or university degrees (76.7% versus 60.4%; P < .001) and women (80.6% versus 57.1%; P < .001). The authors concluded that US adults have limited knowledge about HNC, and it is important to improve public awareness and knowledge of signs, symptoms, and risk factors of HNC.

Luryi AL, Yarbrough WG, Niccolai LM, Roser S, Reed SG, Nathan CA, Moore MG, Day T, Judson BL. JAMA Otolaryngol Head Neck Surg 2014;140:639–646. References: 50. Reprints: Benjamin L. Jusdon. MD, Yale Otolaryngology, 333 Cedar St, PO Box 208041, New Haven, CT 06520, USA. Email: Benjamin.judson@yale.edu—Simon Ng, Singapore

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# Conclusions

Education and cultural background appear to influence the professional perception of dental esthetics.

# Acknowledgments

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#### Literature Abstract

### Zygomatic implants: The impact of zygoma bone support on biomechanics

Zygomatic implants are indicated where there is insufficient bone in the posterior maxilla and are inserted through the residual ridge and sinus to engage the body of the zygomatic bone. The aim of this study was to measure the biomechanical behavior of these long implants (35 to 50 mm) with 10, 15, and 20 mm of bone support using finite element (FE) modeling. A 50-mm-long Nobel Biocare zygomatic implant was scanned and inserted in FE-modeled alveolar bone to the depths noted above. A simulated 150 N load was applied at 45 degrees to the long axis, and FE von Mises stresses were calculated. The results indicated three times greater stress in the bone for the implant with 10-mm versus 20-mm bone insertion. Similarly, the abutment screw had lower stress with greater bone support. Abutment stresses did not differ much with varying bone support. Increasing bone support resulted in lower displacement of the implant fixture, abutment, and abutment screw. The authors concluded that the higher stresses with lower bone support were a result of flexing of the long fixture and recommended that 15-mm bone support, in addition to some alveolar support, is required to reduce the risk of mechanical failure of the implant components and reduce stresses at the implant/bone interface. This study modeled nonsplinted implants and is not reflective of how they are used clinically where splinting might result in a different stress pattern—this would be an interesting comparison.

Romeed SA, Malik R, Dunne SM. J Oral Implantol 2014;3:231–237. References: 25. Reprints: SA Romeed, Department Restorative Dentistry, King's College London Dental Institute, London, UK. Email: shihab.romeed@kcl.ac.uk—Steven Soo, Singapore

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Redesigning zirconia MT implant/abutment systems is advisable to enhance reliability calculations.

This study was limited to mouth-motion lingual loading of the abutment; off-axis loading may lead to different results.

## Conclusions

The research hypothesis was accepted for a mission of 50,000 cycles at 175 N of load. The two abutment configurations showed different behaviors regarding location of initial fracture.

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#### Literature Abstract

### Osteonecrosis following short-term, low-dose oral corticosteroids: A population-based study of 24 million patients

The aim of this retrospective clinical chart review study was to report the incidence and risk of osteonecrosis after methylprednisolone taper pack (MTP) was prescribed, using a novel software platform to evaluate a multicenter electronic medical database. A total of 24,533,880 patient medical records from 14 United States healthcare systems were accessed. All patients were distributed among four groups. Group 1 comprised all patients (n = 128,890) who were ever prescribed an MTP; group 2 comprised all patients (n = 98,390) who received only one MTP in their clinical history; group 3 comprised all patients (n = 30,500) who received two or more MTPs; and group 4 (control) consisted of patients (n = 24,404,990) who were never prescribed MTPs. Pearson chi-square was used to compare proportions of categorical variables. Two hundred patients in group 1 (0.155%; relative risk = 1.868), 130 patients in group 2 (0.132%; relative risk = 1.597) and 70 patients in group 3 (0.230%; relative risk = 2.763) developed osteonecrosis. Women who received more than one MTP had the highest incidence (0.247%) of developing osteonecrosis with a relative risk of 3.094. The authors concluded that even a single prescription of short-term, low-dose oral corticosteroid is associated with a low but significantly increased risk of osteonecrosis and that with multiple such prescriptions, the risk becomes greater. However, the authors also cautioned that osteonecrosis has multiple etiologies, hence only an association, not causation, should be inferred from this current large database analysis.

Dilisio MF. Orthopedics 2014;37:e631–e636. References: 19. Reprints: Dr Matthew F. Dilisio, Department of Orthopaedic Surgery, Summa Health System, 444 N Main St, Akron, Ohio 44310, USA. Email: dilisiom@gmail.com—Elvin W.J. Leong, Singapore

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Literature Abstract

### Oral manifestations of hepatitis C virus infection

Based on a review of the literature, the article reported an update on the relationship between hepatitis C virus (HCV) infection with oral lichen planus (OLP), Sjogren-like sialadenitis (SjS) and oral squamous cell carcinoma (OSCC). The authors found that there was strong and convincing evidence that HCV was associated with OLP, whereas the relationship between HCV and SjS was controversial and that HCV could represents an etiologic agent of OSCC in certain countries. The article, however, did not present the inclusion criteria of the reviewed articles.

**Carrozzo M, Scally K.** *World J Gastroenterol* 2014;20:7534–7543. **References:** 125. **Reprints:** Dr Marco Carrozzo, Professor of Oral Medicine, Centre for Oral Health Research, Oral Medicine Department, University of Newcastle upon Tyne, Framlington Place, Newcastle upon Tyne NE2 4BW, United Kingdom. Email: marco.carrozzo@ncl.ac.uk—Huong Nguyen, Ann Arbor, Michigan, USA

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findings were previously reported, showing an increased facial pain associated with lower estrogen levels.<sup>2</sup> This might explain why patients with painful TMD symptoms are more likely to be affected by estrogen fluctuations.

Although changes in TMD pain were observed, no differences were found in MOF or MP. These findings were unexpected since an impaired masticatory function is a common complaint among patients with TMD.<sup>4</sup> In the authors' previous study<sup>3</sup> with painless TMD patients, similar results for MOF and MP were found regarding the menstrual cycle. In addition, hormone fluctuation seems to have no effect on the performance of several body muscles.<sup>5</sup> Thus, it can be suggested that, although the fluctuating estrogen intensifies TMD pain, masticatory muscle function is not affected.

# Conclusions

Pain levels of TMD in women are influenced by hormonal fluctuations of the menstrual cycle without interference with their masticatory function.

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#### Literature Abstract

### Influence of smoking on clinical parameters and gingival crevicular fluid volume in patients with chronic periodontitis

This in vitro study compared the clinical periodontal disease parameters and gingical crevicular fluid (GCF) volume of smokers and nonsmokers with chronic periodontitis. Smokers were defined as those who smoked  $\ge 20$  cigarettes per day for > 2 years. The smoking and nonsmoking group each had 30 male subjects ages 20 to 35 years, with periodontal probing depth (PPD)  $\ge 4$  mm and clinical attachment loss  $\ge 2$  mm in at least 30% of teeth. One examiner measured PPD, clinical attachment level (CAL), Plaque Index (PI) and bleeding on probing (BOP) with Williams periodontal probe, as well as GCF volume with a Periotron 8000 (Oraflow) at six sites of each selected teeth. The authors reported that compared to nonsmokers, smokers had significantly higher PPD (4.64 ± 0.30 mm versus 4.24 ± 0.38 mm), CAL (3.08 ± 0.28 mm versus 2.74 ± 0.42 mm) and PI (74.90 ± 9.89% versus 67.63 ± 15.48%), but significantly lower BOP (60.20 ± 17.14% versus 72.43 ± 15.49%) and GCF volume (0.25 + 0.04 µl versus 0.31 + 0.05 µl). No significant difference in GCF volume between the lingual and facial sites of smokers' teeth was detected. The authors concluded that smoking might affect the inflammatory process of the periodontium, promoting periodontal disease.

Mokeem SA, Vellappally S, Preethanath RS, Hashem MI, Al-Kheraif AA, Sukumaran A. Oral Health Dent Manag 2014;13:469–473. References: 45. Reprints: Anil Sukumaran, Department of Periodontics and Community Dentistry, College of Dentistry, King Saud University, Riyadh, Saudi Arabia. Email: drsanil@gmail.com—Simon Ng, Singapore

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### Literature Abstract

### Does the presence or position of lower third molars alter the risk of mandibular angle or condylar fractures?

This retrospective study of 446 patients with 731 mandibular fractures aimed to determine whether presence or absence of third molars and their angulation predisposed to either fractures of the angle or condyle. The average patient age was 29.3 years (± 11.3 years) with 84.5% males versus 15.5% females. The risk of angle fracture was significantly more likely to occur when an impacted third molar was present and the risk of condylar fracture significantly less likely to occur. The presence of normally erupted third molars was associated with significantly more angle fractures than those sides without any third molars. As the third molar occupies osseous space, it is thought that this results in a weakening due to reduction of bone volume. This study found no statistically significant association between angle of impaction and risk of fracture, although it might be thought that those impactions with discontinuity of the superior cortical border might have a greater incidence of angle fracture. It was hypothesized that the absence of third molars and, hence, a more robust angle will transmit applied force to the relatively weak condylar neck, resulting in its fracture. However, determining bone volume at the angle more accurately may be a better way to assess for risk of fracture in the presence of third molars.

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