ABSTRACTS

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MAXILLOFACIAL SURGERY

The influence of orthognathic surgery on masticatory performance in retrognathic patients

van den Braber W, van der Bilt A *et al. J Oral Rehabil* 2005; **32**: 237–241

Controls chewed significantly better than subjects both before and after surgery, but there was a tendency for improvement after surgery in those subjects with poor pre-surgical chewing performance.

One aim of orthognathic surgery is improvement of function. In this study, 11 patients (mean age 24.8 yrs) were tested before and 1-1.5 yrs after surgery. Controls were 12 patients (25.1) with class 1 occlusion. All subjects had complete dentitions and no TMJ disorders. Chewing tests were made with silicone rubber cubes, followed by sieving.

There was no significant reduction in median particle size after chewing for 15 or 30 cycles for the group of 11 subjects after surgery. Control patients reduced particle size by about ¼ more than subjects in these tests. Change in median particle size after surgery was inversely correlated with pre-surgical size ($r = -0.7$; $P < 0.05$), implying that subjects with poor pre-surgery performance tended to improve.

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IMPLANT DENTISTRY; ONCOLOGY

Osseointegration in irradiated cancer patients: an analysis with respect to implant failures

Granström G *J Oral Maxillofac Surg* 2005; **63**: 579–585

Implant failure was higher in irradiated patients, but not greatly so.

This retrospective study evaluated 631 implants placed in 107 cancer patients who had received radiotherapy over a 25 yr period. At the end of the period, 71 patients were alive (mean survival time of 16 yrs), and 36 had died (9.8), and 484 implants were still active and stable. Age and gender matched healthy controls received 614 implants, and 76 implants failed during a mean follow-up of 7.2 yrs. Six of the 100 controls died of cardiovascular disease during the period.

Implant failure was significantly higher in the cancer patients, irrespective of when they received radiotherapy and of whether they also had chemotherapy. Most implant failure was early, before loading. There was a relationship of failure to radiation dose, and some failures occurred as long as 20 yrs later. The authors recommend use of long fixtures, fixed retention and hyperbaric oxygen, which all improved implant survival. Highest failure rates were in the frontal bone, zygoma, mandible and nasal maxilla.

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CONSERVATIVE DENTAL SURGERY

Precision of fit and clinical evaluation of all-ceramic full restorations followed between 0.5 and 5 years

Naert I, van der Donck A *et al. J Oral Rehabil* 2005; **32**: 51–57

The cumulative 5 yr failure rate was 4.5% and patients were very satisfied with aesthetics and function.

This study comprised an *in vitro* investigation of marginal fit of 8 of these crowns, and a clinical investigation of 300 crowns placed by 16 operators in 165 patients. In 21 cases, single tooth implants were used. In the first part of the study, the mean vertical luting distance was 24 µm for glass ionomer and 29 µm for composite, which did not differ significantly from fit before luting, or between cements.

In the second part, the cumulative success rate at 5 yrs was 95.6%. According to the California Dental Association system, 72% were judged excellent for surface and colour at the last recall, and 78.5% for anatomical form. Replacement or correction was indicated on these grounds respectively for 1.5% and 0.5%. Most patients also judged restorations satisfactory on these grounds.

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ORAL SURGERY

Estimating third molar extraction difficulty: a comparison of subjective and objective factors

Susurla SM, Dodson TB *J Oral Maxillofac Surg* 2005; **63**: 427–434

Actual extraction difficulty of all third molars (M3s) correlated well with the opinion of surgeons on the importance of individual predictive factors.

In a US clinic, 14 surgeons first estimated subjectively on a VAS the importance of 21 randomly ordered factors in assessing difficulty. The estimates were averaged as a mean estimate of importance (MEI) for each factor. The surgeons (mean surgical experience 8.7 ± 10.9 yrs) removed 450 M3s from 150 outpatients during a period of 15 months, and one person observed them. Extraction time was used as an outcome to assess objective importance of the individual factors.

Mean extraction time was 6.8 (±7.2) min. MEIs showed that surgeons considered radiographic anatomical and operative variables to be more important for assessing extraction difficulty. Multivariate linear regression showed an association with M3 extraction time for gender, arch location, Winter's classification, tooth morphology, number of teeth extracted, procedure type and surgical experience. This correlated well ($r = 0.86$; $P < 0.01$) with surgeons' estimates of importance. However, for mandibular M3s only, MEIs did not correlate significantly, and the authors suggest this indicates a lesser understanding of the relevant factors for these teeth.

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