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Endodontics

## Results of endodontic retreatment: a randomized clinical study comparing surgical and nonsurgical procedures

**Kvist T, Riet C**  
**J Endodon 1999; 25: 814-817**

A difference in favour of surgical retreatment at 1 year disappeared after 4 years of follow-up.

A total of 99 teeth were endodontically retreated in 92 patients in a Swedish university clinic over a 4 year period, with random assignment to surgical (45 teeth) or nonsurgical (47) procedures. Teeth were retreated when they had a clear apical radiolucency, had received original root canal therapy at least 4 years before, and had no apparent apical-marginal communication.

Nonsurgical treatment included thorough debridement and preparation, reinstrumentation, hypochlorite irrigation, Ca(OH)<sub>2</sub> paste dressing for 2 weeks, and laterally-condensed gutta-percha. Surgical retreatment included 1–2 mm apicectomy with apical curettage, canal debridement and refilling where possible or a retrograde 2–3 mm cavity and gutta-percha retrograde seal.

At 1 year, about 50% of surgically treated teeth had healed, as opposed to 30% of those nonsurgically treated ( $P < 0.05$ ). The latter group caught up by 4 years, with both groups showing just over 50% healed. The authors comment that improved technology over the 8 years since the cases were treated may have improved today's healing rates.

Oral and maxillofacial surgery; implant dentistry

## Rehabilitation of war-injured patients with implants: analysis of 442 implants placed during a 6-year period

**Motamedi MHK, Hashemi HM et al.**  
**J Oral Maxillofac Surg 1999; 57: 907-913**

This rare study of war injuries in Iran suggests similar implant survival rates as in more conventional and predictable usages.

This study included only patients for whom demographic and follow-up data (1–6 years: mean 4.3) were available. Implant supported prostheses were provided for 73 male war injury patients aged 20–61 years (mean 32) treated from 1992–1998, for whom conventional prosthodontic treatment was not possible. Two hundred and fifty implants were placed in previously fractured bone, and 192 in grafted bone (predominantly from the iliac crest) in 28 cases at the time of grafting, and in the remainder at least 1 year later. Implant length ranged from 10–18 mm.

During follow-up, 416 implants were functional and clinically free of problems, 6 were left uncovered; 11 were lost in grafted bone (92.7% success rate, none lost in patients given simultaneous grafts and implants) and 9 in other bone (97.6%). Most implants were lost through lack of osseointegration. Oral hygiene was suboptimal in 11 patients who lost implants, and 15 were heavy smokers. All patients had undergone previous major surgery on 1–30 occasions

(mean 4.8). A subsequent discussion by another surgeon notes the findings, and suggests that further information would be welcome on issues such as prosthetic design and the nature of injuries.

Trauma; preventive dentistry

## Experimental comparative study of various mouthguards

**Hoffman J, Alfter G et al.**  
**Endod Dent Traumatol 1999; 15: 157-163**

User-fitted devices appeared less satisfactory than laboratory-produced devices in this study *in vitro*.

Mouthguards are currently recommended for protection in all body contact sports. However, there are no accepted standards for mouthguard assessment. This study describes the use of a model jaw with a silicone alveolus in which metal teeth were inserted. A pendulum was then used to provide a predetermined impact force.

Two 'boil-and-bite' user-fitted devices were tested, as well as four laboratory devices designed for various different types of sport. User-fitted shields were shaped in the mouth on the teeth, and laboratory devices were constructed on upper models with an opened mouth lower jaw model. All devices were made primarily from ethylene vinyl acetate with several variations in construction.

The deflection of teeth with shields in place was compared with deflection of unprotected teeth with similar impact force. Compared with unprotected teeth, laboratory-made devices provided greater protection in most situations and at several force levels. Thickness, process of manufacture and composition accounted for these variations.

Oral medicine; preventive dentistry

## Oral cancer, smoking and alcohol: the patients' perspective

**Kerawala CJ**  
**Br J Oral Maxillofac Surg 1999; 37: 374-376**

The majority of a group treated for oral cancer were unaware of the known causal factors, and half continued to smoke, while 1/3 had an excessive alcohol intake.

Tobacco smoking and excessive alcohol consumption are significant risk factors for oral malignancies, and together have a marked synergistic effect, with such tumours developing around 15 years earlier than in non-smoking teetotallers. The risks can be reduced by cessation of the habits.

In this study, 152 patients, who had received surgery for oral tumours at least 6 months before, were asked about these risk factors and their answers were compared with those of a matched group of 138 controls attending for management of non-malignant diseases.

At original presentation, 112 cancer patients smoked, and 15 had ceased smoking on average 3 years earlier. By the time of the study, 41 more had ceased, half with professional help. Excessive alcohol consumption (> 3 units/day in men, > 2 in women) was reported by 85 at presentation, and 30 reduced this to acceptable levels by the study, but only 2 with professional help. In the tumour group, 56 knew the causes of oral cancer, a similar proportion to the control group (47). In both groups, 96% knew that smoking caused lung cancer. The author comments that education on causes of oral cancer is required, particularly for those who experience the disease.