

Abstracts on this page have been chosen and edited by Dr Trevor Watts

CARIOLOGY; PREVENTIVE DENTISTRY

Caries-preventive effect of fissure sealants: a systematic review

Mejàre I, Lingström P *et al.* *Acta Odontol Scand* 2003; **61**: 321-330

There is limited evidence of any effect.

A wide-ranging search identified 113 studies of potential relevance. Two reviewers independently performed a detailed examination of these studies to include all randomized, split mouth or controlled trials which gave outcome as caries increment, specified the teeth under investigation, defined the diagnostic criteria, involved children <9 yrs for 1st molars and <15 yrs for 2nd molars, and had at least 2 yrs' follow-up. Eventually 13 studies involving 3897 children were identified.

No studies were graded as high value evidence, 2 were graded as moderate evidence, and 11 as limited evidence. Relative caries risk reduction varied from 4% to 54% for single, and 69% to 93% for repeated, applications. A pooled estimate of resin-based sealing of 1st permanent molars showed a relative risk reduction (RRR) of 33% for caries in sealed teeth, and for 2 glass ionomer (GI) studies, RRR was 56%.

The authors state that only one included study was a randomized controlled trial and consider there is a need for well-designed studies in this category. They consider there is only limited evidence of an effect with resin-based sealants, and incomplete evidence of any effect of GI sealants.

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ORTHODONTICS; MAXILLOFACIAL SURGERY

Orthodontic preparation for orthognathic surgery: how long does it take and why? A retrospective study

Luther F, Morris DO *et al.* *Br J Oral Maxillofac Surg* 2003; **41**: 401-406

The range of treatment times was from 7 to 47 months.

Orthodontic patients need a realistic estimate of the timespan of their treatment. This study examined records of 65 patients who had undergone orthognathic surgery after preparatory orthodontic treatment, over a 5 year period. Mean age at start of treatment was 23 yrs (range 13-50), and 3/4 were female.

Median duration of orthodontic treatment was 17 months (7-47). There was no effect of the type of malocclusion, extraction of teeth, gender or age. The factor which showed greatest variation was the 4 different orthodontists, but the variation was not shown to be statistically significant. In a Norwegian study, similar figures were reported, and the authors of the present study

suggest that patients should be advised that pre-operative orthodontics may take 12-24 months.

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ORAL SURGERY

Types, frequencies, and risk factors for complications after third molar extraction

Bui CH, Seldin EB *et al.* *J Oral Maxillofac Surg* 2003; **61**: 1379-1389

The complication rate was 4.6% in a group of 583 patients.

This study examined records of 583 patients who had 1597 third molars removed over a 5 year period. Root development was complete in 82%, 3/4 of mandibular teeth were close to the inferior alveolar nerve (IAN), 79% of extractions were under LA, and 72% involved a surgical approach.

There were 74 recorded complications, affecting 5% of teeth and 10% of subjects. Operative complications included bleeding ($n = 9$), IAN damage (6), oroantral communication (3), and incomplete removal (1). Inflammatory complications included alveolitis (23), delayed healing (23), infection (8), haematoma (7), pain (4), swelling (1) and sequestration (1).

The authors identify age, anatomical position and planned operation as significant factors which might be modified indirectly by the clinician, by operating as early as possible, and using additional imaging techniques.

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ENDODONTICS

The outcome of endodontic retreatment: a 2-yr follow-up

Gorni FGM, Gagliani MM *J Endodon* 2004; **30**: 1-4

The previous root treatment may affect retreatment outcome.

In an Italian endodontic clinic, 452 consecutive retreatments in 451 patients of mean age 41 yrs (range 16-74) were followed up for 2 yrs, with 26 drop-outs. Teeth were classified as those where root canal morphology was respected by the previous root treatment (RCMR) and those where it was altered (RCMA).

Success rates for retreatment of teeth without previous apical lesions were 92% for RCMR teeth and 84% for RCMA, and for teeth with such lesions, respectively 84% and 40%. Failure rates were highest for RCMR teeth where canals were partially or completely occluded, and for RCMA teeth with alterations of canal curvature or various types of perforation.

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