RESEARCH SUMMARY

Caries experience in older patients

Dental caries experience in older people over time: what can the large cohort studies tell us?
W. M. Thomson Br Dent J 2004; 196: 89–92

Background
Little was known of the natural history of dental caries among older adults until recently, but reports from a number of large cohort studies have now enabled better understanding of the nature and determinants of dental caries in older people. The aim of this review is to examine and compare findings from established population-based longitudinal studies of older adults in order to determine their preventive implications.

Methods
The dental literature was reviewed in order to identify reports on dental caries incidence from large, population-based dental longitudinal studies of older adults (age 50+) with at least 3 years of follow-up.

Results
Reports were identified from four studies (in Iowa, North Carolina, Ontario and South Australia) which met the criteria; four reports dealt with coronal caries, and five with root surface caries. When annualised, coronal and root surface caries increments were combined and compared with those reported for adolescents, the caries experience of older people over time (between 0.8 and 1.2 new surfaces affected per year) exceeded that reported from cohort studies of adolescents (between 0.4 and 1.2 surfaces per year). The only caries risk factor common to all four studies was the wearing of a partial denture (for root surface caries only).

Conclusions
Older people are a caries-active group, experiencing new disease at a rate which is at least as great as that of adolescents.

Practice implications
Dentate older people should be the target of intensive monitoring and preventive efforts at both the clinical practice and public health levels. There is no easily identifable 'magic bullet' for preventing caries in that age group, but the use of evidence-based preventive interventions (such as fluoride) should suffice.

IN BRIEF

- More and more people are retaining their teeth into old age. This paper examines the findings of a number of large studies which have followed older people over time in order to examine the natural history of dental caries in that age group.
- Surprisingly, the dental decay rate over time among older people is at least as great as that among adolescents.
- Interventions aimed at improving the oral health of older people should take into account and use a broad combination of clinical and population-based strategies, as there is no 'magic bullet' which will eliminate the problem.

COMMENT
This paper is important because it challenges common perceptions about the dental disease we spend much of our time treating. The method and rigour with which it has been conducted are commendable and the methods are quite transparent. We can be comfortable that the studies included represent, fairly accurately, the caries incidence and increment in the populations of the older adults involved.

The clear conclusion is that caries is a disease of older adults every bit as much as it is a disease of children and adolescents. Of course this is a simplification. First of all we should remember that what is reported here is probably a phenomenon of the developed world. Furthermore, carious damage in early life has health and economic implications for an entire lifetime. On the other hand, most carious lesions of the coronal surfaces of older adults' teeth are associated with existing, often complex, restorations, meaning more treatment and more cost for less health gain. Comparisons between the age groups are perhaps unwise, but the overwhelming clinical message is that caries prevention applies to everyone, particularly the over 50s.

The observation that coronal caries had a higher incidence and increment than root caries is interesting but should be viewed in context. When collecting data in the field it can be surprisingly difficult to decide whether caries should be coded as coronal or root, particularly when associated with existing large restorations. In evaluating what this study is telling us it is perhaps appropriate to think about both together. Whether it occurs on the crown or the root, the disease will often be difficult to treat well, and the rate at which new lesions occur is rapid and affects any vulnerable surfaces.

The difficulty the author found identifying common risk factors is no surprise as the hypotheses of the various studies were different, so the nature of data collection and analysis varied according to the priorities of the research. It is of relevance then that the one risk factor that appeared consistently was the presence of a partial denture. There are good theoretical reasons why partial dentures increase caries risk. Whilst it is always difficult to sort out cause and effect, the consistency and quality of the evidence point to an important role. That the implications of providing partial dentures extend beyond just replacing teeth is an important take home message for all dentists when treatment planning.

Dr J. Steele, Senior Lecturer in Restorative Dentistry,
School of Dental Sciences, University of Newcastle
doi:10.1038/sj.bdj.4810898