

# Caries

## FLUORIDES AND CARIES MANAGEMENT

### *Do we still need fluoride?*

*In order to keep decay levels low the basic population approach to fluoride prevention such as water fluoridation is as relevant today as it was when water fluoridation was first introduced.*

Water fluoridation remains the most effective, efficient and socially equitable means of providing the caries preventive-effects of fluoride to the community. Although fluoride has both pre-eruptive and post-eruptive effects, maximal caries-prevention will be achieved via the maintenance of a constant supply of ionic fluoride at the tooth surface/plaque interface (Fejerskov *et al*, 1981; Beltran and Bert, 1988). Thus, strategies aimed at frequent, low-level exposure to fluoride in the community (such as water fluoridation) are superior, in terms of caries prevention, to professional applications, which tend to be high-concentration fluoride gels but less frequently applied.

### Who benefits from the additional fluoride therapy

- moderate to high caries-risk individuals;
- individuals with reduced salivary flow;
- patients undergoing orthodontic treatment, or wearing removable partial dentures;
- patients after periodontal surgery;
- individuals suffering erosion of teeth;
- patients with hypersensitive teeth; and
- some intellectually or physically impaired individuals.

### Supplements – should we use them?

Riordan (1996) states that the contribution of fluoride supplements to caries prevention is minimal and they should no longer be recommended as a preventive measure but may be useful in caries management for the individuals with higher caries risk.

#### Professional vs home use

If additional fluoride therapy is considered necessary, self (home) application of lower concentrations of fluoride at more frequent intervals will provide the greatest benefit. However, if the circumstances warrant, professional application may be an added approach.

#### Fluoride therapy

– general principles to keep in mind

- Use low concentration fluoride where possible
- The higher the salivary flow rate, the quicker the oral fluoride is cleared therefore use before bed is beneficial.
- The more acidic the oral environment, the less the normal salivary protection is able to counter-balance the demineralisation effect of the acid.
- It is important to take a detailed past and present fluoride exposure history.
- It is important to ensure that the patient is able to follow the instructions.
- Children should always have direct adult supervision when using any fluoride products at home.
- Possible damage to the tooth-coloured restorations if APF used.
- Fluoride therapy should be closely monitored and regularly adjusted according to the patients needs.