



# Prevention & control of tooth decay in kindergarten children

## Protect your children from ECC

**Early childhood caries (ECC)** is defined as the development of one or more cases of dental caries (tooth decay) in a child before the age of 6 years (*American Academy of Pediatric Dentistry, 2011*). Although Hong Kong is a metropolitan city with water fluoridation, ECC is very common among preschool children. More than half (51%) of Hong Kong's 5-year-old children suffer from ECC, and the average number of decayed teeth is 2 among kindergarten children (*Department of Health, 2002*). ECC causes pain and infection, because advanced decay progresses into the tooth pulp and causes dental abscess. Dental abscess associated with extensive decay is reported to be present in 6% of local preschool children. Untreated caries can even lead to severe systemic infection. **Identifying preschool children with ECC for early caries management can reduce the spread of infection.**

### Faculty Preschool Oral Health Programme

Although the HKSAR Government Department of Health provides oral health education to preschool children, there is no city-wide preschool dental service. Sadly, utilisation of dental care from private dentists among preschool children is low. More than two thirds (72%) of them never visit a dentist, and more than 90% of ECC cases are left untreated (*Department of Health, 2002*). **The HKU Faculty of Dentistry is helping kindergarten teachers and parents improve this situation.**




In 2008, the Faculty set up a 2-year pilot outreach dental service with support from the *HKSAR Government Health Care Promotion Fund*. This free service promoted oral health through the prevention and control of tooth decay in 19 kindergartens. Following its success, the *SK Yee Medical Foundation* provided support in 2010 to expand the service to 100 kindergartens for 2 years. A commercial company (*Colgate Palmolive Hong Kong Ltd*) also provided free toothbrushes and toothpaste and helped develop teaching materials for kindergarten teachers. In 2012, the Faculty received a generous donation from the *Mr & Mrs Steven Lo Donation Fund* to provide free kindergarten dental services and parental/teacher education for another 2 years.

**Through this 2012-14 free Faculty service and educational programme, oral health knowledge can be transferred to preschool children inside and outside the kindergarten on a daily basis.**



## HKU FACULTY OF DENTISTRY Preschool Oral Health Programme

### Our aims

-  To prevent and control the development of ECC among Hong Kong preschool children
-  To raise dental knowledge and awareness among Hong Kong preschool children
-  To provide oral health education training to kindergarten teachers and parents



# HKU Faculty of Dentistry

## Preschool Oral Health Programme

### Education training to teachers and children

In 2010-12, kindergarten teachers and K1-K3 preschool children from 100 selected kindergartens were invited to participate in the Faculty Preschool Oral Health Programme. A training seminar with workshop was designed to equip the teachers with adequate knowledge and skills in preventing ECC. Of the 100 invited kindergartens, 86 volunteered to take part. By the end of 2011, more than 1000 teachers had directly or indirectly benefited from the seminars and workshops. Dental models, posters, booklets, and leaflets were also distributed to the schools so the teachers could continue to pass on their oral health knowledge to the children and their parents, and the schools have been satisfied with this arrangement. The same format is therefore being used in the 2012-14 Programme.

### Dental examination

As part of the Faculty Preschool Oral Health Programme, an outreach service dentist clinically examines children in the participating kindergartens, with parental consent. After the clinical examination, a written report is given to the parents of each child. The parents are informed of the absence or presence of ECC, as well as the general oral hygiene status of their child. Children with ECC are advised to visit a dentist of their own choice for appropriate treatment at their own cost.

### Control of tooth decay by topical fluoride application

For children with dental decay, a dentist in the kindergarten applies a fluoride solution (38% silver diamine fluoride) topically with a disposable dental brush onto the decayed teeth. This simple treatment aims to control the progress of disease by hardening the tooth decay. As the decay hardens, it turns into a coal-black colour. The treatment effects and expected treatment outcome are explained in the preschool invitation letter and the topical fluoride application is performed only with parental written consent. Subsequent care may be provided by a private dentist, or by a dental therapist when the child leaves the kindergarten and joins the School Dental Care Service provided by the HKSAR Government Department of Health.

*Silver diamine fluoride is a painless, safe, and effective topical fluoride agent to prevent, slow down, and arrest the development of ECC. Clinical trials have shown its success in arresting ECC in children (Journal of Dental Research 2009). Silver diamine fluoride can be used to control dental caries in preschool children who are too young or difficult to manage in dental chairs. The stopped decay lesion will turn a coal-black colour, which is a normal outcome but may temporarily affect the child's appearance. Some children may experience irritation of the inner mouth lining after application. However, this irritation is transient and self-limiting; no treatment is necessary and it will fade in about 1 week without any significant impact on general health. Any skin will be tinted grey if it accidentally contacts the solution, so the dentist will provide the treatment with care. No significant substantiated complications have been reported in this service and from clinical studies so far.*

**Silver diamine fluoride is a painless, safe, and effective topical fluoride agent to prevent, slow down, and arrest the development of ECC.**



### References

1. American Academy of Pediatric Dentistry (2011). *Policy on Early Childhood Caries (ECC): Classifications, Consequences, and Preventive Strategies*. [http://www.aapd.org/media/Policies\\_Guidelines/P\\_ECCClassifications.pdf](http://www.aapd.org/media/Policies_Guidelines/P_ECCClassifications.pdf) [Accessed on 15/11/2012].
2. Department of Health (2002). *Oral Health Survey 2001*. Hong Kong: Government Printer.
3. Rosenblatt A, Stamford TC, Niederman R (2009). Silver diamine fluoride: a caries "silver-fluoride bullet". *Journal of Dental Research*; 88:116-25.

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## We can help you protect your children from ECC

If you have any questions or if your kindergarten would like to join our programme, please call the Project Leader, **Dr Chun-hung Chu** at 2859 0246, or e-mail [chchu@hku.hk](mailto:chchu@hku.hk)

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