Interview: “Around 50 per cent of children have cavities by 6 years of age”

By Brendan Day, DTI

With recent studies showing that more than four out of ten Australian children aged 5-10 have caries affecting their primary dentition, it is clear that good oral health habits need to be practised from a very early age. Given that oral disease can cause potentially permanent damage, a preventative approach is essential. Dental Tribune Online spoke with Prof. David Manton, Chairman of the Australian Dental Association’s Oral Health Committee, about the importance of dental check-ups for children and why recent legislative changes in Australia may negatively affect this.

Dental Tribune Online: Prof. Manton, how many times should children be visiting the dentist each year?

Prof. David Manton: The regularity of visiting the dentist for children depends on their oral health. To start with, a child should visit a dentist within six months of the eruption of the first tooth, so around 12 months of age. This is to allow the dentist to examine the child’s mouth and discuss with the parents how to maintain their child’s oral health. This would include issues such as diet and oral hygiene. After that, the time between visits usually varies between six and 12 months, although some children may visit more frequently, such as a child at high risk of dental caries.

What are some of the main contributors to the poor oral health of Australian children?
The main factor affecting oral health in children is dental caries. Around 50 per cent of children have cavities by 6 years of age. The main causative factor is diet—primarily the regular consumption of sugars in the diet. These sugars can be obvious, like sugary sweets and lollies, but can also be hidden in food and drinks, such as soft drinks, dried and processed fruits, soy drinks and flavoured milk. The sugars encourage the overgrowth of decay-causing bacteria in the plaque on the teeth, and these produce acids that weaken the teeth and lead to caries.

Brushing teeth with fluoridated toothpaste decreases the amount of decay that occurs and improves gingival health, so a lack of brushing can lead to the opposite. Around one sixth of children will have teeth affected by developmental defects that may lead to an increased risk of decay, so early detection of these defects can help prevent caries developing.
Researchers find link between oral bacteria, cerebral microbleeds and stroke

By DTI
KYOTO, Japan: Cerebral microbleeds (CMBs) have attracted attention as a possible factor of cognitive impairment asso-
ciated with disorders such as stroke and dementia.

Streptococcus mutans, a type of oral bacteria associated with dental car-
ies, is involved in the development of CMBs. Seeking to clarify the con-
nexion, a team of Japanese research-
ers has now found evidence that cnm-positive S. mutans was detected more
times in patients with CMBs than those without. Furthermore, the percentage of dental caries pa-
tients was significantly higher in the collagen-binding activity group, the
study found.

According to the researchers, the findings suggest a molecular mecha-
nism for the interaction between chronic oral infections and geriatric
diseases, such as stroke and cogni-
tive impairment. In order to clarify the causality, an intervention study focused on oral care and the micro-
bacteria in CMB subjects would be of interest, they emphasised. As the
current data supports the important
influence of the oral microbiota on
neurological disease, they further
called for improved collaboration
between dental and medical re-
searchers.

The study, titled “Oral cnm-positive Streptococcus mutans expressing
collagen binding activity is a risk fac-
tor for cerebral microbleeds and cog-
nitive impairment”, was published online on 6 December in the Scien-
tific Reports journal.

Interview: “Communities without fluoridated water have a higher incidence of dental caries”

By DTI
CAIRNS, Australia: Once a manda-
tory measure, the fluoridation of lo-
cal water supply in Queensland is no
longer compulsory due to legislative
measures put in place between 2012
and 2014. Due to pressure from anti-
fluoridation campaigners, many lo-
cal councils have chosen to abandon

the addition of fluoride to water,
despite its proven health benefits.
Professor John Abbott is the Director
of Clinical Dentistry at Cairns’ James
Cook University and he recently
spoke with Dental Tribune Interna-
tional about this ongoing issue.

DTI: What prompted the Queensland Government to
make the fluoridation of wa-
ter supply non-compulsory?

Profesor Abbott: On 6 Decem-
ber 2007, the Labor government’s
Premier, Anna Bligh, made it manda-
tory that all water supply in Queens-
land be fluoridated. However, in
November 2012 the Liberal Party
government reversed this decision.
The reversal seemed to stem from
consideration of the greater area that
is called regional Queensland. There
are many communities in Queens-
land, including far north Queens-
land, that never had fluoride in their
water supply and there was quite a
bit of unrest that water fluoridation
had been forced onto these commu-

nities.

What benefits does water fluoridation present?

Fluoride in the water supply is con-
sidered by tertiary dental schools to
be a very good public health initia-
tive. There is clear evidence that long-
term exposure to an optimal level of
fluoride results in diminishing levels
of dental caries in both child and
adult populations. The level of fluo-
rise in drinking water supplies is also
just 1.5 parts per million (ppm).

Which groups does non-fluoridated water affect most?

Simply put, communities without
fluoridated water have a higher inci-
dence of dental caries.

There has been some discus-
sion centring on ‘alternative solutions’ to compulsory wa-
ter fluoridation. What type of solutions would these be

and what limitations do they have?

Alternatively to fluoridated water
include toothpaste and fluoride
added in bottled water. The best-case
scenario is the actual incorporation
of fluoride into developing teeth in-
utero, by the mother drinking fluor-
dated water. This enables fluoride to
be incorporated into the developing
tooth so that, on eruption, they are
strongly protected against acid at-
tack and dental caries.

Bottled fluoridated water could be
used in schools, but would require
extensive management of the pro-
cess. Bottled water is sold at a price
out of reach of the majority of the
population, causing a marked divide
in the population with regards to oral
health.

Evidence has repeatedly shown that long-term exposure to optimally fluoridated water results in decreased levels of dental caries in
both children and adults. (Photograph: kruszyzna0/pixabay)
HYPERSENSITIVITY DUE TO TOOTH EROSION CAN BE GONE WITHIN SECONDS* WITH COLGATE® SENSITIVE PRO-RELIEF™ TOOTHPASTE

The risks that carbonated soft drinks, alcoholic mixers and wine pose to your patients’ teeth are well-known – increased consumption of acidic food and drinks can lead to tooth erosion and hypersensitivity.

However, even your patients following a healthy lifestyle may be at risk due to the acidic nature of fruit juices and sports drinks.1 Hypersensitivity results when the tiny dentine channels directly linking to nerves in the tooth become exposed and is associated with pain and discomfort triggered by heat, cold or touch.

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The Pro-Argin™ Technology of Colgate® Sensitive Pro-Relief™ toothpaste physically seals dentine tubules with a plug that contains arginine, calcium carbonate and phosphate. The plug effectively reduces dentine fluid flow reducing sensitivity and relieving pain in seconds.*2,3

**COLGATE® SENSITIVE PRO-RELIEF™ IS CLINICALLY PROVEN TO RELIEVE PAIN IN SECONDS**

In a double-blind, parallel group study, 120 patients directly applied either Colgate® Sensitive Pro-Relief™ toothpaste, a regular desensitising toothpaste† or a regular toothpaste‡ to sensitive teeth. Change in hypersensitivity was assessed using air blast sensitivity scores, where a lower score indicates better pain relief.

Not only did Colgate® Sensitive Pro-Relief™ provide instant relief of dentine hypersensitivity, both immediately after direct application and after 3 days of use, but it also provided superior pain relief when compared with the other toothpastes.

**INSTANT AIR BLAST SENSITIVITY RELIEF IN VIVO**

![Graph showing air blast sensitivity relief](image)

Recommend Colgate® Sensitive Pro-Relief™ to your patients suffering from hypersensitivity due to acidic tooth erosion – clinically proven to treat hypersensitivity and relieve pain fast.*2

* When toothpaste is directly applied to each sensitive tooth for 60 seconds.
† Containing 5% potassium nitrate and 1450 ppm fluoride as sodium fluoride.
‡ Containing 1450 ppm fluoride as MFP.

References:
I love it! A personal story by Dubai dental hygienist Raheleh Mahtabpour

By Marc Chalupsky, DFI

I have always been very passionate about dental hygiene education and spreading oral health and hygiene awareness in schools in Dubai. Not only do I love the interaction with my patients, but I also continue to learn from them and with them every day. One topic has been of particular importance to me: individually trained oral prophylaxis. A healthier and happier life can be achieved through proper oral hygiene—if one knows how to do it.

I love the daily interaction with my patients. I have learnt so much from my patients and made many new friends. At the same time, I do my best to teach them about oral hygiene and how it can affect their health. I enjoy seeing my patients smile.

This is especially rewarding, as a large number of patients in the UAE do not know how to floss and brush properly. Even worse, many patients are referred from dentists who advised them to buy a medium toothbrush. Then they show them the benefits of a soft toothbrush and explain that failure to use the correct brushing technique leaves plaque around the teeth, leading to gum and even gingival infection. One of my favourite pieces of information continues to be “Yes, you can remove bacteria and biofilm with a soft toothbrush.”

In Iran, many patients only go to the clinic when they already have a dental problem. In the UAE, there are many patients with poor oral health. Furthermore, there are many smokers, and judging from the oral health of many patients, they certainly like to eat sweets and drink sugary beverages. Patients usually come in for check-ups and we see improvement, but I too late. This is even the case with children.

That is why I usually see my patients twice a year, because most insurance covers these visits. Sometimes, I see my patients again after two months or two years if they then to bring their toothbrushes, which we will check together.

I am still in love

About ten years ago, I started ordering many toothbrushes and interdental brushes from the Swiss brand CUREFLOSS and introduced them to my patients. One day, a representative approached me and told me more about individually trained oral prophylaxis (iTOP). I attended the initial training programme and loved it. After attending four iTOP seminars in Prague in the Czech Republic, I am still in love. I feel every dentist and hygienist can benefit from this. In the second iTOP programme, I practiced brushing, but I continued to use a little bit too much pressure. It was evident to me that we as dental hygienists need to continue to train. Through attending the iTOP courses, I learnt the right technique and now know that soft toothbrushes are the best products for proper cleaning.

iTOP teaches the following: interdental brushes first, then dental flossing. Many of my patients do not like to floss; they see bleeding and stop. Interdental brushing, however, is easier and more convenient. One has to help one’s gingivae become clean. Almost all of my patients have gingival bleeding—and most of them think it is normal.

Today, I am a proudly certified iTOP instructor and will continue to travel to Prague to learn more for the benefit of my colleagues and patients. I simply love being a dental hygienist and dental educator. Please let us spread the word together.
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**Effective School Dental Health Program, step towards making “Little Oral Health Champions” #YearOfGiving**

By Dr. Aparna Sharma, UAE

**Introduction**

Good dental health habits in our children can give them a lifetime of better health. Schools can play a key role in preventing or identifying children’s oral problems before they become serious and help families obtain health services that are accessible and affordable.

**Little Smile Officers are in real need...**

Children with severe untreated dental decay often are in pain, can’t sleep at night, can’t concentrate and get poor grades. Young children and children with special needs often are unable to communicate about their oral problems or pain. Teachers may notice a child having difficulty while completing tasks by showing the effects of pain – anxiety, fatigue, irritability, depression and withdrawal from normal activities. Children who have a toothache when they take tests are unlikely to score as well as children who are not distracted by pain. When children’s acute oral health problems are treated and they are not experiencing pain, their learning and school attendance records improve.

Children and adolescents with special health care needs compared to all other children and youth. Oral health care is the most prevalent unmet health need for children with special health care needs. About 40% of all births. This rate varies substantially across different ethnic groups and geographical areas.

**Impact of poor oral health on physical, social and emotion- al health**

Tooth decay is an infection caused by bacteria that are transmitted via saliva. Without proper care, the infection progresses to become a cavity and may be an abscess, thus not just affecting the tooth but the rest of the mouth and even the rest of the body, leaving the child prone to many other childhood infections such as ear or sinus infections. Oral injuries often occur during childhood and adolescence, and the teeth most frequently affected are the highly visible front teeth. Nearly 5% of children ages 6–8, 11% of children ages 9–11, 18% of adolescents ages 12–15, and 23% of adolescents ages 16–19 experience oral injuries. Emergency room admission studies reveal that more than 50% of oral injuries are the result of a fall. Trauma to the head and mouth can occur during school-sponsored physical activities, especially contact sports, as well as on the playground from accidents or fights. Studies indicate that about 35% of all dental injuries and about 95% of head and face injuries are sports related. Loss of primary (baby) teeth from injuries or severe dental decay can result in permanent teeth that are crooked, trapped under other teeth or overcrowded, making them more susceptible to decay and periodontal (gum) disease. A single injury to a tooth may not heal completely and may create expensive, long-term problems.

Children who have untreated oral diseases or injuries can suffer from inadequate nutritional intake, impaired growth and development, speech problems from missing teeth, or poor self-esteem.

**Planned Services to be offered in School-based Dental Program**

Dental-based dental programs preventive care services can be offered at the school. Programs may provide services in school clinics with stationary equipment, in a room in the school building using portable equipment, or in mobile vans parked at the school. Four common school-based dental service models include:

1. Dental screening programs: Students in any grade level may be seen. No treatment is provided at the school, thus, students with dental needs can be referred to a local dental clinic.
2. Dental sealant programs: Dental screenings are done and sealants are placed on students in selected grades (typically 2nd and 6th grades) to reach the entire student population at the time if the first or second molars typically erupt.
3. Dental preventive services program: The provided services include prophylaxis, prophylaxis, fluoride treatment, and sealants. This type of program will generally serve all Medicaid students in all grades.
4. Basic preventive and restorative dental service: Finally, this type of program would include the full range of preventive services, such as basic fillings and simple extractions. Students in all grades are offered services.

**Follow-up and case management handling**

There are many questions, being asked by the school when will we plan to conduct an Oral Health program. Will the program be provided by the program or will the school be responsible for this? Who will address parents questions after treatment has been provided? All programs will encounter children who need additional care. Case manager’s duty should be helping children and families find a dental home, locate dental clinics that will provide services to students. Also for uninsured students, ensure that appointments are made and kept, and make sure treatment plans are completed. All programs need to synchronize with dental offices so students can quickly receive needed care. Care management is important to ensure the child receives necessary restorative care.

The program should have a plan for following up on students with dental decay. It is important to have a clear understanding regarding who ultimately has the responsibility of following up with students and/or parents on needed dental care. In addition, the program has finished providing services at school, there should be established protocol for how parents or guardians or concerns will be addressed.

**How often and for how long will the program be at school-site—for instance, once a year, two times a year, or some other arrangement?**

For better impact the program should be conducted at least once a year. The program’s length at the school can vary based upon the number of students needed to be seen. To ensure that all children who sign up for the program receive treatment, we must present paper work to the school looking for ways such as “if time allows” or “as time permits.” These words often indicate that the program is scheduled to be at the school for a set number of days even if not all the children who are signed up for care can be seen.

Children are the future pillars of our nation. As a healthcare provider we should always contribute for a betterment of society. With this positive step we can improve awareness in our children and give them a happy and healthy smile.

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**Participants wanted for trial testing to explore painless caries treatment**

By DTI

**BIRMINGHAM, Ala., USA:** The University of Alabama at Birmingham School of Dentistry has announced that it will be offering patients with interdental caries a new, less painful treatment option as part of a new clinical trial. The new treatment, which entails infiltrating a preparation gel and then a liquid resin through a perforated plastic sheet between the teeth, allows dentists to treat cavities without administering local anesthesia or drilling, which is conventionally unavoidable to access the cavity.

The resin infiltration system is a commercially available product made in Germany and approved by the Food and Drug Administration, but is mostly being used only in clinical trials in the U.S. The university’s clinical research center is conducting the largest U.S. clinical trial of this product, enrolling 150 patients in the study.

“When we develop cavities between teeth, sometimes we have to go through the tooth, and we end up disturbing the whole tooth,” said Dr. Augusto Robles, assistant professor and director of the operative dentistry section at the university. “This new system allows us to skip the drilling and helps us preserve structural integrity of the tooth.”

With the new procedure, the cavity is first cleaned by pushing a gel that prepares the surface to accept the resin infiltrant through the perforated sheet. The tooth is then filled by pushing a liquid resin through the perforated sheet. Finally, a dental curing light is then applied to the tooth to cure the resin.

Despite the apparent simplicity of the procedure, the treatment works only between teeth or on smooth surfaces with small cavities. Some large lesions or those on the occlusal surfaces are not suited for this kind of system because the liquid resin cannot be used to build up shapes. Therefore, its application has to be very specific, Robles highlighted.

Dentists with patients interested in participating can advise their patients to make an appointment for a free 20-minute radiographic and screening assessment by email. Participation is free of charge. ❑
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