

# ORAL HEALTH

## Part 2



Dr Brenda Baker

By **Dr Brenda Baker** BDS (Syd.) Hons. MSc Conservative Dentistry (London)  
Southern Cross Dental

This is the second part in a series of articles on the concept of the Oral Physician which embraces the medical, psychological and dental aspects to treatment in order to provide complete and comprehensive care.

"A person's oral health will impact on their overall health and quality of life" (Jeffcoat MK. et al., 2014, Genderson MW. et al., 2013). Oral disease impacts on systemic health, especially for patients with chronic diseases, such as diabetes. Failing to prevent or control the progression of oral disease may increase the risk of serious adverse health outcomes from other concomitant diseases.

Oral disease is preventable or at least controllable. Limiting alcohol consumption and avoidance of tobacco can prevent oral cancer. Oral and pharyngeal cancers, often diagnosed too late, kill more than 7,800 Americans each year.

### What is the "Silo Effect"?

As dental professionals, we know of the prevalence, severity and cost of dental disease. It is dubious whether most healthcare professionals outside of dentistry understand the difference between dental disease and oral disease. Traditionally, oral healthcare has been separated from routine medical care. The separation of the mouth from the body has been inculcated into the cultures of medicine and dentistry for many generations. Some consider dental care to be discretionary. Dental care is part of oral care. "Oral health can be defined as a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal disease, caries and tooth loss, and other diseases and disorders that affect the oral cavity (<http://www.who.int/mediacentre/factsheets/fs318/en/>)".

The report of the US Surgeon General on Oral Health, published in 2000, called for all healthcare providers to participate in oral healthcare and summarised the

following key points:

- ◆ "Dental care is the most common unmet health need.
- ◆ Oral disease can severely affect systemic health.
- ◆ Profound disparities in oral health and access to care exist for all ages.
- ◆ Interdisciplinary care is necessary to achieve optimal oral and general health".

### Understanding Oral and Dental Disease and Defining Oral Health

**Oral disease incorporates all unhealthy condition of the teeth and soft tissues in the oral cavity including:**

- ◆ Oral cancer
- ◆ TMJ
- ◆ Periodontal diseases
- ◆ Salivary gland tumours
- ◆ Congenital abnormalities (eg. cleft lip and cleft palate)
- ◆ Soft tissue oral conditions such as lichen planus, pemphigus, herpes and ANUG

Dental diseases are limited to teeth and gums, primarily caries, gingivitis and periodontal diseases.

### The New Partnership

The primary care provider and/or team

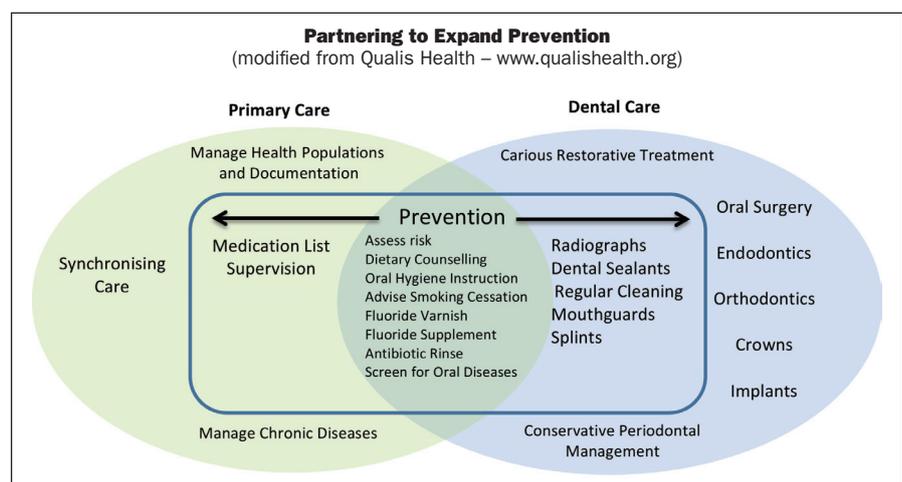
assess, screen for early signs of oral disease, implement preventive measures (eg., apply fluoride varnish), and identify patients in need of dental care. In order for healthcare workers to collaborate and improve health care outcomes, they need to learn about, from and with each other.

### Expanding opportunities for Oral Health

A movement now exists in some countries where, by routinely addressing oral health and actively supporting referrals to oral health professionals, primary care teams can increase the importance of assessment and care of the teeth, gums, saliva, and oral mucosa to a status equal to that of every other organ system in the body. Americans are more likely to visit a primary care provider than a dentist, making the primary care setting a more reliable source of preventive oral health care.

The regularity and frequency of contact with primary care providers offers special advantages for at least three high-risk/high-need groups:

- a. Children
- b. Pregnant women
- c. Diabetics."



## Why focus on oral health?

(US\_Qualis Oral Health Essential Component of Primary Care 2015.pdf)

The following summary statements are critical for the proper understanding of the need for primary care support.

- ◆ “Dental caries is an infectious disease caused by a disturbance of the balance of normal oral microflora and overgrowth of cariogenic organisms (mainly *Streptococcus mutans*, *S. sobrinus* and *Lactobacilli*). Dental caries is the most common chronic disease of childhood.
- ◆ It affects 50% of low-income children. 25% of children aged 2-5 and 50% of children 12-15 suffer from tooth decay. Nearly 25% of adults 20-64 report having untreated dental caries (Dye BA. et al., 2007).
- ◆ Dental caries is associated with compromised growth in children and can affect their appearance, self-esteem, and speech.
- ◆ Children with poor oral health have significantly higher school absence and poorer academic performance than their peers, independent of socioeconomic factors and race (Jackson SL. et al., 2011). However, caries prevalence among poor and near poor five year olds (50%) is twice that of their non-poor peers.
- ◆ Among older adults (65 years and above) 25% are totally edentulous which compromises nutrition and puts them at risk for other complications (Griffin SO. et al., 2012).
- ◆ Periodontal diseases may be a risk to general health, especially for patients with other chronic diseases. New research shows a relationship between periodontal disease and diabetes. Periodontal disease appears to hasten both pancreatic failure and end-organ ischemic vascular disease (a group of diseases caused by arterial insufficiency), including stroke, myocardial infarction and renal failure (Mealey BL., 2006).
- ◆ Periodontal inflammation is also associated with ischemic vascular disease in the absence of diabetes (Schenkein HA, Loos BG., 2013).
- ◆ Maternal periodontal disease during pregnancy may be associated with increased risk of pre-term delivery and low birth weight.
- ◆ Bacteria in the mouth can travel to other systems in the body and have been found in samples removed from brain abscesses (Mueller AA. et al., 2009), pulmonary tissue (Suzuki J. and Delisle A, 1984) placentas and atherosclerotic plaques in the arteries of the heart (Desvarieux M. et al., 2010).

- ◆ The consequences of oral disease are often minimised. Oral complications mirror, worsen, and may even start, other health problems – and they can have an adverse impact on the quality of life.
- ◆ Treating oral disease can lessen complications and hospitalisation among patients with chronic conditions”.

## The Role of Nutrition

Frequent ingestion of simple sugars contributes to obesity and dental caries. A poor dentition and dental pain interfere with eating. The following comments are noteworthy:

1. Children, especially those with special needs and older patients are very susceptible as they may not be able to communicate their pain and often have lower reserves especially if they are nutritionally deprived.
2. The elderly may have failure-to-thrive due to ill-fitting dentures.
3. Early childhood caries (ECC) has been linked to failure-to-thrive in some patients.
4. Some nutritional supplements used to treat failure-to-thrive may exacerbate ECC.

## The Role of Behaviour

(<http://www.smilesforlifeoralhealth.org>)

Behaviours associated with systemic illness are also linked to oral consequences.

### Tobacco users are prone to:

- ◆ Lung and oral cancer
- ◆ Periodontal disease (even among teenage smokers)

### Alcohol users can develop:

- ◆ Liver disease
- ◆ Oral cancer

### Drug abusers, particularly those who use methamphetamine, may suffer from:

- ◆ Blood borne infections
- ◆ Poor hygiene
- ◆ Rampant Caries (e.g., meth mouth)

## Preventing Childhood Caries in Primary Care

- ◆ “The American Academy of Paediatrics advises that oral health risk management should begin before the first tooth erupts, ie. prior to 6 months of age. A primary preventive intervention for children is fluoride to protect the teeth” (Weintraub JA. et al., 2006).
- ◆ In 2014, The US Preventive Services Task Force advises that primary care clinicians prescribe fluoride supplementation for children aged 6 months-5 years in areas where the

water supply is deficient in fluoride and also provide fluoride varnish for all children from the time their first tooth erupts through age 5” (Moyer V.A., 2014).

## The Oral Health Delivery Framework

(US\_Qualis Oral Health Essential Component of Primary Care 2015.pdf)

This outlines the activities whereby a primary care team can promote oral health. If organised well this can be integrated into the office workflow of diverse practice situations.

### ASK

Ask about symptoms that suggest oral disease and factors that place patients at increased risk for oral disease. Assessing risk and screening for oral symptoms can occur before actually seeing the patient clinically.

Simple questions can be asked as part of the data gathering process to determine symptoms of oral dryness, pain or bleeding in the mouth, oral hygiene and dietary habits and the date of the last dental appointment. The questions can be in a written health risk assessment.

A positive response to one or any of the questions indicates a need for further investigation and basic intervention.

### LOOK

Look for signs that indicate oral health risk or active oral disease.

Assess if salivary flow is adequate, signs of poor oral hygiene, white spots or cavities, gum recession or periodontal inflammation and examine the oral mucosa and tongue for signs of disease.

### DECIDE

Review information and discuss results with patients and families. Develop a course of action using established standards based on the responses to the screening and risk assessment questions, results of oral examination and values, choices and goals of the patient and family.

The clinician should decide on the initial action.

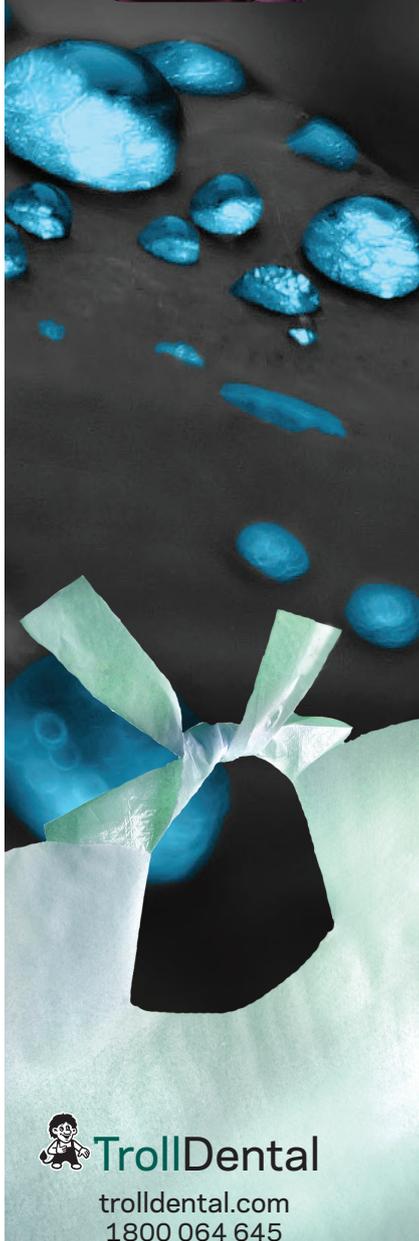
### ACT

Deliver preventive interventions and/or referral to dentist or medical specialist. Preventive interventions delivered in the primary care setting may include:

- a. Changes in medication to protect saliva, teeth and gums.
- b. Oral Fluoride therapy
- c. Dietary counselling to guard teeth and gums and promote glycaemic control for diabetics

# TrollBib

## Covers all



**TrollDental**

trolldental.com  
1800 064 645

- d. Oral hygiene training
- e. Therapy for tobacco, alcohol or drug use/addiction.

### DOCUMENT

Data should be structured in such a way so that information can be organised for decision making.

Check processes and clinical outcomes so the quality of care can be managed (Follow up).

### What approach should be followed?

A team approach is needed. The size of the team and the type of the staff may influence how activities are delegated.

- ◆ Smaller practices need to carefully assign activities so patient-provider time is protected.
- ◆ Larger and more resourced practices may have additional members of the care team so that there will be more possibilities to assign oral health preventive care activities.
- ◆ Ideally, a care manager could be involved to co-ordinate the tracking of referrals, ensure patient needs are met and support the flow of information between the referring provider and specialist. In order to maximise communication, messages conveyed should be crisp, clear and concise.

Except for medication changes for the protection of oral health, all interventions appropriate for primary care can be delivered by a non-clinician member of the primary care team.

It is important to realise that oral disease is prevalent throughout the lifecycle. Oral and systemic health are interrelated. Much oral disease can be prevented through appropriate diet and good oral hygiene. Primary care clinicians can have a major impact on the oral health of individuals and communities through team-based collaborative practice. Collaborative practice can provide comprehensive services by working with patients, their families, care providers and communities to deliver the highest quality of care. ◆

### BIBLIOGRAPHY

Desvarieux, M., Demmer, R.T., Jacobs Jr, D.R., Rundek, T., Boden-Albala, B., Sacco, R.L. and Papapanou, P.N., 2010. Periodontal bacteria and hypertension: the oral infections and vascular disease epidemiology study (INVEST). *Journal of hypertension*, 28(7), p.1413.

Dye, B.A., Tan, S., Smith, V., Lewis, B.G., Barker, L.K., Thornton-Evans, G., Eke, P.I., Beltrán-Aguilar, E.D., Horowitz, A.M. and Li, C.H., 2007. Trends in oral health status: United States, 1988-1994 and 1999-2004. *Vital and health statistics. Series 11, Data from the national health survey*, (248), pp.1-92.

Genderson, M.W., Sischo, L., Markowitz, K., Fine, D. and Broder, H.L., 2013. An Overview of Children's Oral Health-Related Quality of Life Assessment: From Scale Development to Measuring Outcomes. *Caries research*, 47(Suppl. 1), pp.13-21.

Griffin, S.O., Jones, J.A., Brunson, D., Griffin, P.M. and Bailey, W.D., 2012. Burden of oral disease among older adults and implications for public health priorities. *American journal of public health*, 102(3), pp.411-418.

Jackson, S.L., Vann Jr, W.F., Kotch, J.B., Pahel, B.T. and Lee, J.Y., 2011. Impact of poor oral health on children's school attendance and performance. *American Journal of Public Health*, 101(10), pp.1900-1906.

Jeffcoat, M.K., Jeffcoat, R.L., Gladowski, P.A., Bramson, J.B. and Blum, J.J., 2014. Impact of periodontal therapy on general health: evidence from insurance data for five systemic conditions. *American journal of preventive medicine*, 47(2), pp.166-174.

Mealey, B.L., 2006. Periodontal disease and diabetes: A two-way street. *The Journal of the American Dental Association*, 137, pp.S26-S31.

Moyer, V.A., 2014. Prevention of dental caries in children from birth through age 5 years: US Preventive Services Task Force recommendation statement. *Pediatrics*, 133(6), pp.1102-1111.

Mueller, A.A., Saldamli, B., Stübinger, S., Walter, C., Flückiger, U., Merlo, A., Schwenzler-Zimmerer, K., Zeilhofer, H.F. and Zimmerer, S., 2009. Oral bacterial cultures in nontraumatic brain abscesses: results of a first-line study. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*, 107(4), pp.469-476.

Schenkein, H.A. and Loos, B.G., 2013. Inflammatory mechanisms linking periodontal diseases to cardiovascular diseases. *Journal of clinical periodontology*, 40(s14), pp.S51-S69.

<http://www.smilesforlifeoralhealth.org>

Suzuki, J.B. and Delisle, A.L., 1984. Pulmonary Actinomycosis of Periodontal Origin\*. *Journal of periodontology*, 55(10), pp.581-584.

US\_Qualis Oral Health Essential Component of Primary Care 2015.pdf [www.qualishealth.org](http://www.qualishealth.org)

Weintraub, J.A., Ramos-Gomez, F., Jue, B., Shain, S., Hoover, C.I., Featherstone, J.D. and Gansky, S.A., 2006. Fluoride varnish efficacy in preventing early childhood caries. *Journal of Dental research*, 85(2), pp.172-176.

<http://www.who.int/mediacentre/factsheets/fs318/en/>

**By Dr Brenda Baker**

BDS Hons. (Syd) MSc. Conservative Dentistry (London)

Senior Clinical & Technical Support Consultant Southern Cross Dental