Smoking is the largest preventable cause of lost quality of life and lost days of life worldwide. Given the role of smoking as a major risk factor in cardiovascular diseases and in numerous types of cancer, it is important that dentistry place sufficient importance on interventions to reduce this behaviour.

**Taking a wider view**

A recent systematic review proposed that the appropriate risk factor management procedures be adopted in the dental setting for not only smoking cessation, but also for the reduction of sugar consumption and weight control in those patients at risk for one or a combination of any of the following diseases: periodontal disease, caries, diabetes, heart disease and certain cancers.¹

Since members of the general community may see their dental practitioner for care more often than their medical practitioner, there is a great opportunity for dental practitioners to influence patients to reduce or quit smoking and other tobacco-related behaviours. In fact, the current international literature stresses the need for intensified efforts to increase involvement of dental practitioners in smoking cessation counselling, since there are opportunities being lost.

A recent study in the United States compared patient-reported receipt of smoking cessation counselling by a current smoker from US dentists versus US medical practitioners over a period of 12
months. Current adult smokers were significantly less likely to be advised to quit smoking during a visit to their dentist (31.2%) than to their doctor (64.8%). When doctors advised patients to quit, just over half (52.7%) received at least one form of assistance beyond the simple verbal advice to quit, whereas only one quarter (24.5%) of dental patients received such assistance. The study estimated that approximately 9.4 million smokers in the United States who visited a dentist in 2010 to 2011 did not receive any cessation counselling whatsoever. Lack of time and expertise were cited as barriers to undertaking such interventions.

**Which dental professionals can and should be involved?**

Past studies of smoking cessation practices in dental practice settings have primarily concentrated on dentists rather than other oral health practitioners (OHP) such as oral health therapists, dental hygienists and dental therapists. A recent (March 2015) study at UQ evaluated the attitudes, behaviours, interest and barriers for Australian OHPs in their delivering smoking cessation interventions in clinical practice. An anonymous online questionnaire was distributed to members of the two peak professional bodies. A key finding in the study was that while the majority of practitioners (90.1%) frequently screened their patients for smoking behaviour, only around half (51.1%) actively assisted their patients to quit smoking. The most common form of assistance given to smokers by OHPs was referral to Quitline (45.7%), followed by referral back to their general medical practitioner (44.4%). OHPs had a positive attitude to an interest in smoking cessation activities, but identified that lack of knowledge of pharmacological treatments (e.g. nicotine replacement therapy, varenicline and bupropion) and a lack of access to smoking cessation resources were barriers (45.8 and 44.2% respectively). Pressures on chairside time and a lack of financial incentives were not the most common obstacles for this group, something which runs counter to overseas studies on the involvement of dentists in smoking cessation activities.

Because of the issues with knowledge and resources that were identified in this study, it is clear that continuing education in smoking cessation practices is needed for both dentists and OHPs. There are a range of useful policies, guidelines and resources which have been developed internationally and many of these would be useful to both dentists and OHPs so that they can become more informed and more confident about delivering smoking cessation interventions as part of everyday clinical practice.

**What messages do patients need to hear?**

Tobacco use through cigarette smoking and other habits has many negative effects on oral health. Smoking influences oral health by multiple pathways and enhances the risk of destructive periodontitis, post-surgical infections, oral cancer, xerostomia, dental caries and halitosis, by influencing blood flow, salivary flow, immune cell function, dental plaque composition and other key parameters. The vasoconstrictive effects of nicotine can result in suppressed resting saliva flow, with consequential depressed pH and buffer capacity. In addition, smoking alters the ecology of the oral flora through enhanced growth of facultative anaerobes in supragingival and subgingival plaque. Smokers have higher levels of dental plaque and higher caries rates than non-smokers. It is now also recognised that nicotine from smoking enhances the growth of cariogenic bacteria, which flourish under depressed oxygen conditions. Patient knowledge about these and other impacts on oral health should be assessed in a structured way. An example of an assessment tool is shown in Table 1.

**Learning from local experience**

An oral health therapist can effectively deliver an anti-smoking message and can educate adolescents regarding the health-risk effects of smoking. This was demonstrated powerfully in a Queensland program which used oral health therapists (OHTs) to provide high quality smoking cessation programmes and intervention strategies to young adolescents through the school-based oral health services they provide. Some 1217 female students were recruited, with 621 (51%) in the intervention group and 596 (49%) in the control group. There was a significant improvement in the knowledge of both systemic and oral health effects of smoking in the intervention group. The results of the study demonstrated firstly that the dental setting is an effective avenue for educating young individuals on smoking related conditions; and secondly, that this type of intervention from OHTs is highly successful. OHTs who work in the public sector are in a unique position to provide quality smoking cessation programmes and intervention strategies to young adolescents through the school-based oral health services they provide.

In 2009, NSW Health introduced a mandatory policy for public dental services in NSW to conduct smoking cessation brief interventions at the chairside. Rather than using the common 5As approach (Ask, Advise, Assess, Assist, Arrange) based on the stages of change model, the NSW program uses
a three-step approach. This recognizes that staged-based interventions in smoking cessation may not necessarily be the best approach. It also takes into account the practical point that dentists do not have the ability to prescribe nicotine replacement therapy or prescription medicines such as bupropion or varenicline for nicotine addiction.

**Overseas experience**

Tobacco use interventions conducted in the dental practice setting can be very effective and published evidence supports the impact of dental professionals in smoking cessation programs in the US and Japan. In one US study involving 608 patients, the Five A’s protocol was utilised in dental practice with follow-up interviews to assess quit rates. Based on a follow-up of the smokers, the 7-day abstinence quit rate was 22%. Among participants who received nicotine replacement therapy (NRT), some 40% quit. Of the participants who did not receive NRT, only 19% quit. In a Japanese study, the quit rate at 4 months was 88.9% and 77.8% at 6 months.

**References**


**About the author**

Professor Laurence J. Walsh is the technology editor of Australasian Dental Practice magazine and a regular contributor to Auxiliary. He is also a noted commentator on and user of new technologies and the former Head of The University of Queensland School of Dentistry.

**Time for a system change?**

There is an increasing body of literature which shows that dentists and OHPs advising patients to quit smoking is an intervention which is received well by patients. From this, it can be argued that more responsibility can be transferred to dental professionals for smoking cessation and tobacco prevention interventions.

For dental practitioners in Australia who ask patients about their smoking habits, there are several possible options for referral, e.g. to Quitline, or back to their doctor. Enablers for this including having a dental records system that includes tobacco use questions, having positive attitudes toward treating tobacco use and being confident in discussions about treating tobacco dependence gained through appropriate training at undergraduate and postgraduate level. It must also be recognised that there are dental professionals who currently do not offer assistance but may be amenable to changing their practice patterns if sufficiently reimbursed and enabled by having protocols and pathways. This logic underpins the development and use of certain protocols and the request for recognition of structured smoking cessation interventions by item codes, so that it has a profile in the landscape of activity-based funding.

Although dental care settings provide an exceptional opportunity to reach smokers and provide brief cessation advice and treatment to reduce oral and other tobacco-related health conditions, past studies have shown that dental practitioners need clear pathways for their involvement in managing tobacco use and dependence. The protocol developed by and used by the author is shown in Table 1 as an example of a protocol which covers the key elements of the assessment, referral and monitoring elements.
### Table 1. Smoking Cessation Assessment Tool (SCAT)

#### Exposure Type(s)

<table>
<thead>
<tr>
<th>Filter Cigarette</th>
<th>Rolled Cigarette</th>
<th>Pipe</th>
<th>Cigar</th>
<th>Smokeless/Electronic</th>
<th>Snuff</th>
<th>Marijuana</th>
<th>Other</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Age smoking started</th>
<th>Years you have smoked</th>
<th>Units smoked per day</th>
<th>mg nicotine per day</th>
<th>Pack years (calculate)</th>
</tr>
</thead>
</table>

#### Dose estimation

- Reasons to smoke:
- Reasons NOT to smoke:
- Triggers/associations with alcohol, caffeine, etc.

#### Nicotine dependence

When you wake, how long until your first cigarette?

#### Awareness of oral health issues

- Oral cancer
- Stomatitis nicotinia
- Periodontitis
- Soft tissue enhanced pigmentation
- Dry mouth
- Halitosis
- Masking of inflammation
- Elevated caries risk
- Staining of teeth
- Delayed wound healing
- Increased short term failure of dental implants

#### Past quitting attempts

- Last date of quit attempt
- Trigger to quit
- Trigger to return to smoking habit

#### Type of quit approach used:

- Mono or combination therapy
- Gum
- Patches
- Spray
- Inhalator
- Oral strip
- Bupropion (Zyban)
- Varenicline (Chantix)
- Other professional support

#### Cessation plan

- Amenable to quitting attempt now?
- Main supporting factors
- Main perceived challenges (weight gain, fear of failure)

3 pronged referral approach (select one pathway, then complete and lodge the referral form with the SCAT form)

- Refer to Quitline
- Refer to pharmacist
- Refer to general medical practitioner

#### At next dental appointment - record details of:

- Quit commence date
- Prescription medicines (bupropion or varenicline)
- Nicotine replacement therapy (NRT) being used
- Gum / Patches / Spray / Inhalator / Oral strip usage
- Starting dose for patches per day for baseline NRT
- Craving management with quick acting NRT

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