Balraj Gill

Every Contact Matters: the Role of the GDP

Abstract: 'Making Every Contact Count' (MECC) is a government initiative headed by Public Health England and other organizations to provide support for patients to make positive behaviour changes to their health and wellbeing. The aim of MECC is to reduce the number of long-term diseases in the population that are attributable to behavioural risks factors. Primary dental practitioners are well positioned to provide the recommended brief advice on smoking, alcohol consumption and other factors. This article will highlight current guidance relating to these modifiable risk factors, and explain how dentists can interact with general medical practitioners in order to improve patient health. The aim of this paper is to provide details on what health issues the dentist should screen for, as well as the ways in which information can be passed onto the doctor in order to provide the best possible care for the patient.

CPD/Clinical Relevance: Dentists are well positioned to ask and investigate issues relating to the patient's general health. This key information can be passed onto the general practitioner in order to address patient needs effectively.

Dent Update 2020; 47: 345–352

The most recent Adult Dental Health Survey identified that 61% of dentate adults in England attended their dentist regularly, 10% occasionally, and 27% when they had trouble with their teeth.[1] Equally, the Children's Dental Health Survey 2013[2] reported 81% of 12-year-olds attend their dentist for check-ups. Therefore, dentists are well positioned to provide screening and advice to a potentially large number of patients. For example, many dental professionals record information on tobacco use and provide cessation advice, as per the Delivering Better Oral Health Toolkit, knowing the risks to oral health. A Cochrane review in 2012 concluded that smoking cessation interventions increased quitting rates when compared to no advice from a professional within a dental setting.[3] This was the first systematic review to demonstrate the potential positive impact of advice given in a dental setting. As such, dentists are in a unique position to provide screening and lifestyle advice that can benefit a patient's general health.

It is also important in regards to 'Making Every Contact Count'. This is a government initiative aimed at promoting healthy choices in order to provide long-term behavioural change. It involves healthcare professionals asking individuals about their lifestyle and taking appropriate action. This can include providing smoking cessation advice, signposting or referring onwards for appropriate care. Many of the lifestyle issues that encompass this initiative have an impact on oral health, and therefore dentists should be aware of their role and how to provide relevant advice to patients.

Finally, the information obtained by a dentist, whether on smoking or alcohol consumption, could be useful for other health professionals, such as the general practitioner, and this should be taken into consideration when deciding whether to involve other healthcare professionals.

Balraj Gill, BDS, MFDS (RCSEd), DCT2 in Community and Special Care Dentistry, Barts' Health Trust, The Royal London Hospital, Whitechapel Road, London E1 1BB, UK.

Risk factors

There are a number of factors that can be screened as part of the social history when a patient attends for a dental check-up. The Faculty of General Dental Practitioners suggests factors, listed in Table 1, that can be used to form part of the clinical examination:

Four of these are discussed in detail.

1. Tobacco smoking

The adverse health impact of conventional cigarette smoking on patients is well known. Worldwide, 90% of lung cancer diagnoses and 25–30% of all cancer-related deaths are in smokers.[4] According to Public Health England, smoking prevalence has fallen to 14.9% in 2017, down by almost a quarter from five years before, with the biggest fall seen in the 18–24 age group. However, there are currently 1.4 million

Risk factors
■ Tobacco/smoking habit
■ Alcohol consumption
■ Recreational drug habit (patient may not divulge)
■ Eating habits
■ Dietary information (where relevant)
■ Participation in contact sports
■ Playing musical instrument involving use of mouth
■ Occupation

Table 1. Risk factors that can be used to form part of a clinical examination according to the Faculty of General Dental Practitioners.[17]

25–34 year-olds who still smoke. From a dental perspective, the risk of mouth cancer is related to intensity and duration of tobacco smoking.[5] Furthermore, there is a synergistic effect in those patients who both smoke and drink alcohol excessively, therefore particular attention should be paid when a suspicious abnormality is detected in this group of patients.

The most striking impact of smoking on the oral cavity, besides malignancy and potentially malignant disorders, are periodontal disease and tooth loss, as well as poor wound healing post-operatively.[6] These are summarized below:

- Periodontal disease – Those who smoke have a 2–3-fold increased risk of periodontitis. They also have fewer teeth, more alveolar bone loss, and a poorer response to non-surgical periodontal therapy. Many mechanisms have been suggested as to the reasoning behind this increased susceptibility, including decreased neutrophil function preventing elimination of periodontal pathogens, as well as a decrease in inflammatory cytokines. Therefore, the immunosuppressive effects may contribute to the increased incidence of periodontal damage.
- Reduced salivary flow – Although there is contradictory evidence regarding salivary flow, with some studies showing an increase in stimulation in smokers, there is also evidence to show smoking may have a role in reduced salivary flow.[7] This may then lead to an increased risk of developing dental caries.
- Nicotinic stomatitis – This is a self-limiting condition that resolves following cessation of smoking. The minor salivary ducts are affected, typically those located on the palate, which present as pin-point erythematous areas.

Advice on quitting is available from a variety of sources. The *Delivering Better Oral Health* toolkit[8] cites the National Centre for Smoking Cessation and Training (NCSCT) 'Very Brief Advice', which consists of three elements:

1. Ask – establish smoking status;
2. Advise – discuss the potential benefits of quitting;
3. Act – offer services of help.

It is recommended that all of this should be delivered within 30 seconds, hence the name.

Furthermore, for those patients who are not ready to quit, NICE Guidelines[9] suggest recording '…*the fact that they smoke and at every opportunity ask them about it again in a way that is sensitive to their preferences and needs.*' This highlights the fact that smoking cessation advice should be ongoing, and not discarded after the first visit.

A variety of online tools are available for those who wish to quit smoking, such as the NCSCT, which is also helpful for health professionals wishing to learn how to provide brief advice, as mentioned in the 'Making Every Contact Count' initiative. It is also advised that patients are signposted to local smoking cessation services, therefore it is worthwhile for each practice to know what services are available in the area, since these vary widely.

Studies have also shown that adult smokers who received a combination of behavioural interventions, together with an oral examination in dental practices, more than doubled their chances of quitting when compared to smokers receiving no intervention.[3] 'Very Brief Advice' is therefore ideal because it is a way for dental teams to deliver information within the format of a consultation. However, the Adult Dental Health Survey 2009 found only 9% of adults who had a dental appointment within the past two years could remember being given advice or help quitting smoking. This requires dentists to ensure that advice is given to all patients on this matter, and to ensure that it is being delivered effectively using the format described above.

Much of the advice regarding smoking comes from conventional burnt tobacco products. However, in recent years, there has been an increase in use of e-cigarettes. In 2017 to 2018, estimates for prevalence were 5.4% to 6.2% of adults.[10] Generally speaking, e-cigarettes consist of nicotine, together with flavourings and diluents, as well as an atomizer which are heated to 200°C to produce a vapour. Though the major advantage of e-cigarettes is the reduction in harmful carcinogens, there has been controversy over the accuracy of stated components. In 2009, the carcinogen diethylene glycol was detected in a small proportion of e-cigarettes that had been tested by the Food and Drug Administration (FDA) and UK Medicines and Healthcare products Regulatory Agency (MHRA).[11,12] The effects of e-cigarette use is still unclear and research is ongoing in this regard. Though there are benefits over conventional burnt tobacco products, like a reduction in a stained dentition, the primary component of e-cigarettes is nicotine, which is mostly absorbed by the buccal and pharyngeal mucosa rather than alveoli.[13,14] Therefore, there is potential for vaporized nicotine to affect the oral cavity negatively. As a result, although e-cigarettes are an option for patients who wish to quit smoking, it lacks long-term evidence. NICE Guidelines 1.5 Advice on e-cigarettes suggests that they are less harmful to health, however, patients should understand that they are not risk free.[9] For example, the effect of this form of nicotine on blood flow for head and neck cancer patients post-operatively is currently underway to understand better the issues involved.[15] In 2015, Public Health England reviewed literature surrounding e-cigarettes and concluded that they are around 95% safer than smoked tobacco. Similarly, the Royal College of General Practitioners accepts that vaping is a safer alternative to tobacco smoking, though the long-term safety profile is still to be evaluated.

Other smokeless exposure to tobacco includes when it is added to betel nut and paan used in Asian cultures, both of which are linked to mouth cancer. The use of paan can be demonstrated in the oral cavity as a distinct

orange coating on the teeth and oral mucosa. Both the International Agency for Research on Cancer and the World Health Organization state that chewing betel quids and areca nut is carcinogenic to humans. Its constituents, namely the nitroamine derivates and, in particular, methylnitrosaminoproprionitrile are widely accepted as carcinogenic.[16] As a result, patients who are participating in this habit should be educated on its potential impact on the oral cavity.

2. Alcohol misuse

As mentioned previously, smoking and alcohol have a synergistic effect and are implicated in mouth cancer. A delay in diagnosis occurs frequently, which results in presentation of large, advanced cancers. As part of a patient clinical examination, using the FGDP guidance,[17] extra-oral findings such as lymphadenopathy, and intra-oral findings such as white/red patches, must be noted and managed. Despite this, the general population knows little about mouth cancer, highlighting the need for patient education. A cross-sectional questionnaire in 2012[18] stated that 72% of respondents did not know that their dentist routinely screens for mouth cancer, and 97% would like help from their dentist to reduce their risk factors. The ways in which dental professionals can achieve this is through smoking cessation, as highlighted above, and education on safe alcohol limits.

The updated recommendation on alcohol units is for men and women to drink no more than 14 units a week.[19] This is in contrast to previous guidance which had a difference between units for men and women. In addition, there are risk categories given depending on alcohol consumption:

- Lower risk – There is no safe level of alcohol consumption, however this category is for those who do not regularly exceed the limit;
- Increasing risk – regularly drinking over the limit;
- High risk – regularly drinking over 35 units for women and 50 units for men;
- Binge drinking – those that drink too much in a short space of time, causing drunkenness, which in turn leads to an increased risk of injury.

From these risk categories, the dentist can provide brief advice alongside screening. Patients at higher risk should be signposted to local alcohol support services or referred to their GP if they are at high risk.

Intoxicated individuals commit roughly 50–80% of violent crimes, including assault, with half a million people in Britain suffering facial injuries every year, of which 125,000 were due to violence.[20] Clearly, this illustrates the harmful effects to the maxillofacial region as a consequence of alcohol. According to the Royal College of Surgeons, some alcoholic drinks are related to dental erosion owing to their acidic content, such as wine, cider and alcopops.[21] Furthermore, alcohol consumption is related to gastric reflux and erosion may therefore be from intrinsic and extrinsic sources. This information should be relayed to patients when screening and providing advice in regard to alcohol use.

3. Drug misuse

In Britain, there are now an estimated 2–5 million regular users of cannabis, a Class B graded drug.[22] Furthermore, in 2016/17, around 1 in 12 (8.5%) adults aged 16–59 in England and Wales had taken an illicit drug in the past year.[23]

There are a number of issues that dentists should be aware of in relation to drug abuse. Firstly, barbiturate drugs can cause xerostomia, leading to a risk of rampant caries, as well as fixed drug eruptions on the oral mucosa. It has also been reported that cocaine users can suffer from spontaneous gingival bleeding because, like many drugs of abuse, it can cause thrombocytopenia.[24] In addition, there is increased risk of dysplastic changes and pre-malignancy in this group of people. As mentioned previously, of particular concern is betel nut, a smokeless tobacco form that has a 50-fold increase in risk of oral cancer, according to Cancer Research UK.

It is important for health professionals to assess those who may be vulnerable/at risk of drug misuse. NICE highlights people whose personal circumstances put them at risk, those who may already be occasionally using drugs, as well as those excessively consuming alcohol.[25] It can be difficult for health professionals to ask about drug misuse and, similarly, patients may not wish to divulge such practices. NICE suggests the need to use a consistent, locally agreed approach to assessment that is respectful, non-judgemental and proportionate to the person, to be more effective in broaching this topic with a patient.[25]

Patients should understand the risks to their health of drug use and know that local services are available to provide help. Key to this is to provide patients with advice in a non-judgemental way and approach the subject with sensitivity, as there may well be other issues surrounding the patient's drug use that warrant investigation. Whilst it may not seem to be an aspect of dental assessment, NICE recommends screening '*at routine appointments and opportunistic contact with statutory and other services*'. If dental evidence suggests substance abuse, then it would seem sensible for GDPs to play a role in this regard.

4. Obesity

Those with a large amount of body fat, or with a BMI of 30–39.9, are generally classified as obese. The implication of obesity is well known, and can have many dental effects, mostly indirect. Obese individuals tend to have higher insulin resistance, linking this to type 2 diabetes, which in turn can cause increased risk of periodontal destruction and susceptibility to infections of the oral cavity. Further, those with an increased weight may have acid reflux/gastro-oesophageal reflux disease issues, which is an intrinsic factor contributing to dental erosion.

The general health concerns for obesity are numerous, including coronary heart disease, stroke, type 2 diabetes, osteoarthritis and sleep apnoea. As part of the *Delivering Better Oral Health* toolkit,[8] dentists should encourage patients to eat a balanced diet and references the Eatwell Guide[8] as the standard to follow. This can be a relatively simple message for dentists to deliver as it includes lowering sugars, which in turn relates to caries risk.

Guidelines	Description
Delivering Better Oral Health toolkit, Department of Health[8]	Healthy eating advice Smoking and tobacco use – including Ask, Advise, Act Alcohol misuse and oral health
FGDP Clinical Examination and Record-Keeping[17]	*3.4 Socio-behavioural history* This may be included as part of a medical history form and includes: tobacco/smoking use, alcohol consumption, eating habits, dietary information. It suggests that this can be discussed directly at the chairside with patients, however, can also have questions on a form.
NICE Guidelines	NG92 Stop smoking interventions and services[9] NG69 Eating disorders: recognition and treatment NG64 Drug misuse prevention: targeted interventions[25]
RCS Diagnosis, Prevention and Management of Dental Erosion[21]	The aetiology of erosion should be identified prior to patient management Dietary counselling must be tailored to the individual

Table 2. The most relevant sources of information relating to patient general health and oral health.

Guidance

Table 2 lists the most relevant sources of information relating to patient general health and oral health, of which all dentists should be aware.

Liaison between dental and medical practitioners

It is important for general practitioners to have knowledge of oral conditions, as many systemic conditions, medications, and patient risk factors can manifest within the mouth. This can only occur if doctors know what changes to look for in the mouth. A study of hospital doctors in 2001 showed that over 50% considered that they had not been given sufficient training in examination of the oral cavity for detection of abnormalities.[26] This highlights the need for doctors to have some education regarding oral pathology, which can be delivered by a dental professional.

For early/suspicious abnormalities detected in the oral cavity, it is important to refer as per NICE Guidelines, that is under the Urgent Suspected Cancer (USC) pathway. It would seem prudent for a letter confirming the diagnosis to be sent to the dentist as this will enable forward planning for when the patient returns post-treatment with possible side-effects, including mucositis, so-called radiation caries, as well as a dry mouth, which are all issues that the dentist will need to manage.

It is important to note the legalities in health professionals sharing information about patients. The newly introduced General Data Protection Regulation (GDPR) means that GPs and dental practices most likely need to appoint a data protection officer to monitor compliance and provide advice regarding data protection and assessments. However, patient consent for treatment or to share healthcare records is not the same as GDPR consent, and the Health and Social Care Act 2015 is the main regulation for information sharing in the healthcare field. According to this Act, unless an individual objects, information can be lawfully shared amongst healthcare professionals if it is in the best interest of the patient. This also reinforces the seventh Caldicott principle: '*the duty to share information can be as important as the duty to protect the patient*'. As a result, GPs and dentists should not be afraid to work together by sharing information, as long as it complies with the law.

From the dentist's side, it is important to know local services to which to signpost patients, whether this is related to smoking cessation or another matter. Screening for patient risk factors and providing advice does not need to take up a large amount of time and can be integrated quite quickly into a consultation. Staff members can also be trained to provide relevant advice in order to save time for the dentist. However, a number of barriers exist, including:

- Perceived lack of time;
- Funding;
- Training;
- Negative attitudes towards general health screening/education.

Many of these barriers can be addressed through education of the dental professional. By teaching dentists early on in their careers to screen for general health factors and give brief cessation advice, patients will come to expect more when they attend for dental check-ups. In this way, it will become normalized into a routine appointment, therefore it should be less awkward for dentists to cover these topics, as well as the routine dental issues.

Further, the Government has tried to aid dentists in order to provide more emphasis on oral health through the Dental Contract Reform Programme, which is being tested in England. Introducing a sugar tax aims to reduce the consumption of high sugar drinks and shows the holistic approach being taken, which is echoed in the General Dental Council Standards 1.4.1: *A holistic approach means you must take account of patients' overall health, their psychological and social*

needs, their long-term oral health needs and their desired outcomes.

Recommendations

- Screen patients for modifiable health factors as part of social history;
- Provide 'Very Brief Advice' as part of *Delivering Better Oral Health*.[8] Let patients understand the dental complications/ risks of certain behaviour;
- Signpost to local services. Refer to GPs when they are at high risk;
- Encourage sharing of information between health professionals;
- Sharing knowledge with GPs on risk factors and impact on oral health and vice versa.

Conclusion

The 'Making Every Contact Count' initiative highlights the significance of patient risk factors and aims to make positive behaviour changes. There is a duty of care for patients to be informed on how their habits can impact on oral health. However, it is also important for dentists to pass on significant information – issues such as safeguarding are an obvious example where health professionals should be involved in sharing information, but also those that are considered high risk due to their habits should be signposted to local services. Dentists are increasingly dealing with patients with multiple systemic diseases with numerous risk factors that need to be addressed, not just in regards to the patient's mouth.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflict of interest.

References

1. The NHS Information Centre, Dental and Eye Care Team. Adult Dental Health Survey 2009 – First Release 8 December 2010.
2. Children's Dental Health Survey Executive Summary 2013.
3. Carr AB, Ebbert J. Interventions for tobacco cessation in the dental setting. *Cochrane Database Syst Rev* 2012; 6: 6.
4. Anand P, Kunnumakara AB, Sundaram C, Harikumar KB, Tharakan ST, Lai OS, Sung B, Aggarwal BB. Cancer is a preventable disease that requires major lifestyle changes. *Pharm Res* 2008; **25**: 2097–2116.
5. Gandini S, Botteri E, Iodice S, Boniol M, Lowenfels AB, Maisonneuve P, Boyle P. Tobacco smoking and cancer: a meta-analysis. *Int J Cancer* 2008; **122**: 155–164.
6. Johnson NW, Bain CA *et al*. Tobacco and oral disease. *Br Dent J* 2000; **189**: 200–206.
7. Rad M, Kakoie S, Brojeni FN, Pourdamghan N. Effect of long-term smoking on whole-mouth salivary flow rate and oral health. *J Dent Res Dent Clin Dent Prospects* 2010; **4**: 110–114.
8. *Delivering Better Oral Health: an Evidence-based Toolkit for Prevention* 3rd edn. Department of Health, 2017. **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/605266/Delivering_better_oral_health.pdf**. (Accessed 12 January 2019).
9. National Institute for Health and Care Excellence. *Stop smoking interventions and services. NICE guideline (NG92)*, 2018.
10. McNeill A, Brose LS, Calder R, Bauld L, Robson D. Vaping in England, an evidence update. A report commissioned by Public Health England. London: Public Health England, February 2019.
11. Westenberger B. Evaluation of e-cigarettes. St Louis, MO: Department of Health and Human Services, Food and Drug Administration, Center for Drug Evaluation and Research, Division of Pharmaceutical Analysis, 2009.
12. MHRA. The Regulation of Nicotine Containing Products (NCPs), 2013. **http://data.parliament.uk/DepositedPapers/Files/DEP2013-1905/175441_to_446_-_MHRA_-_ecigarettes_impact_assesment1.pdf** (Accessed 5 January 2019).
13. Palazzolo DL. Electronic cigarettes and vaping: a new challenge in clinical medicine and public health. A literature review. *Front Public Health* 2013; **1**: 56.
14. Lunell E, Molander L, Ekberg K *et al*. Site of nicotine absorption from a vapour inhaler – comparison with cigarette smoking. *Eur J Clin Pharmacol* 2000; **55**: 737–741.
15. Reuther WJ, Brennan PA. Is nicotine still the bad guy? Summary of the effects of smoking on patients with head and neck cancer in the postoperative period and the uses of nicotine replacement therapy in these patients. *Br J Oral Maxillofac Surg* 2014; **52**: 102–105.
16. Bell RB, Andresen P, Fernandes R. *Oral, Head and Neck Oncology and Reconstructive Surgery*. London: Elsevier, 2018
17. Faculty of General Dental Practice. *Clinical Examination and Record-Keeping*. *Good Practice Guidelines* 2016**.** **https://www.fgdp.org.uk/guidance-standards/clinical-examination-and-record-keeping-0** (Accessed 5 January 2019).
18. Awojobi O, Scott SE, Newton T. Patients' perceptions of oral cancer screening in dental practice: a cross-sectional study. *BMC Oral Health* 2012; **12**: 55.
19. **https://www.nhs.uk/live-well/alcohol-support/calculating-alcohol-units** (Accessed 26 May 2019).
20. Warburton L, Shepherd JP. Alcohol-related violence and the role of oral and maxillofacial surgeons in multi-agency prevention. *Int J Oral Maxillofac Surg* 2002; **31**: 657–663.
21. O'Sullivan E, Barry S *et al*. *Diagnosis, Prevention and Management of Dental Erosion*. Royal College of Surgeons Faculty of Dental Surgery, 2013.
22. Cope G. Alcohol and recreational drug use: the effect on oral health. *Dent Nursing* 2012; **8**: 22–25.
23. NHS National Statistics. *Statistics on Drug Misuse*. 2018.
24. Meechan JG. Drug abuse and dentistry. *Dent Update* 1999; **26**: 182–190.
25. National Institute for Health and Care Excellence. *Drug misuse prevention: targeted interventions. Nice Guidelines (NG64)*, 2017.
26. Morgan R, Tsang J, Harrington N *et al.* Survey of hospital doctors' attitudes and knowledge of oral conditions in older patients *Postgrad Med J* 2001; **77:** 392–394.