



CPD4dentalnurses

YOUR FUTURE IN YOUR HANDS

Alcohol and the Role of the Dental Team

Aims:

- To give an overview on the extent of the problem of alcohol misuse.
- To give an overview on the potential effects of alcohol misuse on oral health.
- To identify how dental professionals can play a supportive role in identifying and advising drinkers.

Outcomes:

On completion of this verifiable CPD article the participant will be able to demonstrate, through completion of a questionnaire, the ability to:

- Identify the extent of the problem of alcohol misuse.
- Identify how many units of alcohol are in certain drinks.
- Identify the upper safe limits of alcohol for men and women.
- Recognise potential impacts of alcohol misuse on oral cancer, periodontal disease and tooth surface loss.
- Be able to identify a tool which can be used to identify drinkers.
- Know how and when to direct patients to somewhere they can get advice on alcohol consumption.

Introduction



The World Health Organisation state that alcohol is a “psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries.” Worldwide, in 2019, 2.6 million deaths a year were attributed to the

harmful use of alcohol.¹ In England, alcohol is reported to be the leading cause of ill-health, disability and death among people aged 15-49 years.² The number of alcohol units consumed in the UK has increased substantially over the last century and alcohol misuse in England is a significant public health problem with major health, social and economic consequences.³ Over 10 million adults in England are reported to be drinking at levels that pose some risk to their health. This means that roughly 1 in 4 adults may benefit from reducing their alcohol consumption.⁴

Although many adults consume alcoholic drinks moderately, it has been reported that many exceed the recommended maximum weekly limits. The latest alcohol statistics for England were published in July 2024 and reported that, in 2022, 30% of men and 15% of women, exceeded the weekly limit.⁵

In January 2012, the House of Commons Science and Technology Committee recommended that the previous drinking guidelines be reviewed because:

- The guidelines for adults were UK wide but had remained unchanged since 1995.
- The guidelines on alcohol and pregnancy had been updated in 2007 but were not UK wide.
- The guidance on the consumption of alcohol by children and young people had been updated in 2009 but was not UK wide.

Subsequently, the new weekly guideline, the advice on single occasion drinking and the guideline on alcohol and pregnancy came into effect on 8 January 2016.⁶

While the UK Government has not announced a new strategy since 2012, the devolved administrations have released more recent strategies⁵:

Wales: Substance Misuse Delivery Plan 2019-2022 and Alcohol Harm Reduction Strategy 2020-2024.

Scotland: Rights, Respect and Recovery: Alcohol and Drug Treatment Strategy 2018.

Northern Ireland: Preventing Harm, Empowering Recovery: A Strategic Framework to Tackle the Harm from Substance Use 2021-2031.

Public Health England state that, “27% of men and 13% of women in England drink alcohol in a way that presents increasing risk to their health and wellbeing.”⁴ Alcohol has been identified as a causal factor in more than 200 medical conditions. This includes:

- Mouth, throat, stomach, liver and breast cancers
- Cirrhosis of the liver
- Heart disease
- Depression
- Stroke

- Pancreatitis
- Liver disease⁴

Dental teams are in a good position to be able to intervene and provide brief advice on alcohol consumption and direct patients to their GP or local alcohol services where appropriate.²

Units of alcohol

One unit is 10ml (1cl) by volume or 8g by weight of pure alcohol.³ It takes an average adult around an hour to process a unit so that there is none left in their bloodstream, although this varies from person to person. Alcohol content is also expressed as a percentage of the whole drink. The percentage is expressed as Alcohol By Volume (ABV). Therefore, a drink with “13ABV” on the label contains 13% pure alcohol. Consequently, the alcohol content in similar types of drinks varies a lot. Fig.1 below shows the units of alcohol in some wines and Figs.2 and 3, show the alcohol content in some other drinks.

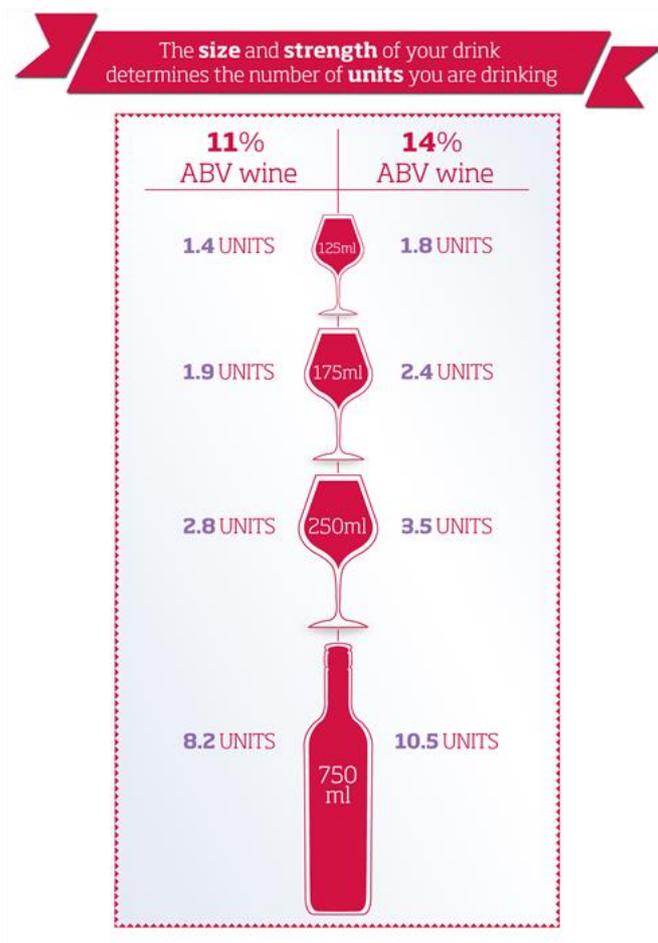


Fig 1. Units of alcohol in wine⁷



Fig 2. 1 unit of alcohol examples⁷



Fig.3 Examples of number of units in common drinks⁷

How much is too much?



The Chief Medical Officers' recommended guidelines for alcohol consumption:

- "All adults: you are safest not to drink regularly more than 14 units per week, to keep health risks from drinking alcohol to a lower level.
- If you do drink as much as 14 units per week, it is best to spread this evenly over 3 days or more.

- Young people: young people under the age of 18, should normally drink less than adult men and women.
- The risk of developing a range of health problems (including cancers of the mouth, throat, and breast) increases the more you drink on a regular basis.
- If you wish to cut down the amount you drink, a good way to help achieve this is to have several drink-free days each week.
- Pregnant women: if you are pregnant or planning a pregnancy, the safest approach is not to drink alcohol at all, to keep risks to your baby to a minimum. Drinking in pregnancy can lead to long-term harm to the baby, with the more you drink the greater the risk. The risk of harm to the baby is likely to be low if a woman has drunk only small amounts of alcohol before she knew she was pregnant or during pregnancy.”^{2,8}

Lower Risk Drinking

The lower risk drinking guidelines imply that no level of alcohol consumption is completely safe. The guidelines states that ‘lower risk’ is not regularly exceeding 14 units per week, spread evenly over the week. This is level that the patient’s alcohol consumption should not exceed.⁸

Categories of alcohol misuse

Increasing risk

For both men and women, increasing risk is regularly exceeding more than 14 units per week.

Higher risk drinking

Harmful drinking is a pattern of alcohol consumption that is causing mental and/or physical damage. For men, higher risk drinking is regularly drinking over 50 units a week. For women, it is regularly drinking over 35 units a week.^{2,7}

Binge Drinking

The term “binge drinking” usually refers to an episode of heavy drinking which is carried out over a short period of time. It also refers to an episode of drinking to intoxication or to drunkenness. The technical definition of binge drinking is more than 6 units for women, and more than 8 units for men.²

Dependent Drinking

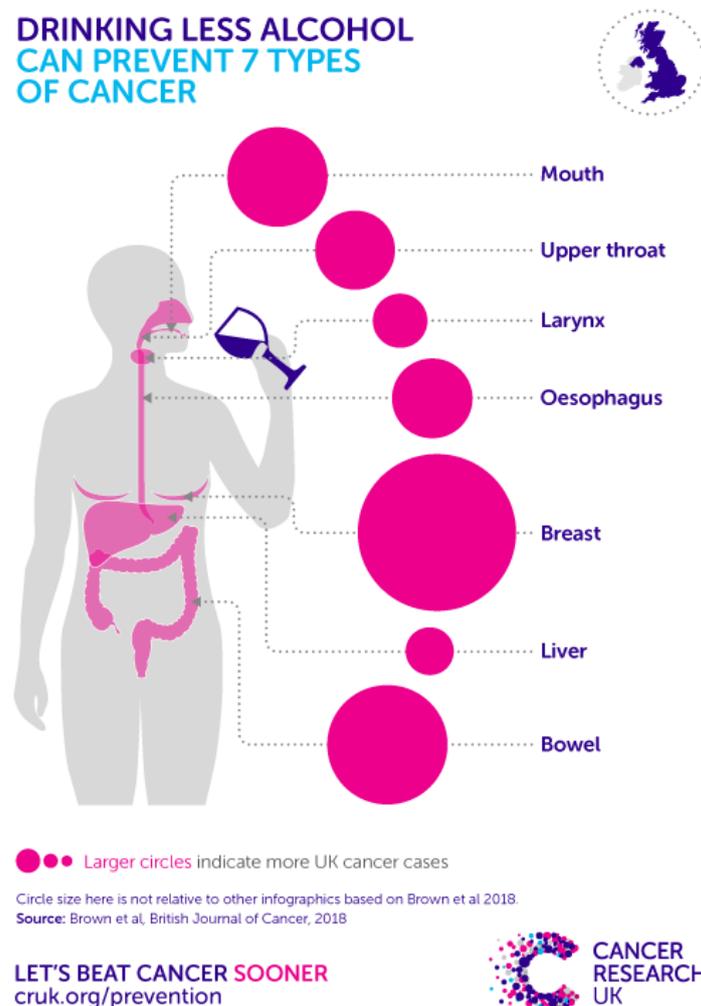
Alcohol dependence is defined as “a term used to describe a cluster of behavioural, cognitive and physiological factors that typically include a strong desire to drink alcohol despite harmful consequences and difficulties in controlling use.”³ Dependent drinking has usually started to affect a person’s quality of life and relationships, but individuals often find this difficult to admit. Specialist help may be needed to overcome alcohol dependence as a person may experience physical and psychological withdrawal symptoms when cutting down or stopping drinking.²

Impact of alcohol misuse on oral health

Excessive alcohol intake is associated with head injuries, dental trauma, and facial injury. In addition, alcohol misuse can have the following impacts on oral health:

1) Oral Cancer

A study published in 2018 found that drinking too much alcohol causes 3% of cancers in the UK, around 11,900 cases every year. The proportion of cases down to alcohol was highest for mouth and upper throat (pharynx) cancers (more than a third), but breast cancer accounted for the greatest overall number of cases linked to alcohol.¹⁰ The image below shows which cancers alcohol may contribute to.¹¹



The major carcinogen from alcohol is acetaldehyde, which may be produced by humans or by oral microorganisms through the metabolism of ethanol.¹¹

People who smoke and drink multiply the risk for certain cancers, because tobacco and alcohol work together to damage the cells of the body. For example, alcohol

makes it easier for the mouth and throat to absorb the cancer-causing chemicals in tobacco.¹¹

2) Periodontal Disease



Alcohol consumption, like smoking, may be related to periodontal disease independently of oral hygiene status. A study of 542 subjects was carried out in 2011 to investigate the association between the frequency of alcohol consumption and periodontitis. It was concluded that the occurrence of periodontitis among alcohol users was high, and the frequency of alcohol consumption increased the odds of periodontitis incrementally mainly in smokers.¹² In addition, a cross-sectional study of 13,198 subjects evaluated the effect of alcohol consumption on the severity of periodontal disease. It was concluded that alcohol consumption may be associated with increased severity in clinical attachment loss in a dose-dependent fashion.¹³ However, it has been suggested that further studies including larger populations should be conducted to investigate both alcohol consumption measured at different points in time, and long-term alcohol consumption and periodontitis progression over time.¹⁴

3) Erosion and Decay



Fig.3 Palatal acid erosion

Alcohol is known to contribute to an increase in tooth decay and erosion due to the amount of sugar and also due to the PH of alcoholic drinks. The exposure of dentition to acidic beverages is a significant cause of dental erosion. A neutral PH level in the mouth can range from between 6.2 to 7.6, with 6.7 being the average. ¹⁵ Tooth structure begins to soften and demineralised when PH levels fall to

approximately 5.5. The PH of wine is 2.3-3.8 and the PH of beer is 4.0-5.0. Therefore, frequent consumption of these drinks can lead to dental erosion. In addition, excessive alcohol consumption may also lead to vomiting which can also contribute to acid erosion (fig.3).

The Role of the Dental Team in Supporting Drinkers

The GDC Standards state that patients expect that “all aspects of their health and well-being will be considered.”¹⁶ Recommendations for assisting in tackling alcohol misuse in Primary Dental Care have been published. Historically dentistry has focused on treating active disease. However, there has been an increasing focus on prevention of future disease.¹⁷ There is currently limited evidence available in dental settings to suggest how effective screening and advice is. However, there is evidence in other primary care settings that demonstrates the effectiveness of delivering advice to drinkers.³ In addition, a Cochrane Review aimed to find out whether brief interventions in primary care settings reduced heavy drinking compared with usual care or brief written information. They found medium quality evidence that brief interventions can reduce alcohol consumption in hazardous and harmful drinkers compared to minimal or no intervention.¹⁸

The Department of Health states that the identification of those drinking above lower-risk levels and offering brief advice consists of three basic stages:

- 1) Initial Screening, determining if the patient is drinking above lower-risk limits.
- 2) Offering brief advice to patients who are drinking above the recommended levels.
- 3) Referring or signposting possible high-risk drinkers to their GP or local alcohol support services.

The overall goals of screening and providing brief advice to patients includes:

- Raising awareness of drinking guidelines and whether they are exceeding lower-risk levels.
- Offering feedback on how their drinking may adversely affect their oral and general health.
- Providing support (e.g., resources) to support the need to reduce alcohol consumption levels.²

Whereas for non-dependent drinkers' identification and brief advice may be helpful in risk reduction, NICE guidance suggests that adults who are dependent drinkers “require behavioural counselling using motivational interviewing or cognitive behavioural counselling as part of a package of care.”²

Alcohol Screening Questionnaires

The Alcohol Use Disorders Identification Test (AUDIT) and abbreviated versions of this (e.g., AUDIT-C) and the Fast Alcohol Screening Test (FAST) are practical

examples of screening instruments. The test is a screening tool that has been developed by the World Health Organisation and can be viewed in detail by clicking on the link at the end of this article.

The Department of Health state that the “Audit-C tool takes approximately 3 minutes to complete and offers direct and personalised feedback to the patient, identifying excessive drinking within the last year.”²

AUDIT-C¹⁸

Questions	Scoring system					Your score
	0	1	2	3	4	
1) How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
2) How many units of alcohol do you drink on a typical day when you are drinking?	1 -2	3 - 4	5 - 6	7 - 9	10+	
3) How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
						TOTAL:

Patient Feedback

Following completion of the Audit- C, patients can be given advice depending upon their score. The following recommendation for advice is taken from the Delivering better oral health: an evidence based toolkit for prevention.²

Patients with a total score of 0-4

- Advise patient that they are at a lower risk of harm from alcohol.
- Give advice on safe limits.
- Encourage and congratulate them.

Patients with a total score of 5-10

- Advise patient that they are at increasing or higher risk from alcohol related problems.
- Give advice on safe limits.

- Encourage them to think about their drinking and benefits of cutting down, e.g., reduced risk of:
 - Oral Cancer.
 - Dental and facial injury.
 - Tooth surface loss and periodontal disease.
 - Physical and mental health problems.

Highlight recommendations from the Chief Medical Officers. For example:

- To keep health risks from alcohol to a low level, it is safest not to drink more than 14 units a week on a regular basis.
- If you drink regularly as much as 14 units a week, it is best to spread your drinking evenly over 3 or 4 days.
- If you wish to cut down the amount you drink, a good way is to have several drink-free days a week.²

Patients with a total score of 11 or 12

Patients who have a score of over 10 should be given advice as above but the importance of referral to their GP or a local alcohol support service should be stressed.²

The Audit-C is also available as a patient scratch card, as pictured below:²

ONEYOU Think about your Drink HAVE A WORD Delivered by Public Health England

WHAT'S YOUR SCORE?					
QUESTIONS	SCORING SYSTEM				
	NEVER	MONTHLY OR LESS	2-4 TIMES PER MONTH	2-3 TIMES PER WEEK	4+ TIMES PER WEEK
How often do you have a drink containing alcohol?	0	1	2	3	4
How many units do you drink on a typical day when you are drinking?	0-2	3-4	5-6	7-9	10+
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	NEVER	LESS THAN MONTHLY	MONTHLY	WEEKLY	DAILY OR ALMOST DAILY
	0	1	2	3	4

1 UNIT =

- 1/2 pint of beer
- or
- 1/2 glass of wine
- or
- 1 single shot of spirit

YOUR TOTAL CHECK BELOW TO FIND OUT YOUR RESULTS

0	1	2	3	4	5	6	7	8	9	10	11	12
SCORED 0-4?				SCORED 5-10?				SCORED 11 OR 12?				
Congratulations! Your drinking is at low-risk for health harm. Keep it up!				You may be drinking at a level that could put your health at risk. A few small changes could make all the difference.				It may be worth speaking to your GP about your score. Take this scratch card with you and ask for some advice. Or, you could call Drinkline.				

The AUDIT has been known as the “gold standard” questionnaire, but as it has 10 questions it was too long for many health settings. The remaining questions are shown below.

Remaining [AUDIT](#) questions

Questions	Scoring system					Your score
	0	1	2	3	4	
4) How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5) How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6) How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7) How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8) How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9) Have you or somebody else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10) Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year	

Scoring: 0 – 7 Lower risk, 8 – 15 Increasing risk, 16 – 19 Higher risk, 20+ Possible dependence.

If the full questionnaire is completed, the TOTAL Score equals the AUDIT C score (questions 1-3) + the score of remaining questions (questions 4-10)

It is recommended that front line health and care professional should “ask patients about alcohol and provide simple, brief advice and support to help them minimise harmful alcohol consumption.”⁴

Conclusion

The World Health Organisation recognise alcohol as one of the world’s priority public health areas. Alcohol misuse in England is a significant public health problem with major health, social and economic consequences. Alcohol can also increase the risks of dental and facial injury, erosion, decay, periodontitis and oral cancer. Dental professionals are in a good position to help to identify patients who may need advice and intervention.

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Personal Development Plan and Reflective Learning

This CPD is linked to the following GDC Enhanced CPD Development Outcomes:

A. Effective communication with patients, the dental team and others across dentistry, including when obtaining consent, dealing with complaints, and raising concerns when patients are at risk.

C. Maintenance and development of knowledge and skill within your field of practice.

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will be given the option to answer some reflective learning questions, before your certificate is generated. If you take a few moments to write your reflection on completion, you will have fulfilled the Enhanced CPD requirements.

Further Reading

[The World Health Organisation: The Alcohol Use Disorders Identification Test \(AUDIT\) Guidelines for use in Primary Dental Care](#)

[Delivering Better Oral Health: an evidence based toolkit for prevention \(chapter 12\) Includes Audit-C images](#)

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