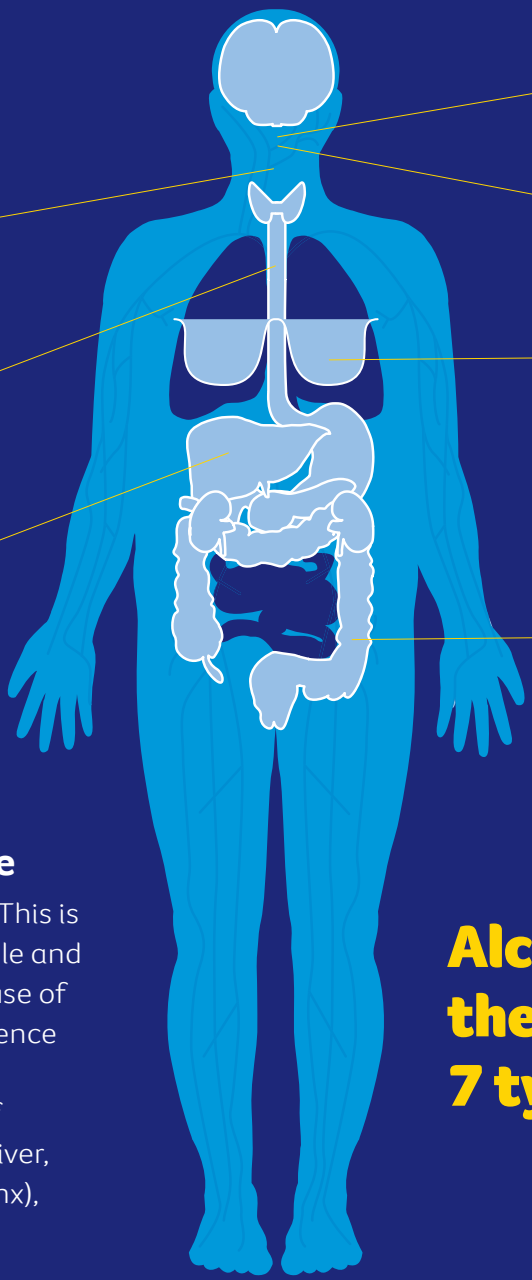
Cancer Council

Alcohol and increased cancer risk

A guide for health professionals

Alcohol consumption is estimated to be responsible for approximately 3% of the new cancers (i.e. nearly 3,500 cases) seen in Australia each year.[1] Reducing alcohol consumption, in line with the National Health and Medical Research Council (NHMRC) *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* (Guidelines), lowers the risk of cancer and other chronic illnesses.[2]



Alcohol and increased cancer risk: the evidence

Alcohol is a Group 1 carcinogen. This is the highest classification available and means it is an acknowledged cause of cancer.[3] There is convincing evidence that drinking alcohol increases the risk of at least seven types of cancer including female breast, liver, mouth, throat (pharynx and larynx), oesophagus and bowel.[4]

Alcohol increases the risk of at least 7 types of cancer

Alcohol and risk of cancer: a cancer site summary matrix

WCRF/AICR GRADING		DECREASES RISK		INCREASES RISK	
		EXPOSURE	CANCER SITE	EXPOSURE	CANCER SITE
Strong evidence	Convincing			Alcoholic drinks	Mouth, pharynx and larynx 2018 Oesophagus (squamous cell carcinoma) 2016 Colorectum 2017 Breast (postmenopause) 2017
	Probable	Alcoholic drinks	Kidney 2015	Alcoholic drinks	Stomach 2016 Breast (premenopause) 2017
Limited evidence	Limited – suggestive			Alcoholic drinks	Lung 2017 Pancreas 2012 Skin (basal cell carcinoma and malignant melanoma) 2017

Source: World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Alcoholic drinks and the risk of cancer.

There is a dose-response relationship between alcohol consumption and cancer risk, meaning that the risk increases with every drink.[5,6,7,8] There is no evidence of a safe threshold in relation to cancer risk.[9]

Alcohol and increased cancer risk: proposed mechanisms

The precise mechanisms of how alcohol consumption causes certain cancers are not completely understood. The World Cancer Research Fund/American Institute for Cancer Research state:[10]

- A large body of experimental evidence has shown that acetaldehyde, the most toxic metabolite of alcohol, disrupts DNA synthesis and repair and thus may contribute to a carcinogenic cascade.
- Higher ethanol consumption also induces oxidative stress through increased production of reactive oxygen species, which are potentially genotoxic.
- It is hypothesised that alcohol may also function as a solvent for cellular penetration of dietary or environmental (for example tobacco) carcinogens or interfere with DNA repair mechanisms.
- High consumers of alcohol may also have diets that are lacking in essential nutrients, such as folate, rendering target tissues more susceptible to carcinogenic effects of alcohol.
- Alcohol may increase the circulating levels of oestrogen in our body which is a known risk factor for breast cancer.

For further detailed information about the possible mechanisms related to anatomical sites, see www.wcrf.org/sites/default/files/Alcoholic-Drinks.pdf

Reducing the risk

It is recommended that people reduce their drinking to reduce their risk of cancer. For some people, not drinking at all may be the safest option. People who do drink alcohol should follow the NHMRC Guidelines.

The NHMRC Guidelines

The NHMRC Guidelines recommend:

For healthy adults drink no more than 10 standard drinks a week and no more than four standard drinks on any one day to reduce the risk of harm from alcohol-related disease or injury.

The NHMRC Guidelines were revised in 2020. The new guidelines recommend no more than 10 standard drinks in a week to reduce the risk of harm from alcohol-related disease, compared with the previous guidelines which recommended no more than two standard drinks on any day. For more information, see www.nhmrc.gov.au/health-advice/alcohol.

What is a standard drink?

In Australia, one standard drink contains 10 grams of alcohol. The information below provides a visual overview of a standard drink.

Beer
3.5% alcohol
375ml

Wine
9.5% to 13% alcohol
100ml

Spirits
40% alcohol
30ml

Embedding brief advice into routine care

Research suggests that most Australian adults are unaware that alcohol is a risk factor for cancer.[11,12,13] General practice is an ideal environment to screen for risky drinking and provide brief advice, with general practitioners being accepted as a trusted, authoritative source of health information.[14] Further, in many cases, practice nurses may also be well positioned to provide brief advice given their role providing holistic, integrated care.[15]

Establishing routine provision of brief advice to reduce alcohol consumption can have many positive benefits for a practice including: a decrease in the time taken for risk assessment; an increase in confidence in managing alcohol issues; and a decrease in the stigma associated with raising alcohol issues, which can result in improved communication with patients.[16]

The RACGP recommends using the '5As', an internationally accepted framework for the assessment and management of lifestyle-related risk factors, to assess and manage high-risk drinking.[17]

The RACGP recommends that all patients aged 15 years and older should be asked about the quantity and frequency of their alcohol intake, with the results logged in the patient record. The Alcohol Use Disorders Identification Test (AUDIT) or abbreviated, three-item AUDIT-C tool can be utilised for this purpose.[18] Tools, such as the AUDIT and AUDIT-C33 (a five minute intervention) can reduce harmful alcohol consumption by nearly one-third and are often as effective as more extensive treatments.[19]

Key points for discussing alcohol consumption and cancer risk with patients

Patients are more likely to reduce their drinking if they can see a connection between their drinking and a health problem. Accordingly, it can be helpful to discuss alcohol in the broader context of healthy lifestyle changes and the associated reduction of chronic disease.

Alcohol consumption and cancer risk

- Alcohol causes at least seven types of cancer, including common cancers, breast and bowel, and other chronic diseases.
- When it comes to cancer risk, there is no safe level of drinking. It is recommended that people reduce their drinking to reduce their risk of cancer.
- For some people, not drinking at all may be the safest option.
- People who do drink alcohol should follow the NHMRC Guidelines.
- The NHMRC recommends that healthy adults drink no more than 10 standard drinks in a week and no more than four standard drinks on any day.
- A standard drink tool is available on the Cancer Council Victoria website to help people reduce their drinking. Visit www.cancervic.org.au/alcohol.
- Encourage alcohol-free days.

Healthy lifestyle recommendations to reduce cancer risk

A third of all cancers can be prevented by modifying behaviour. Key messages include:

- do not smoke
- maintain a healthy weight
- be active
- eat a healthy diet
- protect yourself from the sun
- participate in cancer screening programs
- limit alcohol consumption.

Advice for patients with cancer

- Call the Cancer Council on 13 11 20 for information and support.
- Advise them to visit www.cancervic.org.au.

Further supportive resources

- DirectLine 1800 888 236 www.directline.org.au can provide free, immediate telephone and online support, including clinical advice, referral options and support for your patients to help reduce drinking.
- Visit www.cancervic.org.au/alcohol for further information and resources, including an information sheet for patients 'Alcohol and cancer: Reducing your risk' and a low literacy version.
- RACGP Guidelines for preventive activities in general practice, 9th edition.
- RACGP Smoking, nutrition, alcohol, physical activity (SNAP) A population health guide to behavioural risk factors in general practice, 2nd edition.

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