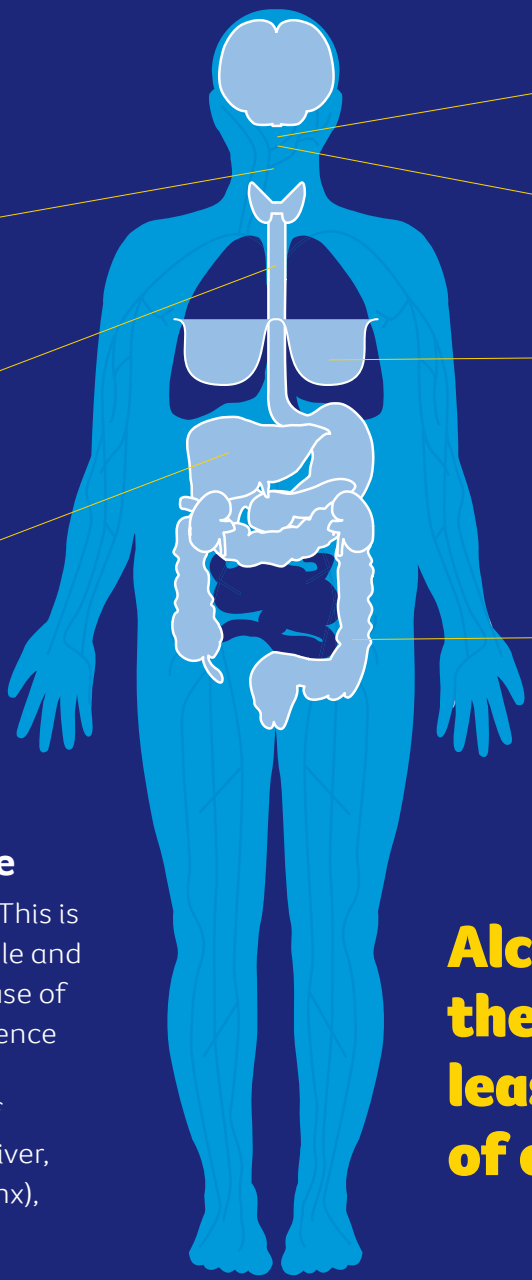
Cancer Council

Alcohol and increased cancer risk

A guide for health professionals

Alcohol consumption is estimated to be responsible for approximately 3 per cent 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]



1 **Pharynx** (Throat)
2 **Mouth**
3 **Larynx** (Throat)
4 **Oesophagus**
5 **Liver**
6 **Breast** (Female)
7 **Bowel**

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 seven 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 Liver 2015 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
Strong evidence	Substantial effect on risk unlikely	None identified			

1. Alcoholic drinks include beers, wines, spirits, fermented milks, mead and cider. The consumption of alcoholic drinks is graded by the International Agency for Research on Cancer as carcinogenic to humans (Group 1)[3].
2. The conclusions for alcoholic drinks and cancers of the liver, stomach and pancreas were based on evidence for alcohol intakes above approximately 45 grams of ethanol per day (about 4.5 standard drinks). No conclusions were possible for these cancers based on intakes below 45 grams of ethanol per day.
3. The conclusion for alcoholic drinks and colorectal cancer was based on alcohol intakes above approximately 30 grams of ethanol per day (about three drinks a day). No conclusion was possible based on intakes below 30 grams of ethanol per day.
4. No threshold level of alcohol intake was identified in the evidence for alcoholic drinks and breast cancer (pre and postmenopause).
5. The conclusion for alcoholic drinks and kidney cancer was based on alcohol intakes up to approximately 30 grams of ethanol per day (about three drinks a day). There was insufficient evidence to draw a conclusion for intakes above 30 grams of ethanol per day.

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.

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 that healthy men and women drink no more than ten standard drinks per week and no more than four standard drinks on any given day.

The less you choose to drink, the lower your risk of alcohol-related harm. For some people, not drinking is the safest option. For more information visit: 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
285ml full strength/ regular beer or cider

Wine
100ml wine (approx. 2/3 of a typical restaurant pour)

Spirits
30 ml (1 nip) spirits

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. The Alcohol Use Disorders Identification Test (AUDIT) tool can be utilised for this purpose. [18]

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 currently recommends that healthy men and women drink no more than ten standard drinks a week and no more than four standard drinks on any one day.
- 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:

- Avoid or limit alcohol
- Maintain a healthy weight
- Eat a healthy diet
- Be physically active
- Be SunSmart
- Quit smoking
- Check for unusual changes in the body and have regular screening tests.

Information and support related to cancer

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

Further supportive resources

- **Alcohol and Drug Information Service (ADIS) SA**
  ADIS is a confidential telephone counselling, information and referral service for the general public, concerned family and friends.

  Phone: 1300 131 340 (South Australian callers only - local call fee) any day between 8:30am and 10:00pm.
- Visit cancersa.org.au/prevention/lifestyle-factors/alcohol-and-cancer for further information.
- Download the Drink Less Alcohol brochure for patients.

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