

Alcohol and breast cancer

Why drinking alcohol is a cause of breast cancer and how you can reduce your risk.



Reducing how much you drink can help reduce your risk of breast cancer

Alcohol and breast cancer

Evidence tells us alcohol causes cancer and drinking alcohol increases a person's risk of developing breast cancer. [1],[2],[3] This guide will help you understand the link between alcohol and breast cancer, recognise the symptoms and reduce your risk of developing the disease.

Alcohol is a cause of breast cancer

Evidence overwhelmingly demonstrates a causal link between drinking alcohol and developing breast cancer. Studies have included hundreds of thousands of women, and evidence consistently shows that drinking alcohol can increase a woman's risk of breast cancer. Cancer Research UK estimates 23% of breast cancers are preventable, and that includes the 8% (or one in 13) of cases due to alcohol.



One in 13

Cancer Research UK estimates 23% of breast cancers are preventable, and that includes the 8% (or one in 13) of cases due to alcohol.

Understanding breast cancer risks from alcohol

Globally, cancer is the fifth largest cause of alcoholrelated deaths^[4] but people's awareness of the link between alcohol and cancer is low.^[5] Breast cancer is the most common cancer among women^[6] and the most common in the UK. Drinking alcohol doesn't mean you will get breast cancer, but there is evidence to suggest that:

- The risk of developing alcohol-related cancers, including breast cancer, increases significantly if a woman drinks more than an average of one alcoholic drink a day – or one unit, which is equivalent to about one small (125ml) glass of wine^{[7],[8],[9]}
- The more you drink over a lifetime, the higher your risk of developing breast cancer becomes^[10]

Breast cancer has many causes, and some are out of our control. But alcohol is one of the few causes of breast cancer that we do have some control over. No matter how much we drink, cutting down will reduce our risk of breast cancer.



Alcohol is one of the few causes of breast cancer that we do have some control over.

How does alcohol increase your risk of developing breast cancer?

The ways in which alcohol increases the risk of developing breast cancer are not fully understood^[11] but may include:

- The body breaks down alcohol into a substance called acetaldehyde which can cause changes in our DNA. This can trigger a response in the body which leads to cancerous cells developing^{[12],[13]}
- Alcohol increases levels of female hormone oestrogen – high levels of oestrogen can cause a cancer cell continually to multiply^[14]

Other breast cancer risk factors

There are many other factors that increase a person's risk of developing breast cancer, some of which we cannot control, such as:

- Our age we are more likely to develop breast cancer as we get older
- A family history of breast cancer (i.e. genetic risk)

Other factors that increase our risk of breast cancer include being overweight.^[15] Smoking (including passive smoking) may also increase the risk of developing breast cancer in some people, particularly in women after the menopause.^[16]



Symptoms of breast cancer

You should see a doctor if you have noticed:

- A change in the size, shape or feel of a breast
- A new lump or thickening in a breast or armpit
- Skin changes such as puckering, dimpling, a rash or redness of the skin
- Fluid leaking from a nipple when you aren't pregnant or breastfeeding
- Changes in the position of a nipple
- Breast pain

Most often these symptoms are not necessarily symptoms of breast cancer, but if you experience any of them, it is important to get them checked by a doctor or another qualified member of your GP's team. Check <u>cancerresearchuk.org</u> for more information about the early symptoms of breast cancer.

All women in the UK who are aged 50-70 and are registered with a GP are automatically invited for breast screening every three years. Breast screening is a type of X-ray test called a mammogram which can detect cancers when they are too small to see or feel. After 70, women can choose to continue three-yearly breast screening.

How to reduce your risk

Just drinking a few drinks each week increases your risk of breast cancer.^[17] If you do choose to drink alcohol, it is best to drink within the <u>UK Chief Medical Officers' (CMO) low risk drinking guidelines</u> and to spread your drinking throughout the week, incorporating several drink-free days.

Staying active, maintaining a healthy weight, not smoking and eating a balanced diet, can all help to reduce your risk of developing several types of cancer, including breast cancer.

More information and resources:

- www.drinkaware.co.uk/facts/health-effectsof-alcohol/alcohol-related-diseases/alcoholand-breast-cancer
- www.cancerresearchuk.org
- https://breastcancernow.org/

References

[1] IARC monographs on the evaluation of carcinogenic risks to humans. (2012). *Personal habits and indoor combustions, volume 100 E. A review of human carcinogens.* Lyon, France: International Agency for Research on Cancer France, 394.

^[2] Brown, K.F., Rumgay, H., Dunlop, C., Ryan, M., Quartly, F., Cox, A., Deas, A., Elliss-Brookes, L., Gavin, A., Hounsome, L. and Huws, D. (2018). The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. *British Journal of Cancer*, 118(8), 1130.

[3] Connor, J. (2017). Alcohol consumption as a cause of cancer. *Addiction*, 112(2), 222-228.

[4] World Health Organization. (2018). *Global status* report on alcohol and health 2018. Geneva: World Health Organization. XV.

https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1.

⁵ Buykx, P., Li, J., Gavens, L., Hooper, L., Lovatt, M., de Matos, E.G., Meier, P. and Holmes, J. (2016). Public awareness of the link between alcohol and cancer in England in 2015: a population-based survey. *BMC Public Health*, 16(1), 1194.

[6] Torre, L. A., Siegel, R. L., Ward, E. M. and Jemal, A. (2016). Global cancer incidence and mortality rates and trends – an update. *American Association for Cancer Research*. 25(1), 16-27

http://cebp.aacrjournals.org/content/cebp/25/1/16.full.pdf. [7] Cao, Y., Willett, W.C., Rimm, E.B., Stampfer, M.J. and Giovannucci, E.L. (2015). Light to moderate intake of alcohol, drinking patterns, and risk of cancer: results from two prospective US cohort studies. *Bmj*, 351, h4238. https://www.bmj.com/content/351/bmj.h4238.

^[8] Betts, G., Ratschen, E., Opazo Breton, M. and Grainge, M.J. (2017). Alcohol consumption and risk of common cancers: evidence from a cohort of adults from the UK. *Journal of Public Health*, 40(3), 540-548.
^[9] LoConte, N.K., Brewster, A.M., Kaur, J.S., Merrill, J.K. and Alberg, A.J. (2018). Alcohol and cancer: a statement of the American Society of Clinical Oncology. *Journal of*

Clinical Oncology, 36, 83-93. https://www.finut.org/wpcontent/uploads/2017/11/jco.2017.76.1155.pdf.

[10] Allen, N.E., Beral, V., Casabonne, D., Kan, S.W., Reeves, G.K., Brown, A. and Green, J. (2009). Moderate alcohol intake and cancer incidence in women. *Journal of the National Cancer Institute*, 101(5), 296-305.

https://academic.oup.com/jnci/article/101/5/296/913713. [11] Freudenheim, J.L. (2020). Alcohol's Effects on Breast

Cancer in Women. *Alcohol Research: Current Reviews*. 40(2).

https://www.arcr.niaaa.nih.gov/arcr402/article11.htm.

[12] Liu, Y., Nguyen, N., and Colditz, G.A. (2015). Links between alcohol consumption and breast cancer: a look at the evidence. *Women's Health*, 11(1),65-77.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4299758/.

[13] Coronado, G.D., Beasley, J. and Livaudais, J. (2011). Alcohol consumption and the risk of breast cancer. *Salud pública de México*, 53(5), 440-447.

http://www.scielo.org.mx/scielo.php?pid=S0036-36342011000500012&script=sci_arttext.

[14] Key, T., Appleby, P., Barnes, I. and Reeves, G. (2002). Endogenous sex hormones and breast cancer in postmenopausal women: reanalysis of nine prospective studies. *Journal of the National Cancer Institute*, *94*(8), 606-616.

http://jnci.oxfordjournals.org/content/94/8/606.long.

[15] James, F.R., Wootton, S., Jackson, A., Wiseman, M., Copson, E.R. and Cutress, R.I. (2015). Obesity in breast

Copson, E.R. and Cutress, R.I. (2015). Obesity in breast cancer—what is the risk factor? *European Journal of Cancer*, *51*(6), 705-720.

https://www.ncbi.nlm.nih.gov/pubmed/25747851.

[16] Dossus, L., Boutron-Ruault, M.C., Kaaks, R., Gram, I.T., Vilier, A., Fervers, B., Manjer, J., Tjonneland, A., Olsen, A., Overvad, K. and Chang-Claude, J. (2014). Active and passive cigarette smoking and breast cancer risk: results from the EPIC cohort. *International Journal of Cancer*, *134*(8), 1871-1888.

https://www.ncbi.nlm.nih.gov/pubmed/24590452.

[17] Cao, Y., Willett, W.C., Rimm, E.B., Stampfer, M.J. and Giovannucci, E.L. (2015). Light to moderate intake of alcohol, drinking patterns, and risk of cancer: results from two prospective US cohort studies. Bmj, 351, h4238. https://www.bmj.com/content/351/bmj.h4238.

4 Drinkaware drinkaware.co.uk