

# Why you may want to keep your Movember moustache out of the beer froth

14 November 2016

## Is Alcohol a Risk Factor for Prostate Cancer?

Alcohol is considered a "class 1" carcinogen by the World Health Organization. It is known to cause cancer at multiple sites in the body, mostly along the digestive tract.

Alcohol likely also causes skin, pancreatic and prostate cancer; however, determining the precise scope of these relationships has been complicated partly by the methodological issue of 'abstainer bias'.

Mouth  
Upper throat  
Larynx  
Esophagus  
Breast  
Liver  
Stomach  
Colon  
Rectum

**definition**

Abstainer bias: previously, it was common for alcohol researchers to group former and occasional drinkers together with lifetime abstainers (people who have never had a drink). Lumping these two categories of drinkers together with lifetime abstainers as the control group can "set the bar lower" and lead to under-estimation of the health risks of alcohol.

Prostate cancer is the 2nd and most common cancer in men and 5th leading cause of cancer death in men, worldwide.

The prostate is a walnut-sized gland that sits between the bladder and the penis and produces seminal fluid.

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Lifetime abstainers: have never had a drink of alcohol.

Former drinkers, in particular, may include people who drank heavily in the past and quit due to ill health.

Occasional drinkers, in addition to being current drinkers, may also include people who formerly drank heavily, but cut back.

We carried out the first systematic review and meta-analysis of the relationship between alcohol consumption and prostate cancer that controlled for abstainer bias (that is, we isolated lifetime abstainers as the control group).

**27** studies met our inclusion criteria.

### What did we find?

- Among current drinkers, we found a significant dose response relationship between amount of alcohol consumed and risk of prostate cancer, with risk starting at even low volume intake.
- Accounting for abstainer bias in our meta-analysis of all 27 studies (graph below), Low Volume Drinkers had an 8% higher risk of prostate cancer than Lifetime Abstainers.
- When we analyzed only those six studies that were originally free of both Former Drinker and Occasional Drinker biases, Low Volume Drinkers' risk was 23% greater than Lifetime Abstainers.

We found that the common practice of combining former drinkers with abstainers biases risk downwards and can disguise a significant association between alcohol intake and risk of prostate cancer. We did not observe an occasional drinker bias.

### What's Your Risk of Prostate Cancer from Drinking?

Drinking Level	Risk Change (%)
Former Drinkers (undefined past drinking level)	~0%
Occasional Drinkers (1 drink every 10 days)	~0%
Low Volume Drinkers (from 1 drink every 10 days to 2 drinks per day)	~8%
Med Volume Drinkers (~2-3 drinks per day)	~10%
High Volume Drinkers (~3.5-5 drinks per day)	~15%
Higher Volume Drinkers (~5+ drinks per day)	~23%

no statistically significant difference in risk of developing prostate cancer, compared to Lifetime Abstainers

increased risk of developing prostate cancer, compared to Lifetime Abstainers

### Take Home Messages

- Even low volume drinking increases your risk of prostate cancer.
- Generally, the more alcohol you drink, the greater your risk of prostate cancer.
- Given the high prevalence of prostate cancer, the public health implications of these findings are significant. Prostate cancer may need to be incorporated into future estimates of the burden of disease alongside other cancers and be integrated into public health strategies for reducing alcohol-related disease.

University of Victoria | Centre for Addictions Research of BC | Zhen, J., Stockwell, T., Roemer, A., & Chikritzos, T. (2016). Is alcohol consumption a risk factor for prostate cancer? A systematic review and meta-analysis. BMC Cancer.

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Infographic describes the study definitions, methodology, findings and impacts. Credit: Centre for Addictions Research of BC at the University of Victoria

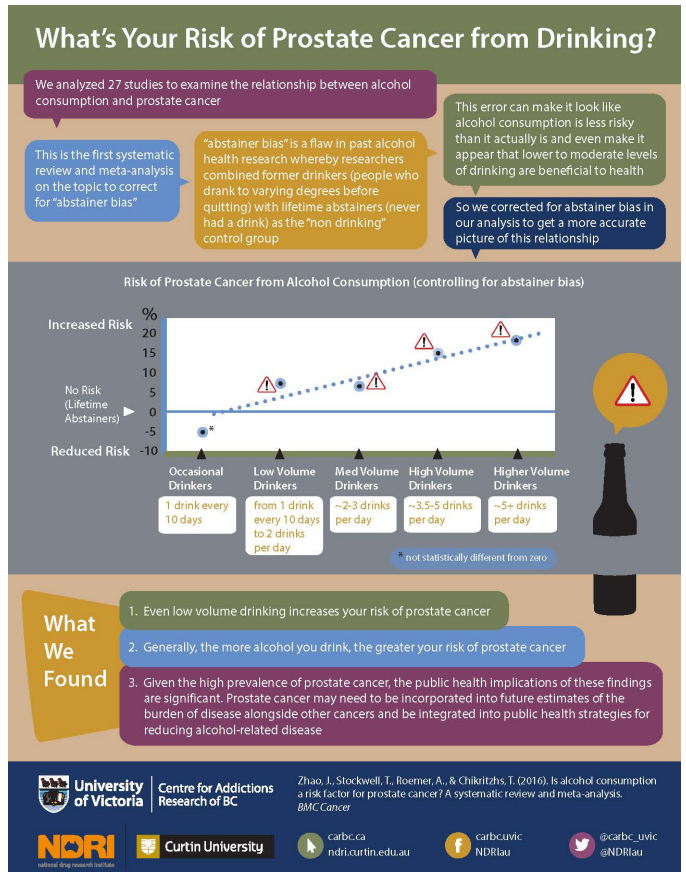
Alcohol is known to be a risk factor for breast cancer and at least seven types of cancers of the digestive system. It's also suggested that alcohol may increase the risk of cancers of the skin, pancreas and prostate. But some unresolved questions still remain in the underlying science.

A new collaborative study done by researchers at the Centre for Addictions Research of BC (CARBC) at the University of Victoria and Australia's National Drug Research Institute (NDRI) at Curtin University provides new evidence of a significant relationship between alcohol consumption and the risk of [prostate cancer](#). The article appears in *BMC Cancer*, a peer-reviewed online journal.

Part of the problem with most previous studies comes from what scientists call "abstainer bias." This is the common practice of lumping together former drinkers—including people who may have previously drank heavily, but quit or cut down due to failing health—with those who have abstained from [drinking alcohol](#) for their whole lives. This practice can disguise the association between alcohol intake and health problems like prostate cancer by making drinkers "look good" in comparison with a group containing unhealthy former drinkers.

The research team identified all previously published studies on alcohol and prostate cancer (340) and found 27 that attempted to measure the risk at different levels of consumption. Controlling for abstainer bias in their analysis of all 27 studies, they found a statistically significant dose-response relationship between amount of alcohol consumed and risk of prostate cancer among current drinkers.

In other words, the more you drink, the greater your risk of prostate cancer.



Infographic: What's your risk of prostate cancer from drinking (abridged version). Credit: Centre for Addictions Research of BC at the University of Victoria

Even at low-volume drinking (up to two drinks per day), men had an eight per cent greater risk of prostate cancer compared to lifetime abstainers. But when the researchers examined only those six studies that were originally free of abstainer bias, the risk for low volume drinkers rose to 23 per cent.

Given the high prevalence of prostate cancer, especially in the developed world, the public health implications of these findings are significant. It is the most commonly diagnosed cancer in men in Canada, Australia and Britain, and is the fifth most common cause of cancer death in men worldwide.

"This new study contributes to the strengthening evidence that [alcohol consumption](#) is a risk factor for prostate cancer. Alcohol's contribution to prostate cancer will need to be factored in to future

estimates of the global burden of disease," said UVic's CARBC director and co-author Dr. Tim Stockwell.

This month is "Movember," a campaign that originated in Australia to raise funds and awareness of prostate and testicular cancer and men's health in general. The week of Nov.16 - 22 is National Alcohol Awareness Week in the UK and National Addictions Awareness Week in Canada.

"These findings highlight the need for better methods in research on [alcohol](#) and health," says report co-author Dr. Tanya Chikritzhs. "Past and future studies that demonstrate protection from disease due to low-level drinking should be treated with caution."

**More information:** Jinhui Zhao et al, Is alcohol consumption a risk factor for prostate cancer? A systematic review and meta-analysis, *BMC Cancer* (2016). DOI: [10.1186/s12885-016-2891-z](https://doi.org/10.1186/s12885-016-2891-z)

Provided by University of Victoria

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