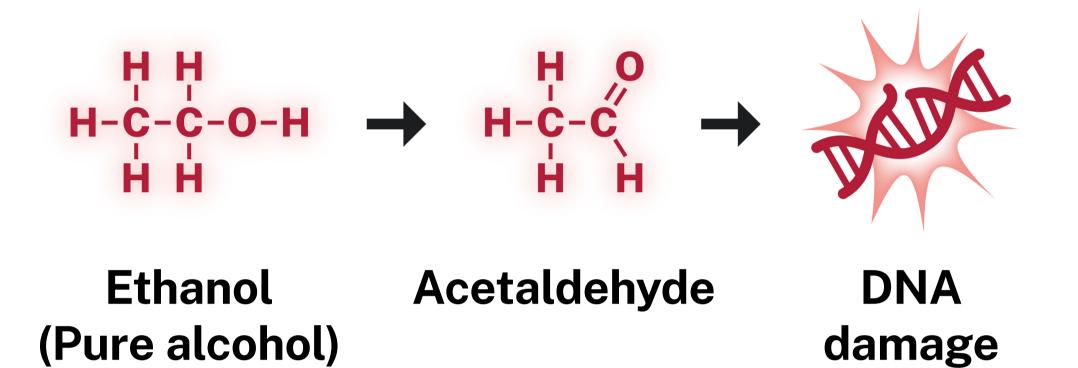
# Four ways alcohol can cause cancer



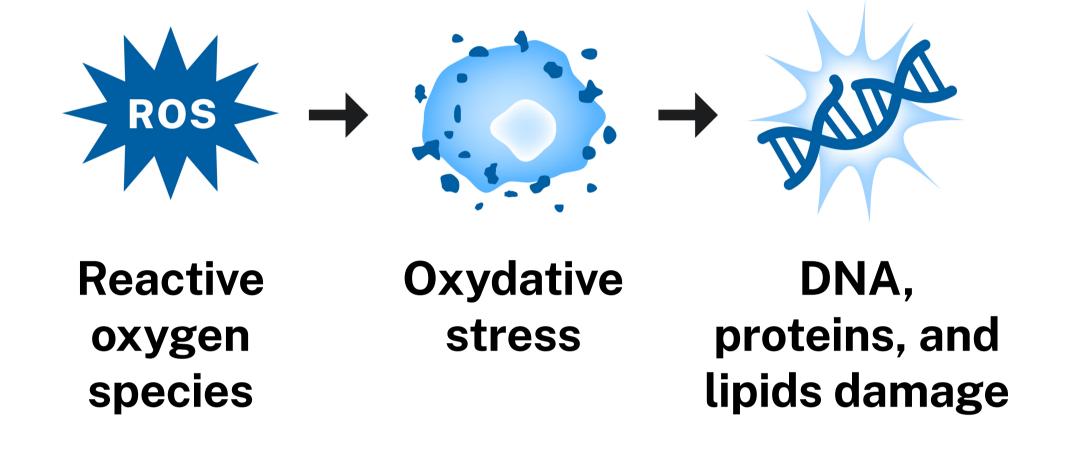
### **MECHANISM A**

Alcohol breaks down into acetaldehyde which damages DNA in multiple ways, causing an increased risk of cancer.



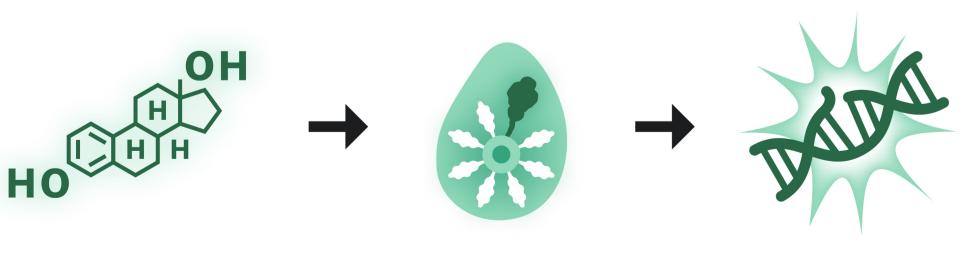
## **MECHANISM B**

Alcohol induces **oxidative stress**, increasing the risk of cancer by damaging DNA, proteins, and cells and increasing inflammation.



### MECHANISM C

Alcohol alters levels of multiple hormones, including estrogen, which can increase breast cancer risk.



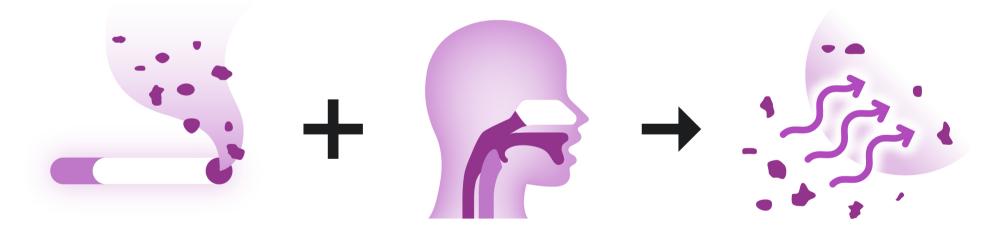
**Increases estrogen** 

Alters breast tissue

DNA damage

# MECHANISM D

Alcohol leads to greater absorption of carcinogens.



Carcinogens dissolve in alcohol

Alcohol alters cells in mouth and throat

Carcinogens more easily absorbed

\*Rumgay et al. (2021) reviewed these four mechanisms through which alcohol can cause cancer along with several other possible pathways that appear to influence cancer risk. These include disruption of one-carbon metabolism, alteration of retinoid metabolism, and impaired immune function among others.

