WINE & HEALTH

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Physician and 4th Generation Vintner

Stanford Medical School (Class of 1992)

Practicing Emergency Physician in California for 27 years

DR. LAURA CATENA

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4th Generation Vintner - ARGENTINA

Founder - Catena Institute of Wine

Old Vine Hero Award Winner 2023

Catena Zapata - #1 World's Best Vineyards 2023

Vinexposium - Sustainability Award 2025

WWW.INDEFENSEOFWINE.COM

Objective → to clarify science and correct misinformation around alcohol, wine and health.

Letters to the Editor: calling attention to misinformation in the mainstream media.

TOPICS

1. Potential Cardiovascular Benefits
2. Cardiovascular Risks
3. Cancer Risks
4. Mediterranean Drinking Pattern
5. The Current Controversy on Health Benefits
6. **This is not an inclusive presentation of all the significant risks of alcohol.**

DIETARY GUIDELINES FOR AMERICANS 2025-2030 ARE BEING DRAFTED

U.S.A: THE TWO VERY DIFFERENT REPORTS THAT WILL BE USED TO DRAFT THE 2025-2030 U.S. DIETARY GUIDELINES FOR AMERICANS: NASEM AND ICCPUD

NASEM Report, December 2024: Authored by 14 scientists from leading U.S. Academic Institutions (University of Colorado School of Medicine, University of Arkansas for Medical Sciences, Harvard University, Cornell University, University at Buffalo, Brown University School of Public Health, University of Idaho, Johns Hopkins, University of North Carolina at Chapel Hill, University of Iowa, Stanford University School of Medicine), supported by 9 researchers and 3 consultants from the Academy of Nutrition and Dietetics. The report was peer-reviewed by 12 additional experts in various fields, including cardiovascular disease, cancer, neuroscience, psychology, and nutrition.

ICCPUD Report, January 2025: Composed of 6 scientists, half of whom are based in Canada. Two members were involved in the Canadian Center on Substance Use and Addiction Alcohol and Health Guidance, which was widely criticized for its questionable scientific methods, and which was not adopted by the Canadian government. Several of the ICCPUD panel members are associated with and have accepted paid work from acknowledged temperance organizations such as IOGT – the International Order of the Good Templars (renamed Movendi).

	NATIONAL ACADEMIES *Sciences Engineering Medicine*	ICCPUD Interagency Coordinating Committee on the Prevention of Underage Drinking
OBJECTIVE REVIEW	Yes. The committee includes experts from top U.S. institutions with diverse, relevant expertise.	No. Half are from Canadian institutions; several have ties to temperance organization; no specialist in cardiovascular disease.
PEER REVIEWED	Yes.	No.
KEY FINDINGS	For moderate drinkers (male and female): lower mortality from all-causes, reduced cardiovascular mortality, increased breast cancer risk (all with only moderate certainty because there is no large randomized controlled trial – only observational data).	For moderate drinkers: reduced risk of diabetes and ischemic stroke; data shows J-curve for 7 drinks a week consumption, but report doesn't acknowledge result. Reports 1 in 1000 death risk for over 7 drinks a week and 1 in 100 death risk for over 9 drinks a week.
DATA ANALYSIS	Compares moderate drinkers to never drinkers. Metanalysis of data from last 15 years confirms the existence of a J Curve for all cause and cardiovascular mortality.	Modeling with cherry-picked studies multiplies potential errors associated with observational data and confounders. Does not adequately distinguish moderate from heavy consumption. Mistakes association with causality. Drafted by same group that conducted former U.S. Surgeon General's Alcohol and Cancer Advisory proposing cancer warning labels on alcohol.

NASEM REPORT HIGHLIGHTS

January 2025

NATIONAL ACADEMIES *Sciences Engineering Medicine*

REPORT RELIABILITY

The National Academies is viewed as a **non-biased**, highly **reliable source of scientific information**.

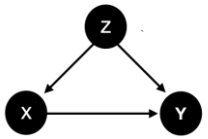
Its **peer reviewed** report analyzes the latest research on **moderate alcohol consumption and health.**

The report refutes the "no safe level" claim.

RESEARCH AND CONFOUNDERS

All eight studies contributing data to the main question (i.e., the association of moderate consumption of alcohol compared to never consuming alcohol on the risk of all-cause mortality) adjusted for major confounders, including age, sex, socioeconomic factors, physical activity, smoking, and typically some mixture of co-morbidities and body habitus. The eight included

CONTROLLED FOR



AGE – SEX – SOCIOECONOMIC FACTORS – PHYSICAL ACTIVITY – SMOKING

*"Based on scientific data, the committee concludes that compared with never consuming alcohol, **moderate consumption is associated with lower all-cause mortality.**" (-with moderate certainty)*

16-23%

lower risk of all-cause mortality

among those who consumed moderate amounts of alcohol compared with those who never consumed alcohol.

18-23%

lower risk of cardiovascular death

among persons consuming moderate amounts of alcohol compared with persons never consuming alcohol.

5-10%

increased risk of breast cancer

among females consuming moderate amounts of alcohol compared with females never consuming alcohol.

CERTAIN JOURNALISTS IN MAINSTREAM MEDIA SUCH AS NYT, WSJ AND THE GUARDIAN ARE EQUATING ALCOHOL TO TOBACCO

– I AM POSTING CORRECTIONS TO THEIR INCORRECT SCIENCE AT WWW.INDEFENSEOFWINE.COM

THE WALL STREET JOURNAL.

Your Happy Hour Habits Could Raise Your Cancer Risk

By Sumathi Reddy Follow

Feb. 11, 2025 8:00 am ET

Share Resize 408 Listen (1 min)

> *We all know cigarettes cause cancer. The memo on booze hasn't reached everyone. Doctors say many people are surprised to learn alcohol raises the risk of certain cancers, such as liver, colorectal and breast cancer. And cancer patients say they aren't always aware of the increased risk until after they have been diagnosed.*

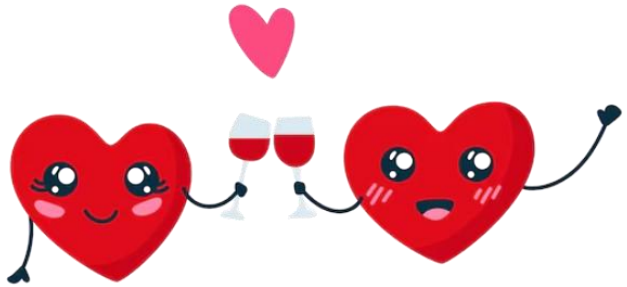
Doctors are not telling patients to stop drinking alcohol.

> *Dr. Larry Norton, a breast cancer oncologist and medical director of breast cancer at Memorial Sloan Kettering, says he's been giving his patients the same advice for years. There is no need to completely abstain from drinking alcohol; to minimize your risk, limit alcoholic drinks to occasional social interactions and to two to three drinks a week.*

MODERATE ALCOHOL IS

NOT EQUAL

TO MODERATE TOBACCO



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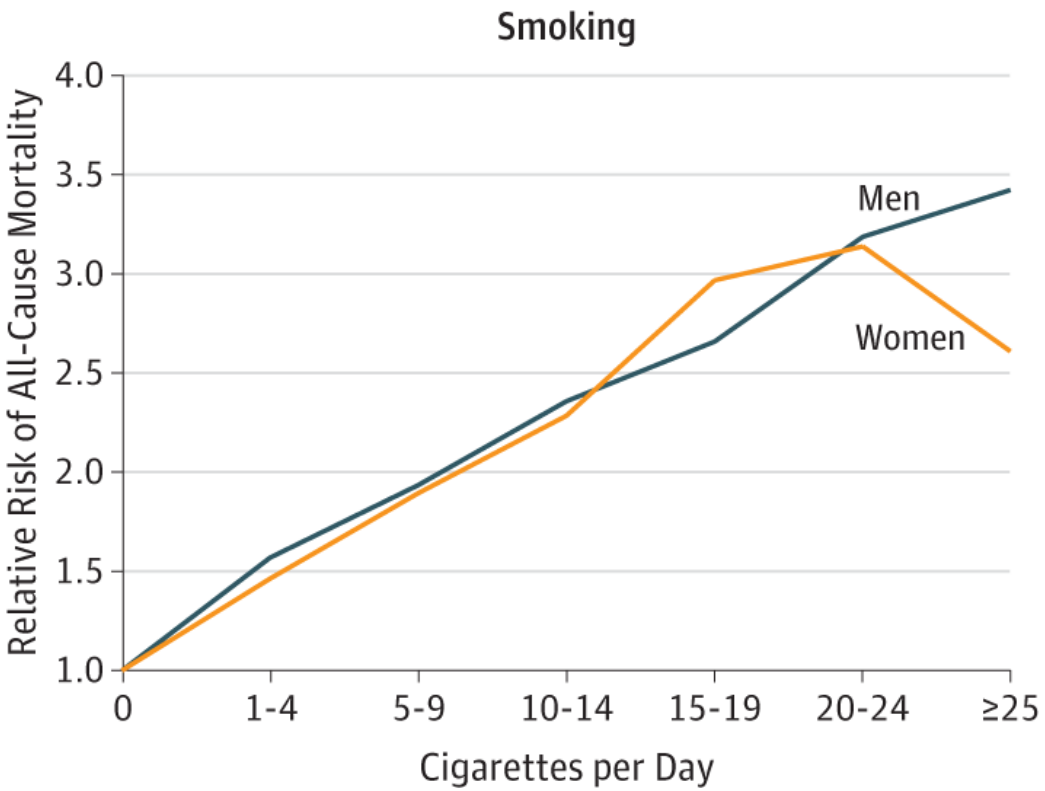
THERE IS NO J-CURVE FOR TOBACCO

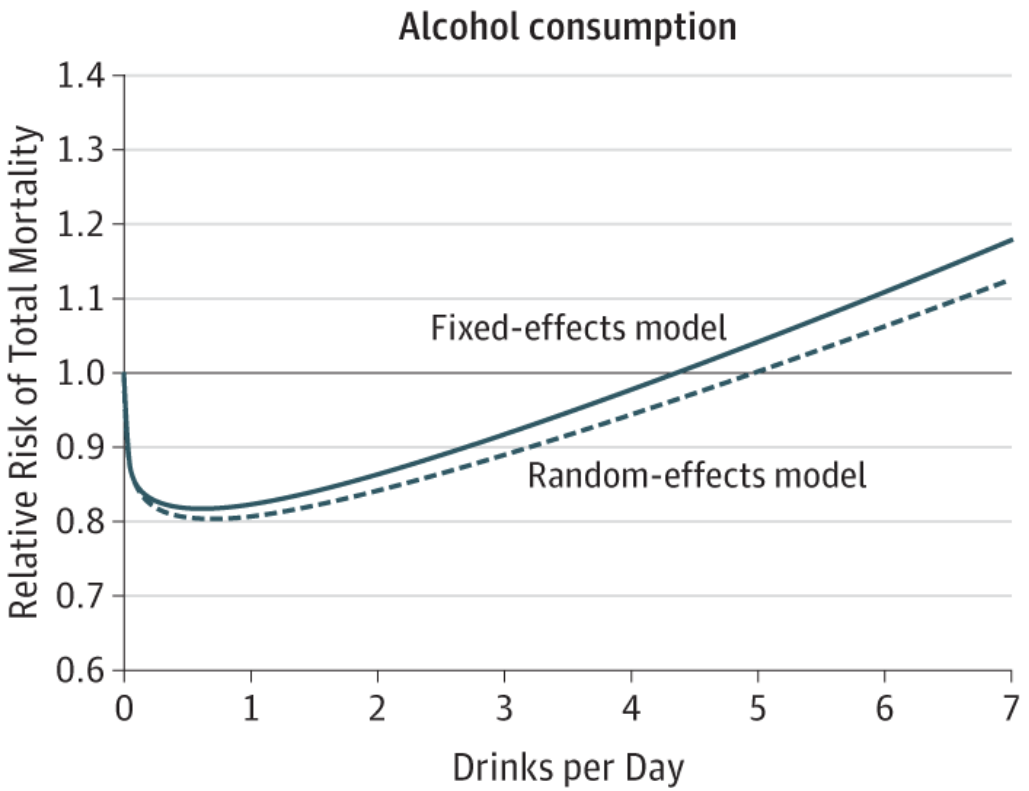
JAMA Network

October 6, 2015

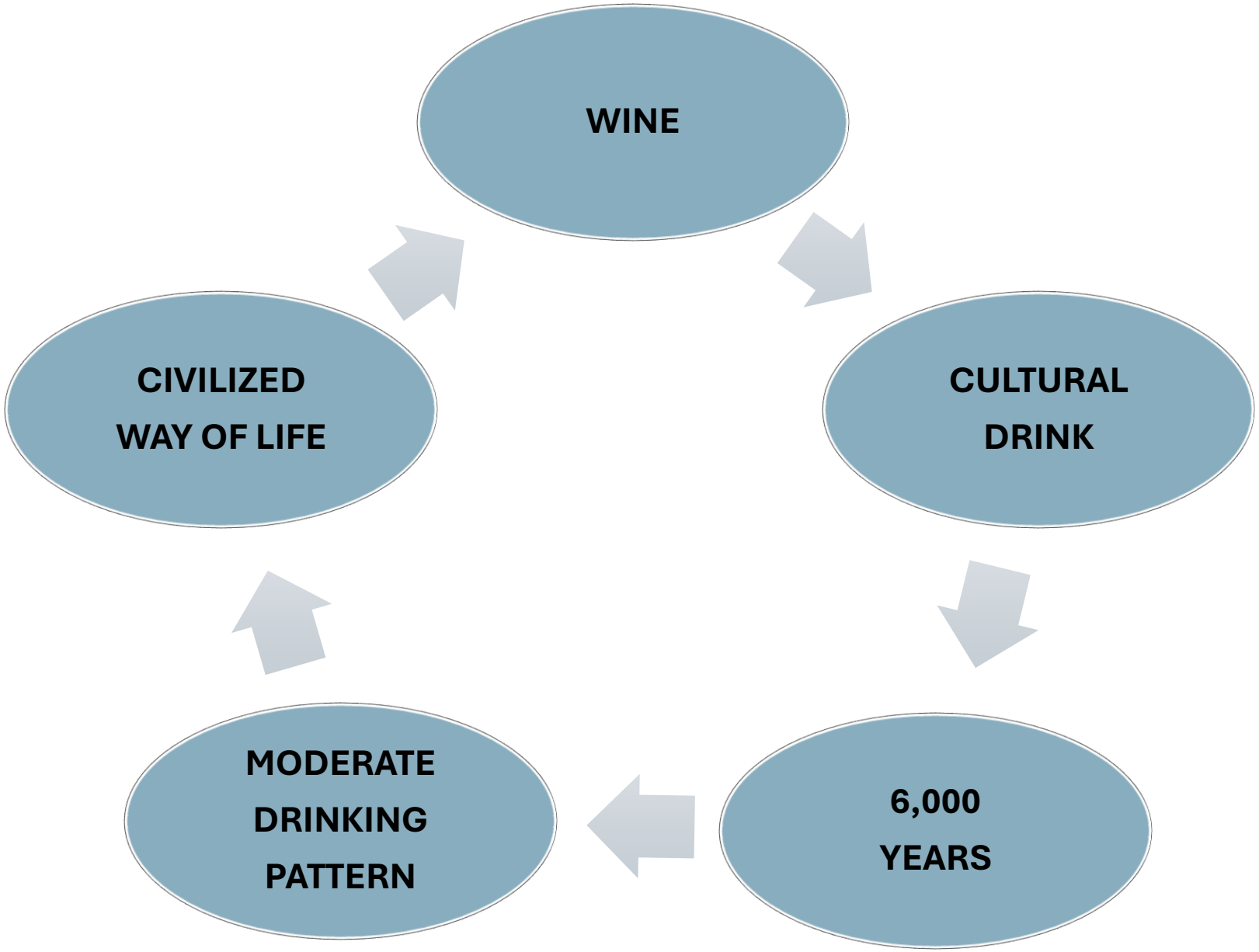
J-Shaped Curves and Public Health

Dave A. Chokshi, MD, MSc[1,2]; Abdulrahman M. El-Sayed, MD, DPhil[3]; Nicholas W. Stine, MD[1,2]





Source: JAMA Network



SOURCES:

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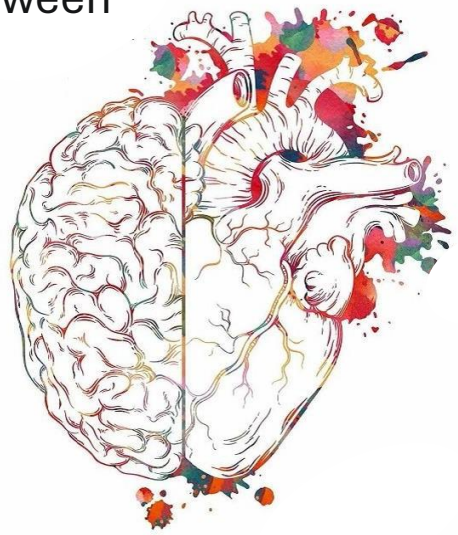
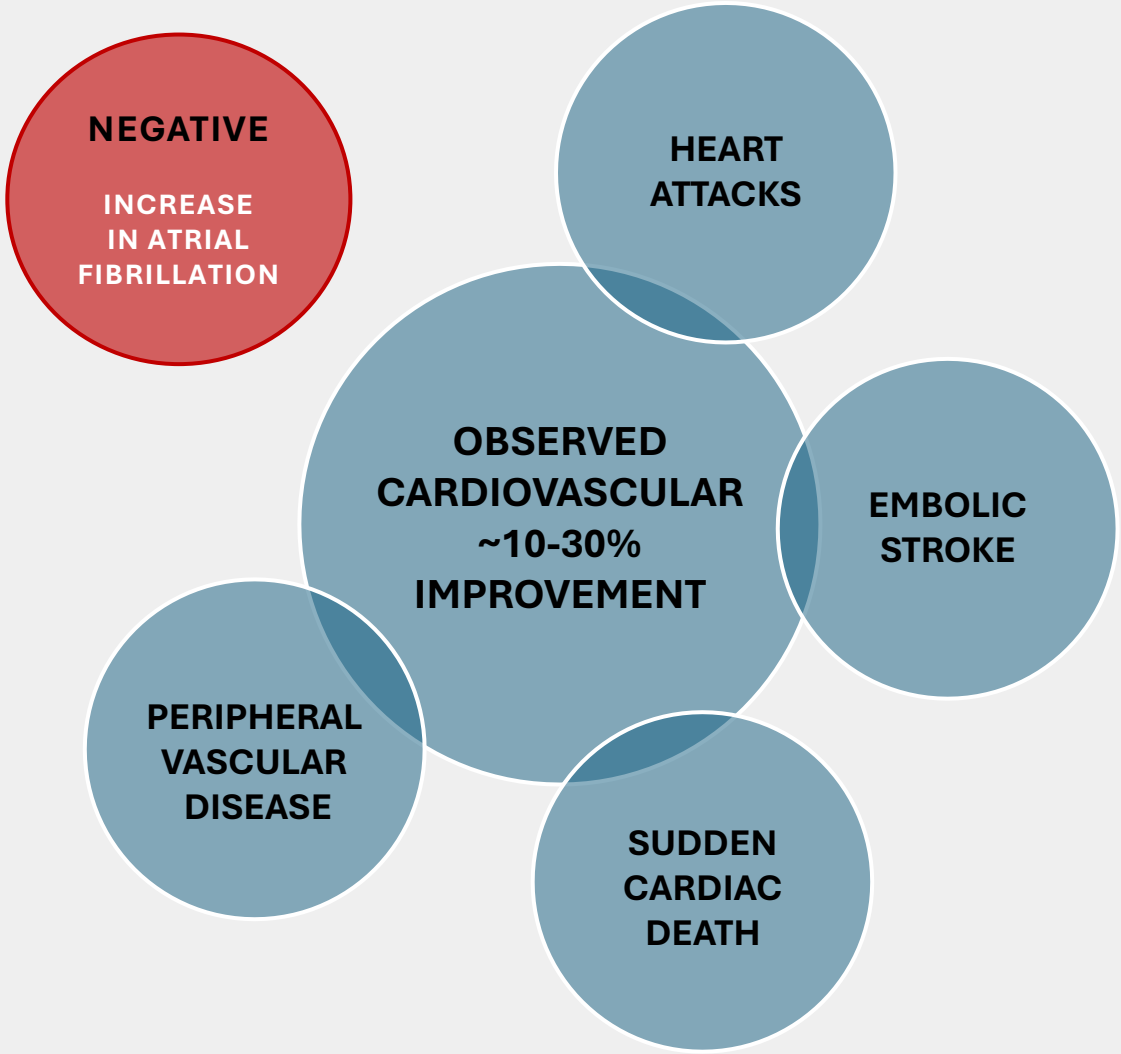
- Barbería-Latasa, María, Maira Bes-Rastrollo, Rafael Pérez-Araluce, Miguel Ángel Martínez-González, and Alfredo Gea. "Mediterranean Alcohol-Drinking Patterns and All-Cause Mortality in Women More Than 55 Years Old and Men More Than 50 Years Old in the “Seguimiento Universidad de Navarra”(SUN) Cohort." *Nutrients* 14, no. 24 (2022): 5310.

OBSERVED CARDIOVASCULAR EFFECTS FROM LIGHT / MODERATE ALCOHOL CONSUMPTION

More than 100 prospective studies show an inverse association between light to moderate drinking and cardiovascular disease.





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- Leong, Darryl P., et al. "Patterns of alcohol consumption and myocardial infarction risk: observations from 52 countries in the INTERHEART case–control study." Circulation 130.5 (2014): 390-398.
- Ronksley, Paul E., et al. "Association of alcohol consumption with selected cardiovascular disease outcomes: a systematic review and meta-analysis." Bmj 342 (2011): d671.
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- Marcus, Gregory M., Madelaine Faulkner Modrow, Christopher H. Schmid, Kathi Sigona, Gregory Nah, Jiabei Yang, Tzu-Chun Chu et al. "Individualized studies of triggers of paroxysmal atrial fibrillation: the I-STOP-AFib randomized clinical trial." *JAMA cardiology* 7, no. 2 (2022): 167-174.

“For adults **over age 40**, health risks from alcohol consumption vary by age and region.

Consuming a **small amount of alcohol** for people in this age group can provide some **health benefits**, such as **reducing the risk** of **cardiovascular disease, stroke,** and **diabetes.**”

The Lancet 2022 (GBD – Global Burden of Disease Study 2020)

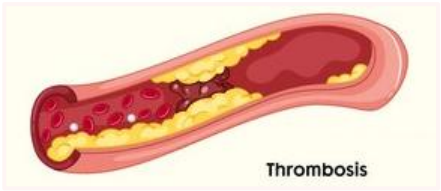
https://www.thelancet.com/infographics-do/alcohol-gbd

The Global Burden of Disease (GBD) study is the most comprehensive worldwide observational epidemiological study to date. Led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, Seattle (USA) the GBD study offers a powerful resource to understand the changing health challenges facing people across the world in the 21st century. Examining trends from 1990 to the present, the latest GBD study includes data on mortality and morbidity in 204 countries and territories, 371 diseases and injuries, and 88 risk factors. By tracking progress within and between countries, it provides an important tool to inform clinicians, researchers, and policy makers, promote accountability, and improve lives worldwide.

POSSIBLE MECHANISMS FOR LIGHT/MODERATE ALCOHOL CARDIOPROTECTIVE EFFECTS

1. RAISED HDL

the good cholesterol



2. FIBRINOLYTIC

like Aspirin, alcohol might act as a blood thinner preventing plaque formation

3. BRAIN EFFECT

Might lower anxiety by reducing amygdala (fight or flight center of the brain) activation

4. BETTER GLUCOSE CONTROL

Lowers blood glucose/↓ diabetes

SOURCES:

- Piano, Mariann R. "Alcohol's effects on the cardiovascular system." *Alcohol research: current reviews* 38.2 (2017): 219.
- Ma, Hao, et al. "Moderate alcohol drinking with meals is related to lower incidence of type 2 diabetes." *The American Journal of Clinical Nutrition* 116.6 (2022): 1507-1514.
- Mezue, Kenechukwu, et al. "Reduced stress-related neural network activity mediates the effect of alcohol on cardiovascular risk." *Journal of the American College of Cardiology* 81.24 (2023): 2315-2325.

NEW STUDY – 2023

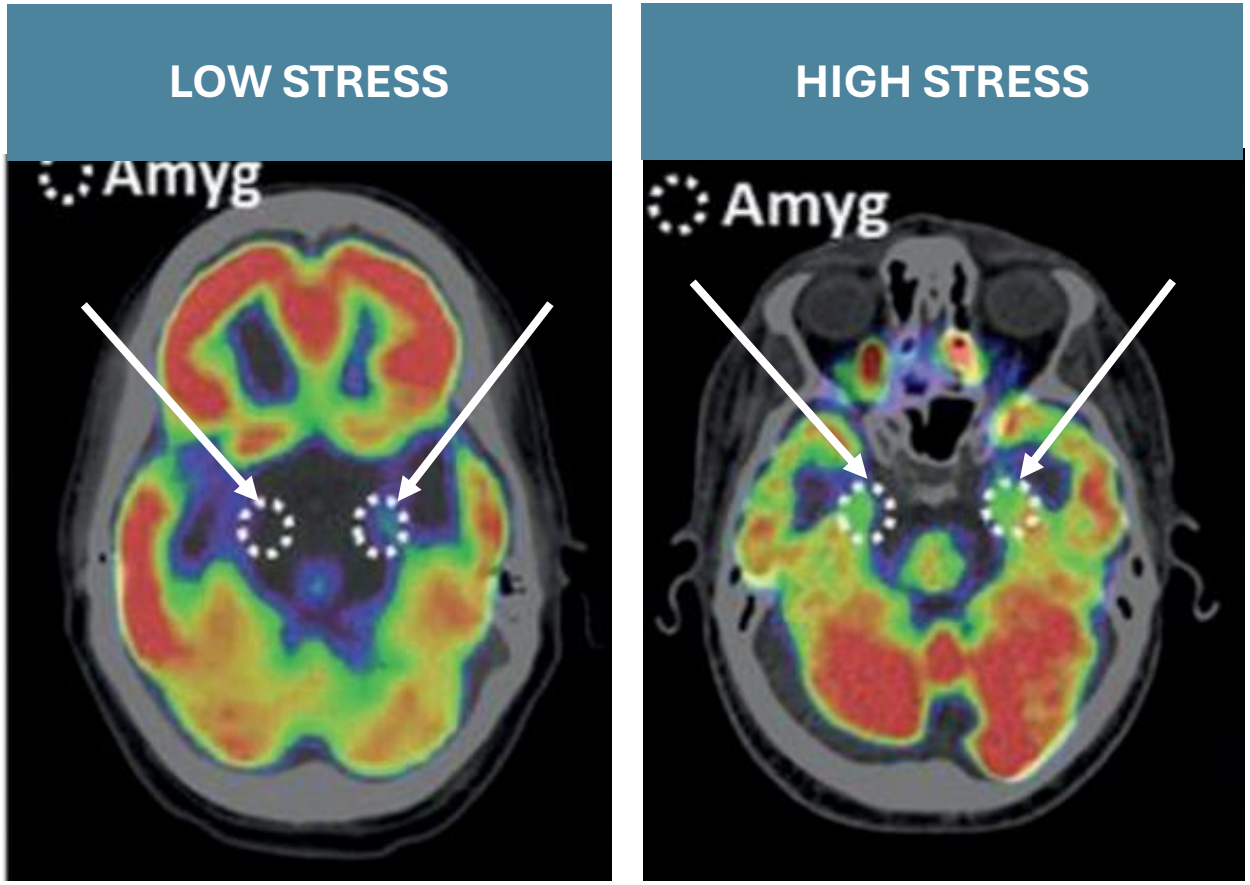
HARVARD MEDICAL SCHOOL

20-40% REDUCTION

in major adverse cardiac events

“ALCOHOL DRINKERS EXPERIENCE LESS ANXIETY”

The brain scans of light drinkers showed markedly less activity in the amygdala. (Also found increase in cancer risk).



SOURCE:

- Kenechukwu Mezue, Michael T. Osborne, Shady Abohashem, Hadil Zureigat, Charbel Gharios, Simran S. Grewal, Azar Radfar, Alexander Cardeiro, Taimur Abbasi, Karmel W. Choi, Zahi A. Fayad, Jordan W. Smoller, Rachel Rosovsky, Lisa Shin, Roger Pitman, and Ahmed Tawakol. "Reduced stress-related neural network activity mediates the effect of alcohol on cardiovascular risk." *Journal of the American College of Cardiology* 81, no. 24 (2023): 2315-2325.

ALCOHOL RESEARCH

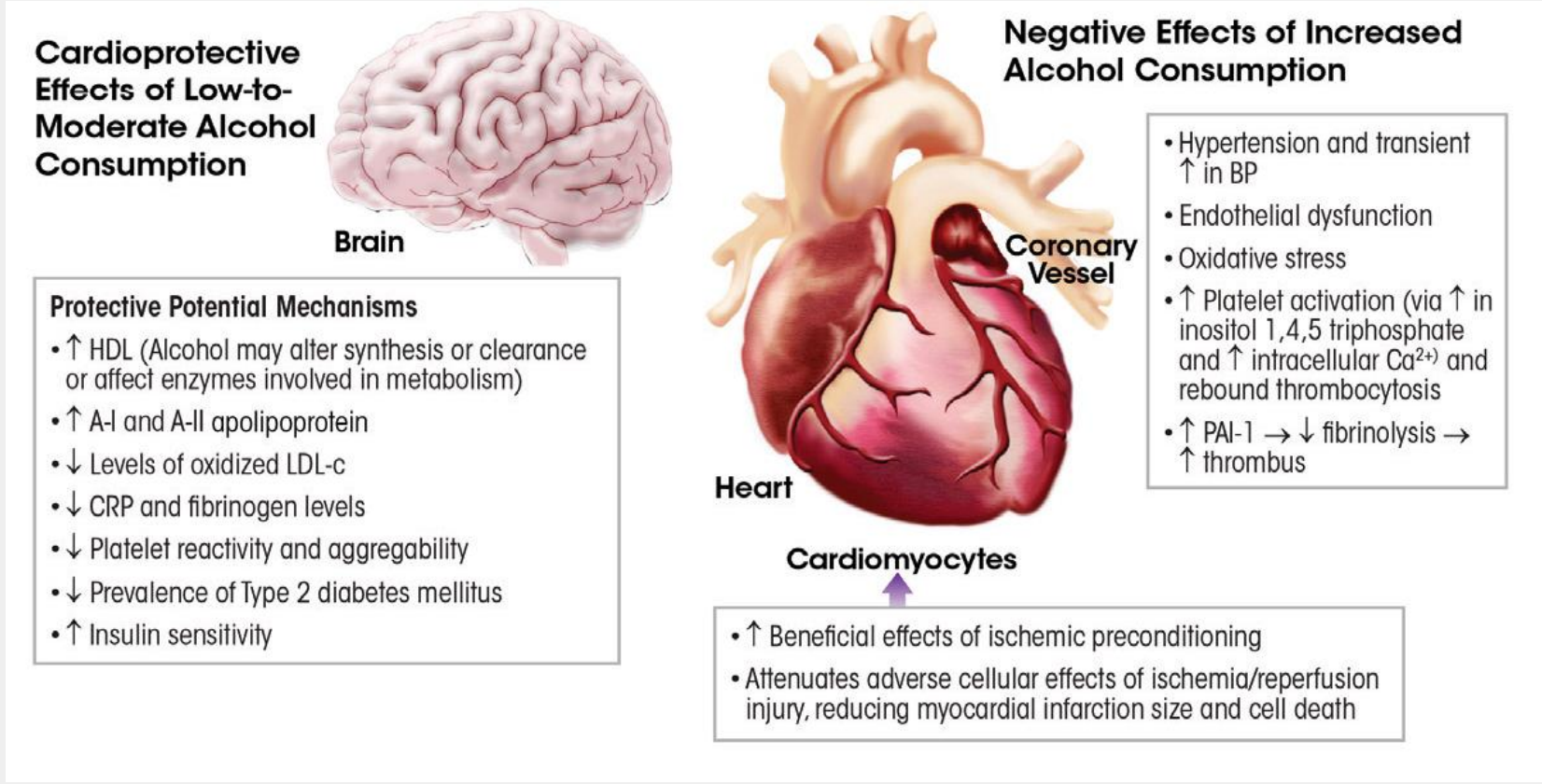


Figure 3 Mechanisms related to the positive and adverse effects of alcohol on cardiovascular conditions, such as coronary heart disease and stroke as well as cardiomyopathy. Different mechanisms may be in effect depending on the dose, duration, and pattern of alcohol consumption.

NOTE:
BP = blood pressure,
Ca2+ = calcium,
CRP = C-reactive protein,
DM = diabetes mellitus,
HDL = high-density lipoprotein,
LDL = low-density lipoprotein,
PAI-1 = plasminogen activator inhibitor-1.
Adapted from Krenz and Korthuis 2012.

SOURCE: Piano, Mariann R. "Alcohol's effects on the cardiovascular system." Alcohol research: current reviews 38, no. 2 (2017): 219.

OBSERVED CARDIOVASCULAR EFFECTS FROM ALCOHOL CONSUMPTION VARY IN DIFFERENT AGE GROUPS

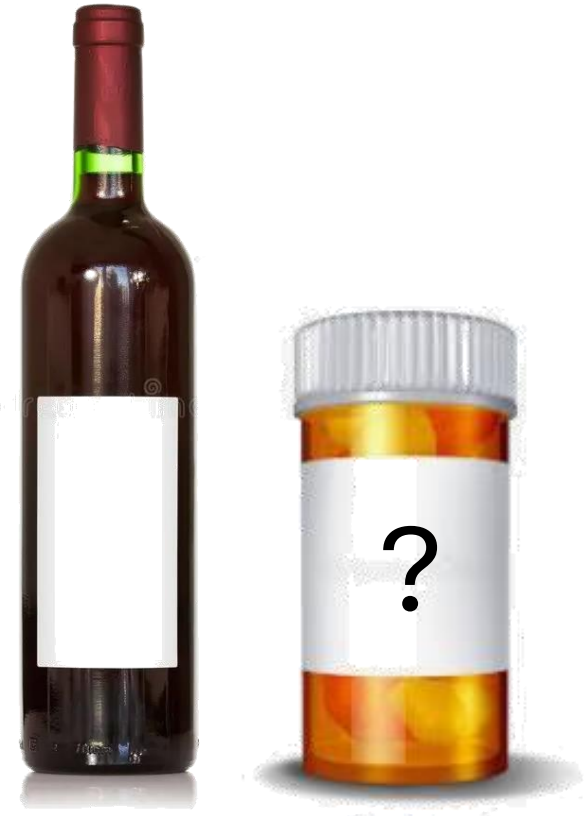
1. **There are no health benefits for drinking in the under 40 age group.**
2. Australia's guidelines (as an example) chose their less than 10 standard drinks per week guidelines based on similar risks to driving.
3. Men can drink a bit more than women – men produce more alcohol dehydrogenase and have more water / less fat for alcohol to dissolve in.
4. Some people carry a gene that interferes with alcohol metabolism, and they flush while drinking – should drink less.
5. People over 65 should reduce their drinking because they metabolize alcohol more slowly in general.

SOURCES:

- The Lancet 2022. Health Risks of Alcohol Infographic - Global Burden of Disease Study 2020. https://www.thelancet.com/infographics-do/alcohol-gbd.
- Conigrave, Katherine M., Robert L. Ali, Rebecca Armstrong, Tanya N. Chikritzhs, Peter d'Abbs, Mark F. Harris, Nicole Hewlett et al. "Revision of the Australian guidelines to reduce health risks from drinking alcohol." Medical Journal of Australia 215, no. 11 (2021): 518-524.
- Almeida, Merle, and Shubham Daundkar. "Alcohol: Balancing Risks and Benefits." (2022).
- Harvard T.H. Chan, School of Public Health. The Nutrition Source, Alcohol: Balancing Risks and Benefits. (2022).

WHY ARE SOME ACADEMICS AND GOVERNMENTS QUESTIONING THE CARDIOVASCULAR BENEFITS DATA?

- Large **observational** studies.
- Only **small randomized controlled** studies.
- **Mediterranean diet +/- alcohol**, first randomized controlled study being conducted in Spain 2024 – randomizing 10,000 people.
- Can **lifetime abstainers** be compared to drinkers in observational studies?
- Is alcohol consumption a proxy for a **healthier diet** and higher socioeconomic status?
- Same observational data being used to evaluate **cancer risk**.
- **Mendelian randomization** studies–too many confounders–not better than observational.



SOURCES:

- Martínez-González, Miguel Á., and Aitor Hernández Hernández. "Effect of the Mediterranean diet in cardiovascular prevention." *Revista Española de Cardiología (English Edition)* (2024).
- Freiberg, Matthew S., and Jeffrey H. Samet. "Alcohol and coronary heart disease: the answer awaits a randomized controlled trial." Circulation 112.10 (2005): 1379-1381.
- Carr, Sinclair, et al. "A burden of proof study on alcohol consumption and ischemic heart disease." Nature Communications 15.1 (2024): 4082.
- DeJong, William. "The Moderate Alcohol and Cardiovascular Health Trial: Public health advocates should support good science, not undermine it." European journal of preventive cardiology 28, no. 15 (2021): e22-e24.

IS THIS TRUE?

? **“Many studies showing cardiovascular benefits from alcohol were funded by alcohol industry”.** WHO, Reporting about alcohol: a guide for journalists (April 2023).

The article cited by **WHO**, shows 5.4% industry funding out of 386 observational studies and no apparent bias in the findings.

The New York Times

By Roni Caryn Rabin Jan. 10, 2024

While it is indisputable that heavy drinking is bad for your health, some studies have found cardiovascular benefits in moderate drinking. But in recent years critics have questioned the methodology used in some of these studies, many of which were done by scientists who have received financial support from groups funded by the alcohol industry.

NOT TRUE

U.S. Diet Panel Adds Another Researcher With Alcohol Industry Ties

After dropping two Harvard experts who had received industry support, the National Academies turned to a colleague with a similar background.

Jan. 10, 2024

Scientists in Discredited Alcohol Study Will Not Advise U.S. on Drinking Guidelines

Dec. 1, 2023

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Meta-Analysis

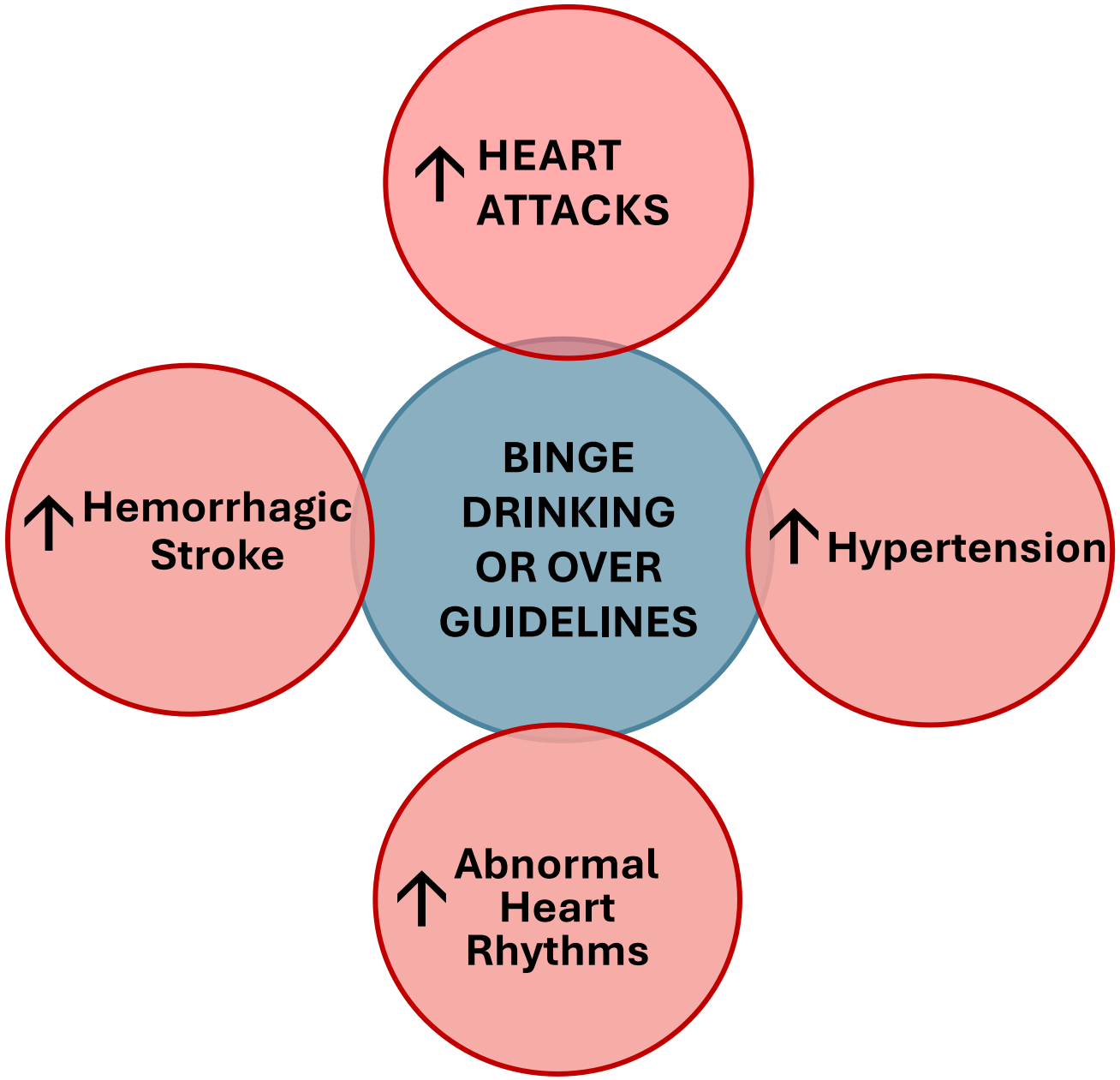
Exploring the Influence of Alcohol Industry Funding in Observational Studies on Moderate Alcohol Consumption and Health

Moniek Vos et al. Adv Nutr. 2020.

A total of 386 observational studies were included. Twenty-one studies (5.4%) were funded by the alcohol industry, 309 studies (80.1%) were not funded by the alcohol industry, and for the remaining 56 studies (14.5%) the funding source was unknown. Subgroup analyses and metaregressions did not show an effect of funding source on the association between moderate alcohol intake and different health outcomes. In conclusion, only a small proportion of observational studies in meta-analyses, referred to by several international alcohol guidelines, are funded by the alcohol industry. Based on this selection of observational studies the association between moderate alcohol consumption and different health outcomes does not seem to be related to funding source.

SOURCES:

- Vos, Moniek, Annick PM van Soest, Tim Van Wingerden, Marion L. Janse, Rick M. Dijk, Rutger J. Brouwer, Iris De Koning, Edith JM Feskens, and Aafje Sierksma. "Exploring the influence of alcohol industry funding in observational studies on moderate alcohol consumption and health." Advances in Nutrition 11, no. 5 (2020): 1384-1391.
- The New York Times, Roni Caryn Rabin. “U.S. Diet Panel Adds Another Researcher With Alcohol Industry Ties”. January 10, 2024.



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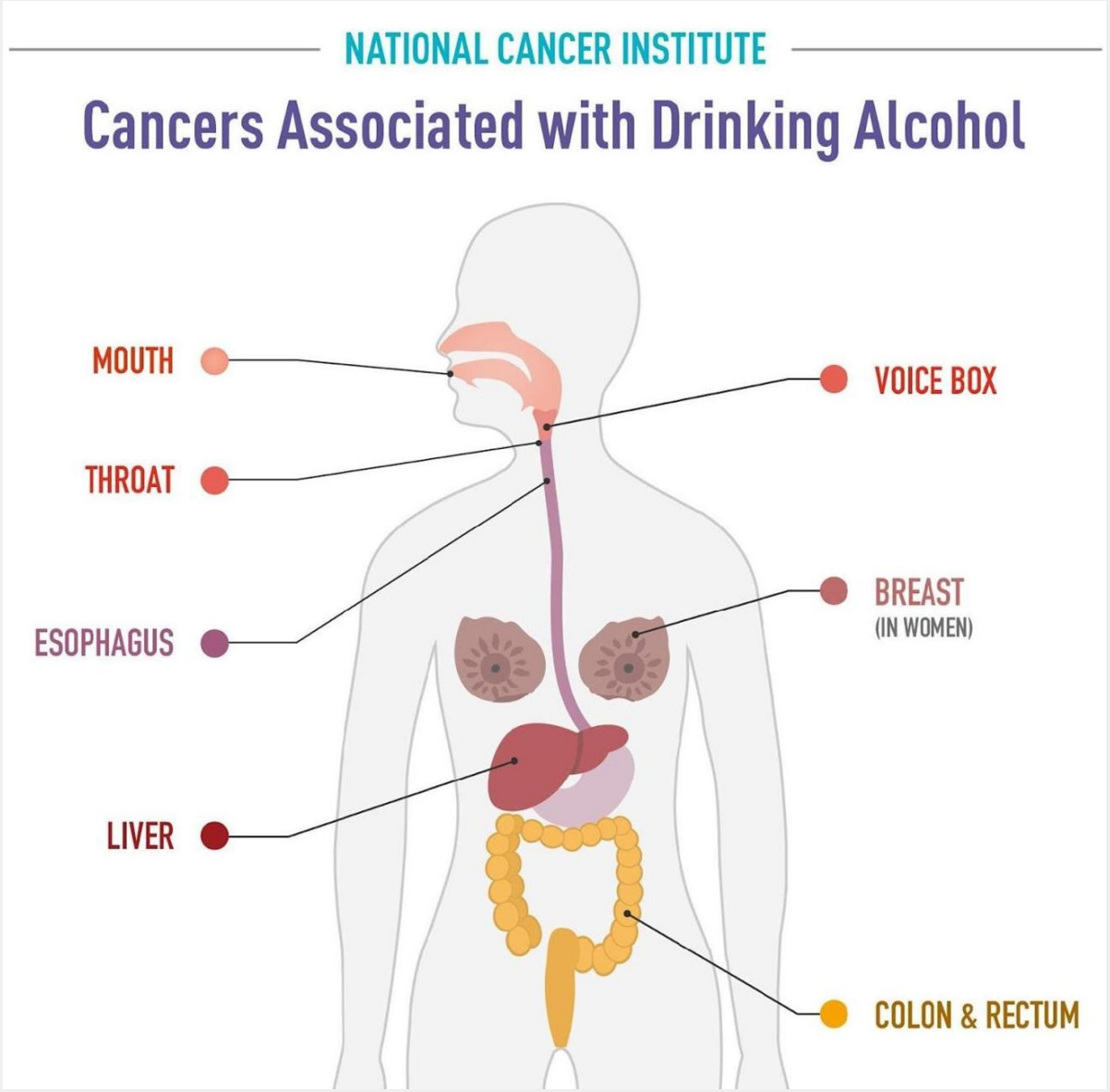
ALCOHOL & CANCER

Reduction of some cancers associated with moderate drinking.

- Kidney cancer
- Thyroid cancer
- Some hematologic malignancies

Heavy consumption of alcohol and, in some cases, moderate consumption.



SOURCES:

- Allen, Naomi E., Valerie Beral, Delphine Casabonne, Sau Wan Kan, Gillian K. Reeves, Anna Brown, and Jane Green. "Moderate alcohol intake and cancer incidence in women." *Journal of the National Cancer Institute* 101, no. 5 (2009): 296-305.
- Chen, Wendy Y., Bernard Rosner, Susan E. Hankinson, Graham A. Colditz, and Walter C. Willett. "Moderate alcohol consumption during adult life, drinking patterns, and breast cancer risk." *Jama* 306, no. 17 (2011): 1884-1890.
- Bagnardi, Vincenzo, Marta Blangiardo, Carlo La Vecchia, and Giovanni Corrao. "Alcohol consumption and the risk of cancer: a meta-analysis." Alcohol Research & Health 25, no. 4 (2001): 263.

BREAST CANCER RISK – FOLATE?

- Estimated increase in risk of breast cancer (X 1.1) with moderate drinking is likely real.
- **FOR 1 DRINK DAILY, A LIFETIME RISK OF BREAST CANCER OF 10% COULD INCREASE TO 11%**
- This makes sense: alcohol can increase estrogen production, and therefore could increase the risk of estrogen positive tumors.

Conclusions:

"An adequate dietary intake of folate might protect against the increased risk of breast cancer associated with alcohol consumption." Baglietto et al, BMJ (2005)

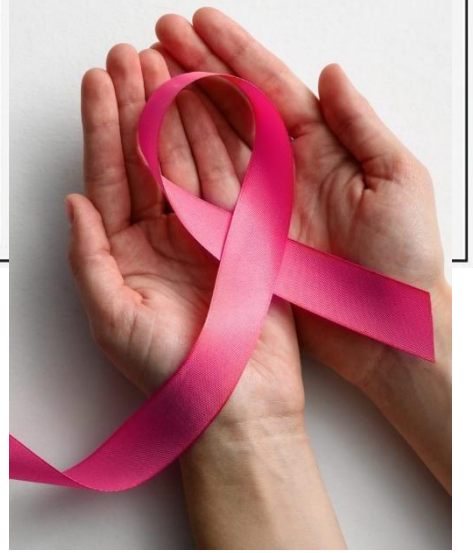
Daily Multivitamin for Women

Supplement Facts

Serving Size 1 Tablet

Amount Per Serving	% DV
Vitamin A 1,050 mcg (29% as Beta-Carotene)	117%
Vitamin C 75 mg	83%
Vitamin D_3 25 mcg (1,000 IU)	125%
Vitamin E 15.8 mg	105%
Vitamin K 50 mcg	42%
Thiamin 1.1 mg	92%
Riboflavin 1.1 mg	85%
Niacin 14 mg	88%
Vitamin B_6 2 mg	118%
Folate 667 mcg DFE (400 mcg Folic Acid)	167%
Vitamin B_{12} 6 mcg	250%
Biotin 40 mcg	133%
Pantothenic Acid 15 mg	300%
Calcium 200 mg	15%

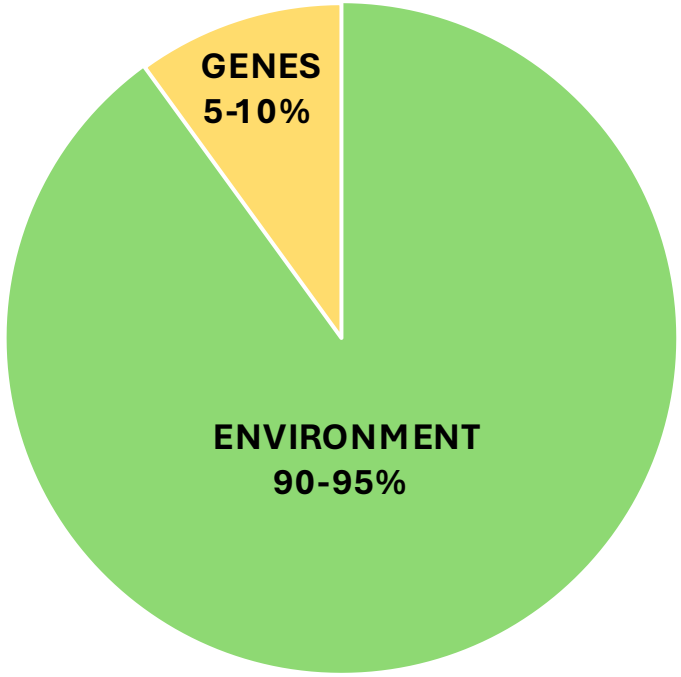
Amount Per Serving	% DV
Iron 18 mg	100%
Phosphorus 20 mg	2%
Iodine 150 mcg	100%
Magnesium 100 mg	24%
Zinc 8 mg	73%
Selenium 18 mcg	33%
Copper 0.5 mg	56%
Manganese 1.8 mg	78%
Chromium 32 mcg	91%
Molybdenum 50 mcg	111%
Chloride 72 mg	3%
Potassium 80 mg	2%

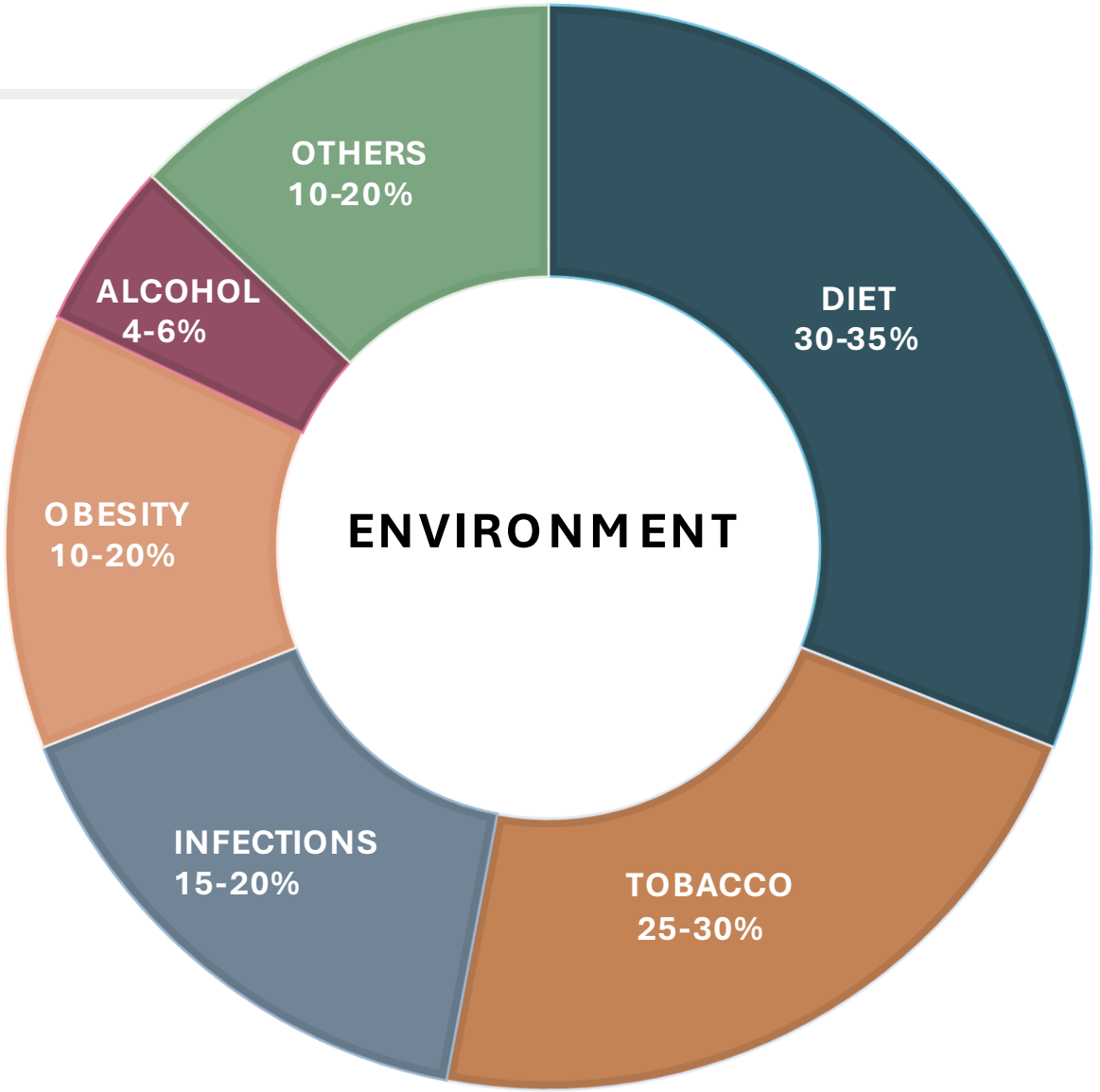


SOURCES:

- Baglietto, Laura, Dallas R. English, Dorota M. Gertig, John L. Hopper, and Graham G. Giles. " Does dietary folate intake modify effect of alcohol consumption on breast cancer risk? Prospective cohort study.." Bmj 331, no. 7520 (2005): 807.
- Allen, Naomi E., Valerie Beral, Delphine Casabonne, Sau Wan Kan, Gillian K. Reeves, Anna Brown, and Jane Green. "Moderate alcohol intake and cancer incidence in women." *Journal of the National Cancer Institute* 101, no. 5 (2009): 296-305.
- Cao, Yin, Walter C. Willett, Eric B. Rimm, Meir J. Stampfer, and Edward L. Giovannucci. "Light to moderate intake of alcohol, drinking patterns, and risk of cancer: results from two prospective US cohort studies." *Bmj* 351 (2015).

CANCER RISK: GENETIC vs. ENVIRONMENT
2008

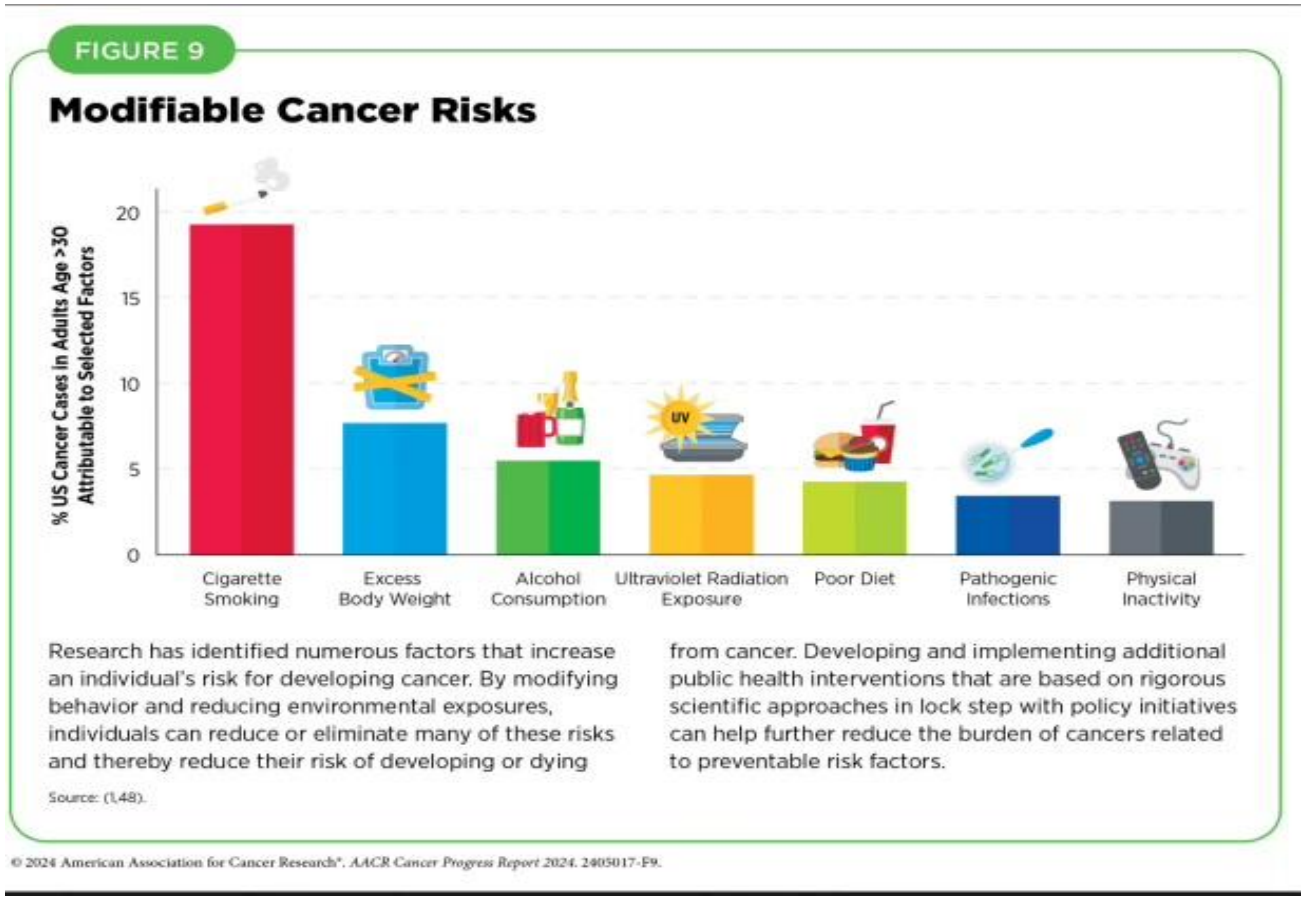




SOURCE:

- Anand, Preetha, Ajaikumar B. Kunnumakara, Chitra Sundaram, Kuzhuvelil B. Harikumar, Sheeja T. Tharakan, Oiki S. Lai, Bokyung Sung, and Bharat B. Aggarwal. "Cancer is a preventable disease that requires major lifestyle changes." *Pharmaceutical research* 25, no. 9 (2008): 2097-2116.

MODIFIABLE RISK FACTORS FOR CANCER 2024



- In the United States, **40% of all cancers** are associated with modifiable risk factors, which necessitates a robust emphasis on and support for public health–focused research.

- The significant **decline in cancer mortality** over the past three decades is, in part, attributable to **reductions in smoking** following the implementation of public health campaigns and policy initiatives.

- Nearly **20% of US cancer diagnoses** are related to excess body weight, unhealthy dietary patterns, alcohol intake, and physical inactivity.

SOURCE: REDUCING THE RISK OF CANCER DEVELOPMENT

CARDIOPROTECTIVE VS. CANCER RISK

For a 60-year-old woman, the risk/benefit calculations for drinking in moderation should be a personal choice to be made with their doctor.

~Ten times more women die each year in the USA from heart disease (~**500,000**) than from breast cancer (~**42,000**).

However, studies show that women are more afraid of cancer than of heart disease.

SOURCES:

- Bybee, Kevin A., and Tracy L. Stevens. "Matters of the heart: cardiovascular disease in US women." Missouri medicine 110, no. 1 (2013): 65.
- Centers for Disease Control and Prevention. "US cancer statistics female breast cancer stat bite." US Department of Health and Human Services (2022).
- WebMD. When Health Fears are Overblown (2005). https://www.webmd.com/balance/features/when-health-fears-are-overblown

NEUROLOGICAL EFFECTS – No simple answer for light/moderate drinking

- “Women who have up to one drink per day might reduce cognitive decline”. (Neurology, 2014)
- “Even moderate drinking is linked to pathological changes in the brain”. (The BMJ, 2017)
- “…moderate, regular alcohol intake was associated with better global, executive and visual memory functions among older adults, even with control for a number of potentially related health and lifestyle variables”. (The Journal of Prevention of Alzheimer's Disease, 2016)
- “Low to moderate alcohol consumption among middle-aged or older adults may be associated with better total cognitive function”. (Jama Network, 2020)
- “Negative associations between alcohol intake and brain macrostructure and microstructure are already apparent in individuals consuming an average of only one to two daily alcohol units and become stronger as alcohol intake increases”. (Nature Communications, 2022)

SOURCES:

- Sabia, S., Elbaz, A., Britton, A., Bell, S., Dugravot, A., Shipley, M., ... & Singh-Manoux, A. (2014). "Alcohol consumption and cognitive decline in early old age.” *Neurology*, *82*(4), 332-339.
- Reas, Emilie T., et al. "Moderate, regular alcohol consumption is associated with higher cognitive function in older community-dwelling adults." *The journal of prevention of Alzheimer's disease* 3.2 (2016): 105.
- Stampfer, Meir J., et al. "Effects of moderate alcohol consumption on cognitive function in women." New England Journal of Medicine 352.3 (2005): 245-253.
- Zhang, Ruiyuan, et al. "Association of low to moderate alcohol drinking with cognitive functions from middle to older age among US adults." JAMA network open 3.6 (2020): e207922-e207922.
- Welch, Killian A. "Alcohol consumption and brain health." BMJ 357 (2017).
- Daviet, Remi, et al. "Associations between alcohol consumption and gray and white matter volumes in the UK Biobank." Nature communications 13.1 (2022): 1175.

TYPES OF ALCOHOL + UNITS + CALORIES

12% alcohol wine

5 ounces
~150 ml
~15 grams of alcohol

7 ounces

3 ounces
~100 ml
~10 grams of alcohol

1 bottle 750 ml
~ 75 grams of alcohol

Beer
12 ounces (355 ml)
5% alcohol

~ 150 CALORIES

Wine
5 ounces (148 ml)
12% alcohol

~ 15 GRAMS OF PURE ALCOHOL
~ 120 CALORIES

Distilled spirits
1.5 ounces (44 ml)
40% alcohol (80 proof)

80% PROOF LIQUOR
~ 100 CALORIES

WINE AND ALCOHOL GUIDELINES AROUND THE WORLD






	UNITED STATES	UNITED KINGDOM	FRANCE	ITALY	AUSTRALIA	GREECE
UNITS	1 unit of alcohol **~150 ml** (wine) 5 ounces	1 unit of alcohol **~90 ml** (wine) 3 ounces	1 unit of alcohol **~100 ml** (wine) 3.5 ounces	1 unit of alcohol **~ 125 ml** (wine) 4.4 ounces	1 unit of alcohol **~100 ml** (wine) 3.5 ounces	1 unit of alcohol **~125 ml** (wine) 4.4 ounces
GUIDELINES	WOMEN: Up to **1** unit per **day**. Up to **7** units per **week**. MEN: Up to **2** units per **day**. Up to **14** units per **week**. Binge: **4-5** units in about 2 hours.	No more than **14** units per **week**, spread over at least **3 days,** 112 grams of alcohol total over a week. Some alcohol-free days.	Up to **10** units per **week**, 100 grams of alcohol total over a week. No more than **2** units per **day.** Several days off a week.	WOMEN: Up to **1** unit per **day**, 12 grams of alcohol total per day. MEN: Up to **2** units per **day**, 24 grams of alcohol per day for 21–65-year-olds.	Up to **10** standard units per **week**, 100 grams of alcohol total over a week. No more than **4** standard units on any one day.	WOMEN: Up to **1** unit per **day**. MEN: Up to **2** units per **day**.

SOURCES:

- International Alliance for Responsible Drinking (IARD). "Drinking Guidelines: General Population" (2002)
- Knowledge for Policy, European Commission. "National low-risk drinking recommendations (or drinking guidelines) and standard units". (June 2024)

SCREENING TESTS TO IDENTIFY PROBLEM DRINKING

CAGE is derived from the four questions of the tool:

Cut down, Annoyed, Guilty, and Eye-opener.

CAGE Questions:

- Have you ever felt you should cut down on your drinking?
- Have people annoyed you by criticizing your drinking?
- Have you ever felt bad or guilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

SOURCE:

- O'Brien, Charles P. "The CAGE questionnaire for detection of alcoholism." *Jama* 300, no. 17 (2008): 2054-2056.

TOOLS TO CUT DOWN

If you want to cut down on your own and you are not willing to stop drinking:

- Put it in writing – reasons to curtail your drinking
- Set a drinking goal – below recommended guidelines
- Keep a diary of your drinking
- Don’t keep alcohol in your house or lock it
- Drink slowly and with meals
- Choose alcohol-free days
- Watch for peer pressure
- Keep busy with outdoor exercise
- Ask for support
- Guard against temptation – steer clear of people or places that make you want to drink
- Be persistent – it may take a couple of times
- Ask your doctor for help – there are medications that can help cut down in addition to AA option

SOURCE:
- Harvard T.H. Chan, School of Public Health. The Nutrition Source, Alcohol: Balancing Risks and Benefits. (2022).
- Harvard Health Publishing. Harvard Medical School. “11 ways to curb your drinking”. May 15, 2022.

THE MEDITERRANEAN DRINKING PATTERN

- Mediterranean diet (usually includes moderate daily wine) associated with less cardiovascular risk, less cancer risk, and a longer life.
- Mediterranean drinking pattern: moderation, preference for red wine, drinking with meals, and avoiding binge drinking.

Dr. Laura Catena's advice for current wine drinkers:

- Drink less. Drink better wine.
- Drink slowly, 1 water + 1 wine, with meals, with friends and family = lower levels of alcohol in blood = less risk.
- Exercise, sleep well, eat fruits and vegetables, reduce red meat and processed foods. Increase Omega 3 fats. Eliminate sugars and refined carbohydrates.

SOURCES:

- Barbería-Latasa, María, Maira Bes-Rastrollo, Rafael Pérez-Araluce, Miguel Ángel Martínez-González, and Alfredo Gea. "Mediterranean Alcohol-Drinking Patterns and All-Cause Mortality in Women More Than 55 Years Old and Men More Than 50 Years Old in the "Seguimiento Universidad de Navarra"(SUN) Cohort." *Nutrients* 14, no. 24 (2022): 5310.
- Jani, Bhautesh Dinesh, Ross McQueenie, Barbara I. Nicholl, Ryan Field, Peter Hanlon, Katie I. Gallacher, Frances S. Mair, and Jim Lewsey. "Association between patterns of alcohol consumption (beverage type, frequency and consumption with food) and risk of adverse health outcomes: a prospective cohort study." *BMC medicine* 19 (2021): 1-14.
- Schwingshackl, Lukas, Carolina Schwedhelm, Cecilia Galbete, and Georg Hoffmann. "Adherence to Mediterranean diet and risk of cancer: an updated systematic review and meta-analysis." *Nutrients* 9, no. 10 (2017): 1063.

WE CAN ALL PARTICIPATE: WINE IN MODERATION CAN BE PART OF A HEALTHY, CREATIVE, SOCIAL AND FULFILLING LIFE THAT IS CHOSEN BY MANY

Take Action!

- Submit comments in mainstream media articles.
- Share correct science on your social media and in person with wine lovers, scientists and physicians.
- Emphasize Moderation as the only healthy option – and practice moderation, promoting 1 water/1 alcohol (glass), drinking with meals, spit cups, days off alcohol.

nature

Feature

Alcohol and cancer risk: what you need to know

Experts explain at what level of drinking cancer risks start to rise. By Helen Pearson

Early this year, the US surgeon general issued a bombshell report. Before his term ended in January, Vivek Murthy warned that alcohol increases the risk of at least seven types of cancer and called for alcoholic drinks to carry cancer warning labels as cigarette packs do. The report[1] triggered a flurry of headlines about a risk that many people ignore.

The link between alcohol and cancer is not new. Scientists first labelled alcohol as a carcinogen more than 35 years ago, and the evidence has only grown since. "I don't think the relationship between alcohol and certain cancers is terribly controversial," says Tim Naimi, an alcohol epidemiologist at the University of Victoria, Canada.

What has been less clear is the level of drinking at which cancer risk starts to rise, and how to weigh that elevated risk against alcohol's other impacts – in particular, the fiercely debated claim that low or moderate drinking improves heart health for some people. "Drinking a lot is absolutely bad," says Emmanuela Gakidou, who analyses alcohol risks at the Institute for Health Metrics and Evaluation in Seattle, Washington. "It's the low-to-moderate amount of alcohol where the debate is."

All this information can leave people feeling confused. What exactly is low or moderate drinking? And how should people weigh up any enjoyment they might get from drinking with the risks? "A lot of people enjoy drinking, and they don't like to be told that something they really enjoy is bad for you," Gakidou says.

The cancer connection

For decades, scientists have been building a case that alcohol causes cancer. Because testing alcohol's effects in randomized trials is difficult, they have instead drawn on other types of research. Several huge cohort studies that track many tens of thousands of people have found that alcohol is linked to higher rates of some types of cancer. One massive 2015 meta-analysis[2] – which pooled the results of hundreds of cohort studies and other research, including more than 485,000 cancer cases – found that risks of developing several cancers rose with the level of consumption.

But cohort studies have weaknesses. Researchers have to control for other confounding factors that could contribute to cancer risk, such as the fact that heavy drinkers are more likely to smoke than those who drink less, and people who drink small amounts of alcohol tend to have other healthy habits. And scientists know that study participants often say they drink less than they really do. Some studies attempt to adjust for this by inflating the levels of drinking to match those expected from alcohol sales, says Peter Sartich, an epidemiologist at the Daffodil Centre, a cancer research centre in Sydney, Australia.

Other evidence comes from animal experiments and from laboratory studies that have identified mechanisms by which alcohol can cause cancer. The most well-established is that ethanol is broken down into acetaldehyde, a toxin that damages DNA.

Scientists like to look at the sum of evidence, and there are two syntheses of research that are considered particularly definitive for alcohol and cancer. One is from the International Agency for Research on Cancer (IARC), the

In Defense of Wine

www.indefenseofwine.com

PUBLISHED LETTER TO THE EDITOR
January, 2025

The Washington Post
Democracy Dies in Darkness

Opinion
Letters to the Editor

Treat us like adults

We should stop talking down to Americans who drink: They are smart enough to understand that a substance can have benefits and harms, depending on the quantity consumed.

Over the past month, we've heard the surgeon general warn Americans about the lack of knowledge regarding alcohol's cancer risks, while at the same time, a 2024 National Academies of Science, Engineering and Medicine review confirmed — with moderate certainty — what medical research has long shown: that moderate drinking is associated with lower mortality from all causes.

A 2020 analysis of 386 observational studies that evaluated the effects of industry funding on alcohol and health studies was unable to find bias. That analysis showed that only 5 percent of studies were definitely funded by the alcohol industry (56 studies did not have identifiable funding sources) and that funding sources did not appear to have an impact on the results of those studies.

I think it would be wise for the mainstream media to stop treating the American public as if it can't deal with just one of many decisions that have both potential risks and benefits.

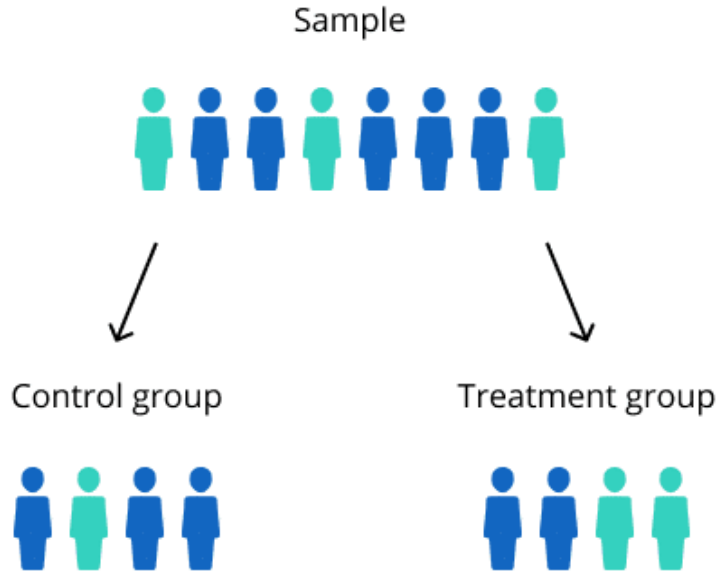
Laura Catena, *San Francisco*

WHAT I PROPOSE FOR A STUDY

FROM VINAY PRASAD – SUBSTACK
What is the Truth About Alcohol Consumption

A multi-arm randomized trial, by enrolling people with their current preferred baseline drinking (0,1,2,3,4, etc.) and randomizing them into one of 7 arms:

- Arm 1: Stay the course
- Arm 2: Decrease your drinking by 1 drink a day (advice given)
- Arm 3: Increase your drinking by 1 drink a day
- Arm 4: Decrease your drinking by 2
- Arm 5: Increase your drinking by 2
- Arm 6: Stop all drinking
- Arm 7: Carpe diem (only advice provided)



Then, we follow people into the future and:

1. Measure the **impact** of our intervention on **drinks consumed**. Our policy tests whether one ***recommendation*** is preferable to another. First step is to see what delta (drink consumption) we get from recommendations.

2. Look at all the **relevant endpoints**, like **mortality** and **disability data** (related to strokes, suicides, etc.). The two most important endpoints: **How you feel about your life**, **and how others feel about you** will be continually captured through surveys. Because it is difficult for modest changes in nutrition to change duration of life and disability, the last 2 endpoints will be key.

Source: What is the Truth About Alcohol Consumption by Dr Vinay Prasad

PRINCIPLES FOR ALCOHOL

FROM VINAY PRASAD – SUBSTACK
What is the Truth About Alcohol Consumption

1. Parents should introduce their kids to alcohol before they go to college. Ideally good wine with dinner, properly paired. First introduction should not be a frat party.
2. Never drink a drink you don't like. If it's poorly made, or you hate it, don't drink it. Throw it away.
3. Don't count your drinks. That's antithetical to the pleasure of drinking, and a buzz kill.
4. The best drink is the one immediately before dinner.
5. Good food should be served with good wine or beer, as appropriate. Brandy and sherry at the end of a meal.
6. Jalapenos and habaneros have no business in alcohol.
7. **Don't drink and watch TV.**
8. **Don't drink alone, unless you're meeting someone later and need liquid encouragement.**
9. Learn how Beer, Wine, and Scotch are made. For drinks you like, learn how they are made. Learn to mix good cocktails. You should know at least 25 off the top of your head.
10. Pour a bunch of drinks, for instance, several types of whiskey or wine, and learn to appreciate the differences. Do it with a blindfold on. Don’t say peaty, unless you know what that means.
11. If you love red wine take Sommelier training.
12. **Have your last drink at least an hour before bed.**
13. You can come to my dinner party and not drink, but you won’t be coming back.

Source: What is the Truth About Alcohol Consumption by Dr Vinay Prasad

PRINCIPLES FOR ALCOHOL

FROM VINAY PRASAD – SUBSTACK
What is the Truth About Alcohol Consumption

14. If you wake up with headaches and can't work/ call in sick, you have a drinking problem and should cut back or cease.
15. If you are having outburst at your children or spouse, same as above.
16. **Drink with friends. Drinks pair best with laughter.**
17. Marijuana when used in moderation can reduce alcohol consumption.
18. If you have acetaldehyde dehydrogenase deficiency, don't drink. This cancer risk is insane. Use marijuana instead. THC soda's if you want.
19. If you like red wine, put 6 bottles (at varying price points 10-200 dollars) of the same grape (e.g. Cabernet or Syrah or Petit Verdot) in paper bags, hide the label, open all 6. Let everyone try all the wines, and write down notes on taste. Try to guess the prices.
20. A long run deserves a cold beer.
21. **Alcohol should be thought of like other foods. There are reason why some alcohol is served before meals, with steak, with dessert, by the fireplace. These traditions can include the chemical properties of fatty red meat and the tannins in red wine. These should be learnt and understood**.
22. You can learn more about alcohol from a chef than an epidemiologist. And more from a Sommelier than the Surgeon General.
23. **People who don't drink because they seek longevity will likely live a short, miserable life.**
24. Some people tell me they feel bad when they drink, what should they do? Well, if you don't even like drinking than don't do it, but perhaps there are things you haven't learned about wine and spirits.
25. As yourself if you know what "Terroir" means with respect to wine. If no, then there is a lot to learn in this life.

Source: What is the Truth About Alcohol Consumption by Dr Vinay Prasad

A FEW SOURCES

THE LANCET

Available on this LINK

INFOGRAPHICS

Health risks of alcohol

July 14, 2022

An analysis from the Global Burden of Disease estimates that 1.34 billion people consumed harmful amounts of alcohol in 2020. The study suggests that alcohol consumption carries significant health risks and no benefits for young people, although some older adults may benefit from drinking a small amount of alcohol.

Given the complex relationship between alcohol and diseases and different background rates of diseases across the world, the risks of alcohol consumption differ by age and by geographic location. For adults over age 40, health risks from alcohol consumption vary by age and region. Consuming a small amount of alcohol for people in this age group can provide some health benefits, such as reducing the risk of cardiovascular disease, stroke, and diabetes.

Explore key data from the study in the infographic below, or read the paper in full online.

AMERICAN COLLEGE of CARDIOLOGY®

Available on this LINK

Alcohol Consumption and All-Cause, CV, and Cancer-Related Mortality

Aug 14, 2017

Authors: Xi B, Veeranki SP, Zhao M, Ma C, Yan Y, Mi J.

Citation: Relationship of Alcohol Consumption to All-Cause, Cardiovascular, and Cancer-Related Mortality in U.S. Adults. *J Am Coll Cardiol* 2017;70:913-922.

Summary By: Melvyn Rubenfire, MD, FACC

Study Questions:

What is the association between alcohol consumption and risk of mortality from all causes, cancer, and cardiovascular disease (CVD) in US adults?

Methods:

Data were obtained by linking 13 National Health Interview Surveys (1997-2009) to the National Death Index records through December 31, 2011. A total of 333,247 participants ages ≥18 years were included. One drink was considered 1.5 oz of 80 proof spirits, 5 oz wine, or 12 oz beer with 5% alcohol. Self-reported alcohol consumption patterns were categorized into six groups: lifetime abstainers, lifetime infrequent drinkers, former drinkers, and current light <3 drinks/week, moderate >3 and ≤14 per week for men and ≤7 for women, or heavy drinkers >14/week for men and >7 for women. Secondary exposure included binge-drinking status (five or more drinks in 1 or more days a week). The main outcome was all-cause, cancer, or CVD mortality.

Results:

Approximately 78% of the subjects were <60 years of age; 60% of all subjects were light (40%), moderate (15%), or heavy drinkers (5%). After a median follow-up of 8.2 years (2.7 million person-years), 34,754 participants died from all causes (including 8,947 CVD deaths and 8,427 cancer deaths). Compared with lifetime abstainers, those who were light or moderate alcohol consumers were at reduced risk of mortality for all causes (light: hazard ratio [HR], 0.79; 95% confidence interval [CI], 0.76-0.82; moderate: HR, 0.78; 95% CI, 0.74-0.82), and CVD (light: HR, 0.74; 95% CI, 0.69-0.80; moderate: HR, 0.71; 95% CI, 0.64-0.78), respectively. In contrast, there was a significantly increased risk of all-cause mortality (HR, 1.11; 95% CI, 1.04-1.19) and cancer (HR, 1.27; 95% CI, 1.13-1.42) in adults with heavy alcohol consumption. Binge drinking ≥1 day/week was also associated with increased risk of mortality for all causes (HR, 1.13; 95% CI, 1.04-1.23) and cancer (HR, 1.22; 95% CI, 1.05-1.41).

Conclusions:

Light and moderate alcohol intake might have a protective effect on all-cause and CVD-specific mortality in US adults. Heavy or binge drinking was associated with increased risk of all-cause and cancer-specific mortality.

Perspective:

The findings are consistent with the conclusions of the 2015 US Dietary Guidelines for Americans and the American Heart Association. While suggesting light to moderate alcohol intake may be beneficial, it is important to emphasize the risks of binge and heavy drinking to all age groups. Of note, while excessive alcohol is a major risk factor for hypertension, light to moderate alcohol may reduce CV events in persons with coronary heart disease and controlled hypertension.

Available on this LINK.

Moderate alcohol intake and cancer incidence in women

Naomi E Allen et al. J Natl Cancer Inst. 2009.

Show details

Full text links | Cite | ...

Abstract

Background: With the exception of breast cancer, little is known about the effect of moderate intakes of alcohol, or of particular types of alcohol, on cancer risk in women.

Methods: A total of 1,280,296 middle-aged women in the United Kingdom enrolled in the Million Women Study were routinely followed for incident cancer. Cox regression models were used to calculate adjusted relative risks and 95% confidence intervals (CIs) for 21 site-specific cancers according to amount and type of alcoholic beverage consumed. All statistical tests were two-sided.

Results: A quarter of the cohort reported drinking no alcohol; 98% of drinkers consumed fewer than 21 drinks per week, with drinkers consuming an average of 10 g alcohol (1 drink) per day. During an average 7.2 years of follow-up per woman 68,775 invasive cancers occurred. Increasing alcohol consumption was associated with increased risks of cancers of the oral cavity and pharynx (increase per 10 g/d = 29%, 95% CI = 14% to 45%, Ptrend < .001), esophagus (22%, 95% CI = 8% to 38%, Ptrend = .002), larynx (44%, 95% CI = 10% to 88%, Ptrend = .008), rectum (10%, 95% CI = 2% to 18%, Ptrend = .02), liver (24%, 95% CI = 2% to 51%, Ptrend = .03), breast (12%, 95% CI = 9% to 14%, Ptrend < .001), and total cancer (6%, 95% CI = 4% to 7%, Ptrend < .001). The trends were similar in women who drank wine exclusively and other consumers of alcohol. For cancers of the upper aerodigestive tract, the alcohol-associated risk was confined to current smokers, with little or no effect of alcohol among never and past smokers (P(heterogeneity) < .001). Increasing levels of alcohol consumption were associated with a decreased risk of thyroid cancer (Ptrend = .005), non-Hodgkin lymphoma (Ptrend = .001), and renal cell carcinoma (Ptrend = .03).

Conclusions: Low to moderate alcohol consumption in women increases the risk of certain cancers. For every additional drink regularly consumed per day, the increase in incidence up to age 75 years per 1000 for women in developed countries is estimated to be about 11 for breast cancer, 1 for cancers of the oral cavity and pharynx, 1 for cancer of the rectum, and 0.7 each for cancers of the esophagus, larynx and liver, giving a total excess of about 15 cancers per 1000 women up to age 75.

BMJ Journals

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Light to moderate intake of alcohol, drinking patterns, and risk of cancer: results from two prospective US cohort studies

Yin Cao,[1] Walter C Willett,[1,2,3] Eric B Rimm,[1,2,3] Meir J Stampfer,[1,2,3] Edward L Giovannucci[1,2,3]

ABSTRACT

OBJECTIVES

To quantify risk of overall cancer across all levels of alcohol consumption among women and men separately, with a focus on light to moderate drinking and never smokers; and assess the influence of drinking patterns on overall cancer risk.

DESIGN

Two prospective cohort studies.

SETTING

Health professionals in the United States.

PARTICIPANTS

88 084 women and 47 881 men participating in the Nurses' Health Study (from 1980) and Health Professionals Follow-up Study (from 1986), followed until 2010.

MAIN OUTCOMES AND MEASURES

Relative risks of cancer.

RESULTS

19 269 and 7571 (excluding non-advanced prostate cancers) incident cancers were documented among women and men, respectively, over 3 144 853 person years. Compared with non-drinkers, light to moderate drinkers had relative risks of total cancer of 1.02 (95% confidence interval 0.98 to 1.06) and 1.04 (1.00 to 1.09; P_{trend}=0.12) for alcohol intake of 0.1-4.9 and 5-14.9 g/day among women, respectively. Corresponding values for men were 1.03 (0.96 to 1.11), 1.05 (0.97 to 1.12), and 1.06 (0.98 to 1.15; P_{trend}=0.31) for alcohol intake of 0.1-4.9, 5-14.9, and 15-29.9 g/day, respectively. Associations for light to moderate drinking and total cancer were similar among ever or never smokers, although alcohol consumption above moderate levels (in particular ≥30 g/day) was more strongly associated with risk of total cancer among ever smokers than never smokers. For a priori defined alcohol related cancers in men, risk was not appreciably increased for light and moderate drinkers who never smoked (P_{trend}=0.18). However, for women, even an alcohol consumption of 5-14.9 g/day was associated with increased risk of alcohol related cancer (relative risk 1.13 (95% confidence interval 1.06 to 1.20)), driven by breast cancer. More frequent and heavy episodic drinking was not further associated with risk of total cancer after adjusting for total alcohol intake.

CONCLUSION

Light to moderate drinking is associated with minimally increased risk of overall cancer. For men who have never smoked, risk of alcohol related cancers is not appreciably increased for light and moderate drinking (up to two drinks per day). However, for women who have never smoked, risk of alcohol related cancers (mainly breast cancer) increases even within the range of up to one alcoholic drink a day.

JAMA Netw Open. 2020 Jun; 3(6): e207922.
Published online 2020 Jun 29. doi: 10.1001/jamanetworkopen.2020.7922

PMCID: PMC7324954
PMID: 32597992

Association of Low to Moderate Alcohol Drinking With Cognitive Functions From Middle to Older Age Among US Adults

Ruiyuan Zhang, MD, MS,[1] Luqi Shen, MS,[1] Toni Miles, MD, PhD,[1] Ye Shen, PhD,[1] Jose Cordero, MD, MPH,[1] Yanling Qi, PhD,[2] Lirong Liang, PhD,[3] and Changwei Li, MD, PhD, MPH[1]

Abstract

Go to:

Importance

Studies examining the association of low to moderate drinking with various cognitive functions have yielded mixed findings.

Objective

To investigate whether associations exist between low to moderate alcohol drinking and cognitive function trajectories or rates of change in cognitive function from middle age to older age among US adults.

Design, Setting, and Participants

A prospective cohort study of participants drawn from the Health and Retirement Study (HRS), a nationally representative sample of US adults, with mean (SD) follow-up of 9.1 (3.1) years. In total, 19 887 participants who had their cognitive functions measured in the HRS starting in 1996 through 2008 and who had participated in at least 3 biennial surveys were included. The data analysis was conducted from June to November 2019.

Main Outcomes and Measures

Trajectories and annual rates of change for the cognitive domains of mental status, word recall, and vocabulary and for the total cognitive score, which was the sum of the mental status and word recall scores. Participants were clustered into 2 cognitive function trajectories for each cognition measure assessed based on their scores at baseline and through at least 3 biennial surveys: a consistently low trajectory (representing low cognitive scores throughout the study period) and a consistently high trajectory (representing high cognitive scores throughout the study period).

Conclusions and relevance

These findings suggested that low to moderate alcohol drinking was associated with better global cognition scores, and these associations appeared stronger for white participants than for black participants. Studies examining the mechanisms underlying the association between alcohol drinking and cognition in middle-aged or older adults are needed.

This cohort study assesses the associations between low to moderate alcohol drinking and cognitive function trajectories or rates of cognitive decline from middle to older age in a nationally representative sample of US adults.

The NEW ENGLAND JOURNAL of MEDICINE

Available on this LINK

Effects of Moderate Alcohol Consumption on Cognitive Function in Women

Authors: Meir J. Stampfer, M.D., Jae Hee Kang, Sc.D., Jennifer Chen, M.P.H., Rebecca Cherry, M.D., and Francine Grodstein, Sc.D. Author Info & Affiliations

Published January 20, 2005 | N Engl J Med 2005;352:245-253 | DOI: 10.1056/NEJMoa041152

ABSTRACT

BACKGROUND

The adverse effects of excess alcohol intake on cognitive function are well established, but the effect of moderate consumption is uncertain.

METHODS

Between 1995 and 2001, we evaluated cognitive function in 12,480 participants in the Nurses' Health Study who were 70 to 81 years old, with follow-up assessments in 11,102 two years later. The level of alcohol consumption was ascertained regularly beginning in 1980. We calculated multivariate-adjusted mean cognitive scores and multivariate-adjusted risks of cognitive impairment (defined as the lowest 10 percent of the scores) and a substantial decline in cognitive function over time (defined as a change that was in the worst 10 percent of the distribution of the decline). We also stratified analyses according to the apolipoprotein E genotype in a subgroup of women.

RESULTS

After multivariate adjustment, moderate drinkers (those who consumed less than 15.0 g of alcohol per day [about one drink]) had better mean cognitive scores than nondrinkers. Among moderate drinkers, as compared with nondrinkers, the relative risk of impairment was 0.77 on our test of general cognition (95 percent confidence interval, 0.67 to 0.88) and 0.81 on the basis of a global cognitive score combining the results of all tests (95 percent confidence interval, 0.70 to 0.93). The results for cognitive decline were similar; for example, on our test of general cognition, the relative risk of a substantial decline in performance over a two-year period was 0.85 (95 percent confidence interval, 0.74 to 0.98) among moderate drinkers, as compared with nondrinkers. There were no significant associations between higher levels of drinking (15.0 to 30.0 g per day) and the risk of cognitive impairment or decline. There were no significant differences in risks according to the beverage (e.g., wine or beer) and no interaction with the apolipoprotein E genotype.

CONCLUSIONS

Our data suggest that in women, up to one drink per day does not impair cognitive function and may actually decrease the risk of cognitive decline.

BMJ Journals

Avaiable on this LINK.

Alcohol consumption and brain health

BMJ 2017 ; 357 doi: https://doi.org/10.1136/bmj.j2645 (Published 06 June 2017)
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Even moderate drinking is linked to pathological changes in the brain

Epidemiological studies often report better heath in moderate drinkers compared with abstainers. Observed first in studies of incidence of myocardial infarction,[1] the "J shaped curve" (describing the graphical appearance of health measures plotted against consumption) reappears in studies of diabetes, stroke, and even chronic widespread pain.[2] As methods of investigating the association between alcohol and health are refined, however, the size of the apparent benefits reduces substantially.[3] Studies using "Mendelian randomisation," purportedly impervious to confounding or reverse causality, do not support the original claim that moderate drinking improves cardiovascular health.[4]

Regarded as a further example of the J shaped curve, a protective effect of moderate alcohol consumption against "all cause" dementia has been reported.[5] This has not been underpinned by a convincing neural correlate, however, and it is here that the linked study by Topiwala and colleagues (doi:10.1136/bmj.j2353) is particularly ambitious.[6] In their prospective cohort of 550 civil servants, none of whom were alcohol dependent, the authors repeatedly assessed alcohol consumption and cognition over 30 years. Participants underwent brain imaging at the most recent review, enabling examination of relations between average alcohol use, cognition, and brain structure.

After adjustment for numerous potential confounders, alcohol use was associated with reduced right hippocampal volume in a dose dependent manner; even moderate drinkers (classified as up to 21 units a week for men at the time of the study) were three times more likely to have hippocampal atrophy than abstainers, and very light drinking (1-6 units a week) conferred no protection relative to abstinence. Higher alcohol consumption was also associated with reduced white matter integrity and faster decline in lexical fluency, a test of "executive function."

With increasing longevity, maintenance of brain health into older age is the key priority of our time. Leaving aside the human cost of dementia, care of cognitively impaired older people is a looming financial crisis, prompting politicians to consider controversial and deeply unpopular policy decisions.[7] Alcohol dependence is already established as a major cause of dementia, alcohol related brain damage (ARBD) accounts for possibly 10% of early onset dementia[8] and potentially 10-24% of dementia cases in nursing homes.[9]

Existing on a spectrum of severity, alcohol related brain damage typically involves relatively young people, often in their 40s or 50s, meaning the more severely affected require decades of institutional care. While alcohol related brain damage generally afflicts malnourished drinkers consuming very high levels of alcohol, some degree of potentially reversible cognitive impairment is detectable in most people starting treatment for alcohol dependence.[10] Alcohol can be the primary cause of cognitive impairment in some individuals, but it is a likely contributor to cognitive decline in many more.

The chief medical officer recently changed guidance for low risk drinking in men, reducing the recommended maximum intake from 21 to 14 units a week.[11] This was because of accumulating evidence that even light drinking increases the risk of various malignancies.[12] The relation between alcohol and brain health is more complex than the relation between alcohol and cancer. While there is almost universal agreement that heavy drinking is associated with cognitive impairment, numerous observational studies do report that light to moderate consumption is associated with a reduced risk of all cause dementia.

While concerns about confounding and inconsistencies between studies make it difficult to define what level of intake is "optimal" for cognition, it seems to be low; in these studies around a unit a day is associated with the lowest risk of dementia, with risk for drinkers clearly exceeding abstainers by 4 units a day.[13] Topiwala and colleagues' report of adverse effects at even lower levels of intake, coupled with the finding that drinking more than 14 units a week was associated with both brain pathology and cognitive decline, provides further support for the chief medical officer's recent decision.

How should this paper inform discussions with patients? It certainly strengthens the view that if alcohol does confer beneficial effects on health, the link is probably confined to low intakes of no more than a unit a day. Even this level of consumption carries risk relative to abstinence for conditions such as breast cancer, and the evidence of benefit is certainly not strong enough to justify advising abstainers to drink.

As intake increases, so does the risk to health, probably in a dose dependent manner. Heavy consumption is associated with potentially severe impairments in memory and executive function, even when other obvious risk factors are absent. Topiwala and colleagues' findings strengthen the argument that drinking habits many regard as normal have adverse consequences for health. This is important. We all use rationalisations to justify persistence with behaviours not in our long term interest. With publication of this paper, justification of "moderate" drinking on the grounds of brain health becomes a little harder.

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Review of Evidence on Alcohol and Health

Bruce N. Calonge and
Katrina Baum Stone, *Editors*

Committee on Review of Evidence on Alcohol and Health

Food and Nutrition Board

Health and Medicine Division

The *Dietary Guidelines for Americans* (DGA), a joint publication of the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (HHS), provide guidance to Americans to help them maintain health, achieve nutrient sufficiency, and help prevent diet-related chronic diseases through healthful dietary patterns. Included in the DGA recommendations is guidance for adults who consume beverages containing alcohol. This DGA guidance on alcohol is included because it is a source of energy for those who consume it and consider it part of their diet, and thus should be taken into consideration as a contributor to total caloric intake. Consumption of alcohol has been linked to a range of health outcomes, including those that are potentially detrimental to health. Thus, the DGA recommend that individuals should not start drinking for any reason and that drinking less is better for health than drinking more. For those who do consume alcohol, the DGA recommend drinking in moderation by limiting intake to two drinks or fewer in a day for men and one drink or fewer in a day for women on days alcohol is consumed. Further, alcohol should not be consumed by some individuals, including for example, those under the legal drinking age or by individuals who are pregnant or lactating. The DGA recommendations are informed by systematic reviews conducted by the Dietary Guidelines Advisory Committee (DGAC) with support from the Nutrition Evidence Systematic Review (NESR) group within USDA.

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Commentary: remaining questions on moderate alcohol drinking and cancer risk

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Abstract

In January 2025, the United States Surgeon General issued an advisory describing the scientific evidence for the causal link between alcohol consumption and increased cancer risk. The report is timely as the link between alcohol and cancer is well established. Few would dispute the generally adverse effects of alcohol consumption on cancer risk and overall health with excessive levels of intake. More controversy exists at light-to-moderate levels of intake, such as not exceeding 2 drinks per day for men or 1 drink per day for women. Cancer risk may be the biggest concern in the low-moderate range of drinking as about one-quarter of cancer cases attributable to alcohol consumption arise in those consuming two or fewer alcoholic drinks daily. In moderate alcohol consumers, four modifying factors merit consideration, tobacco use, drinking frequency, whether drinking is with meals or on an empty stomach, and beverage type. Conclusions based simply on the overall dose-response without considering these factors is inadequate. A more thorough synthesis of the current literature and new studies and analyses designed to address these questions is imperative for developing practical recommendations for low-to-moderate alcohol drinking.

In January 2025, the United States Surgeon General issued an advisory describing the scientific evidence for the causal link between alcohol consumption and increased cancer risk [1]. The report is timely as the link between alcohol and cancer is well established and evidence has solidified in the past few decades. Acetaldehyde, the first product generated in the metabolism of alcohol, is the likely carcinogen for at least some of the alcohol-related cancers [2]. Cancers for which a causal relationship between alcohol use and increased risk is established include cancers of the breast (in women), colorectum, esophagus (squamous cell carcinoma), liver, stomach, mouth, pharynx, and larynx [2, 3]. According to the World Cancer Research Fund/American Institute of Cancer Research WCRF/AICR, the dose–response is approximately linear for cancers of mouth, pharynx, esophagus, and breast, implying that any level of drinking increases risk. For colorectal cancer, elevated risk begins at around 2 drinks/day, and for liver, stomach, and possibly pancreatic cancer, at 3 drinks per day. The risk of kidney cancer is decreased up to 2 alcoholic drinks a day.

Few would dispute the generally adverse effects of alcohol consumption on cancer risk and overall health with increasing levels of intake beyond 2 or 3 drinks per day, especially with unhealthy drinking patterns such as high consumption concentrated over a short time (e.g., binge drinking). More controversy exists at light-to-moderate levels of intake, such as not exceeding 2 drinks per day for men or 1 drink per day for women. Some data suggest that light-to-moderate drinking is associated with lower risk of cardiovascular disease and type 2 diabetes mellitus, although some have questioned the causality. On the other hand, as an increased risk emerges even in the low-to-moderate range of drinking for some cancers, it is important to better understand the potential impact of lower levels of drinking on cancer risk.

The Nutrition Source

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Alcohol: Balancing Risks and Benefits

Moderate drinking can be healthy—but not for everyone. You must weigh the risks and benefits.

•For a 30-year-old man, the increased risk of alcohol-related accidents outweighs the possible heart-related benefits of moderate alcohol consumption.

•For a 60-year-old man, a drink a day may offer protection against heart disease that is likely to outweigh potential harm (assuming he isn't prone to alcoholism).

•For a 60-year-old woman, the benefit/risk calculations are trickier. Ten times more women die each year from heart disease (460,000) than from breast cancer (41,000).

The NEW ENGLAND JOURNAL of MEDICINE

Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts

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RESULTS

A primary end-point event occurred in 288 participants; there were 96 events in the group assigned to a Mediterranean diet with extra-virgin olive oil (3.8%), 83 in the group assigned to a Mediterranean diet with nuts (3.4%), and 109 in the control group (4.4%). In the intention-to-treat analysis including all the participants and adjusting for baseline characteristics and propensity scores, the hazard ratio was 0.69 (95% confidence interval [CI], 0.53 to 0.91) for a Mediterranean diet with extra-virgin olive oil and 0.72 (95% CI, 0.54 to 0.95) for a Mediterranean diet with nuts, as compared with the control diet. Results were similar after the omission of 1588 participants whose study-group assignments were known or suspected to have departed from the protocol.

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JAMA Network

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Mediterranean Diet and Invasive Breast Cancer Risk Among Women at High Cardiovascular Risk in the PREDIMED Trial

A Randomized Clinical Trial

Estefanía Toledo, MD, MPH, PhD[1,2]; Jordi Salas-Salvadó, MD, PhD[2,3]; Carolina Donat-Vargas, PharmD[1,2]; et al

» Author Affiliations | Article Information

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Results After a median follow-up of 4.8 years, we identified 35 confirmed incident cases of breast cancer. Observed rates (per 1000 person-years) were 1.1 for the Mediterranean diet with extra-virgin olive oil group, 1.8 for the Mediterranean diet with nuts group, and 2.9 for the control group. The multivariable-adjusted hazard ratios vs the control group were 0.31 (95% CI, 0.13-0.77) for the Mediterranean diet with extra-virgin olive oil group and 0.53 (95% CI, 0.23-1.26) for the Mediterranean diet with nuts group. In analyses with yearly cumulative updated dietary exposures, the hazard ratio for each additional 5% of calories from extra-virgin olive oil was 0.72 (95% CI, 0.57-0.90).

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THANK YOU