

Wine & Health

Benefits of Moderate Wine Consumption:

- lower risk of heart disease
- lower risk of cancer
- lower risk of death from all causes
- better mental acuity among older people

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Harmful effects of Consumption of Alcoholic Beverages:

- intoxication, cell damage
- birth defects
- higher risk of cancer
- social dysfunction
- toxic contaminants: lead, ethyl carbamate, fungal toxins, SO₂, biogenic amines

Risk perception and risk assessment

The **J**-curve versus linear models

why wine?

1. correlational (epidemiological) studies
2. prospective (cohort) studies
3. case control studied
4. biochemical links

links to reduced incidence of heart disease and lower incidence of some forms of cancer

The Mediterranean Diet Pyramid

Prepared in 1993 by Harvard School of Public Health and Oldways Preservation & Exchange Trust endorsed by the World Health Organization

"wine can be enjoyed daily in moderation primarily with meals. It should be considered optional and avoided wherever consumption would put the individuals or others at risk."

What is the difference between wine, beer, and spirits?

1. The combination of alcohol (ethanol) with many other biochemicals (nutrients, nutraceuticals)
2. The rate at which it is adsorbed into the blood
3. The context in which it is consumed: with meals, leisurely

antioxidants in wine

resveratrol quercetin epicatechin
(other wine phenolics)

Important is the combination of protective
substances... no single substance is the
magic bullet!

Is red wine potentially more health promoting
than white wine?

Only one study found a difference between red
and wine, most other studies found no difference.

Red wine and headaches

'red wine' headaches are not due to alcohol
(in moderate amounts) or tyramine
(biogenic amines), rather they are likely due
to some as yet unidentified phenolic
compounds

Wine consumption in moderate amounts
is healthy.

Know your limit!

<http://www.winebusiness.com/news/>

Some recent wine & health summaries:

<http://dukemednews.duke.edu/news/medminute.php?id=5746>

http://www.ynhh.org/online/nutrition/advisor/red_wine.html

<http://www.healthcentral.com/news/NewsFullText.cfm?id=511662>

Wine List for Heart Health Narrows
German study says French wine beats German wine for reducing risk of heart
disease.

By Serena Gordon
HealthScoutNews Reporter

FRIDAY, 7 February 2003 (HealthScoutNews) --
Red wine's delicate ability to benefit your health has just been, well, refined.

Not just any red wine will do, it seems.

In the current issue of the Journal of the American College of Cardiology,
German researchers say wines from their country probably aren't as good at
reducing the risk of heart disease as French wines are.

German study says French wine beats German wine for reducing risk of heart disease.
By Serena Gordon, HealthScoutNews Reporter

continued

"French wines are richer in flavonoids, polyphenols and phytoalexins than are German wines tested in this study," explains lead author Dr. Ulrich Forstermann, head of pharmacology at Johannes Gutenberg University in Mainz.

An enzyme called endothelial nitric oxide synthase (eNOS) protects blood vessels from clotting and from plaque buildup. This enzyme is dysfunctional in many disorders, such as diabetes, high cholesterol and high blood pressure, and also with cigarette smoking, Forstermann says.

To see if alcohol could increase the amount of eNOS available in the body, Forstermann and his team cultured cells from human umbilical cords and then exposed them to six French red wines, three German red wines and pure alcohol or nothing as controls.

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continued

The researchers found that some of the French wines caused eNOS expression to quadruple, while the German wines showed little change when compared to the controls. Pure alcohol had no effect on the eNOS present in the cells.

"Good red wines contain ingredients that are able to stimulate eNOS gene expression and eNOS activity. Therefore, they have the potential to protect against atherosclerosis (hardening of the arteries)," Forstermann says.

French wines probably aren't the only ones that would have this beneficial effect. Any wine rich in flavonoids and other heart-healthy compounds, such as those found in Italy, California and South Africa, would probably produce similar findings, he says.

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continued

The reason some wines are so rich in these substances comes from the way they are grown, especially the soil they are grown in, he adds.

The researchers also tested to see if the way the wine is fermented had any effect -- it didn't. Wine matured in oak barrels or steel tanks showed the same beneficial effects.

"This study doesn't tell us much about what happens when people drink," comments Dr. Robert Vogel, a professor of medicine at the University of Maryland Hospital, who wrote an accompanying editorial to the study. "It's an interesting study, but it's not clinically relevant. They incubated human cells in wine concentrations. What that means to human beings is still unknown."

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continued

However, Vogel adds, the study may point to a reason why there have been so many conflicting studies on the benefits of red wine. He says that studies done in America have tended to show little difference between red wine and other forms of alcohol in protecting heart health, while many European studies have found that red wine is superior.

The bottom line, says Vogel, is that one or two drinks a day will probably help prevent heart disease for people over 40.

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continued

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Forstermann agrees: "One or two glasses of red wine in the evening are good for you. Besides the relaxing, calming and stress-reducing effect of a moderate dose of alcohol, good red wines contain compounds with protective effects on the cardiovascular system."

Vogel cautions, however, that too much of a good thing can be bad for you. "Too many people drink a lot, and the ravages of alcohol are devastating," he notes.

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Wine as part of a healthful diet

Moderate consumption

<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>

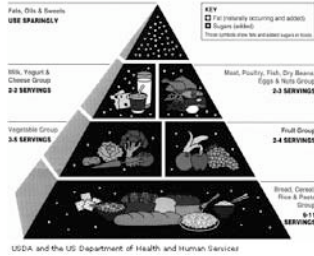
The Food Pyramid



Enology Group

Cornell University

The USDA Food Pyramid



<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>

The USDA Food Pyramid



Enology Group

Cornell University

“The USDA Food Guide Pyramid also had many builders. Some are obvious - USDA scientists, nutrition experts, staff members, and consultants. Others aren't. Intense lobbying efforts from a variety of food industries also helped shape the pyramid.”

<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>

The USDA Food Pyramid



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Healthy Eating Pyramid



<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>



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The Healthy Eating Pyramid summarizes the best dietary information available today. It isn't set in stone, though, because nutrition researchers will undoubtedly turn up new information in the years ahead. The Healthy Eating Pyramid will change to reflect important new evidence. This isn't the only alternative to the USDA's Food Guide Pyramid. The Asian, Latin, Mediterranean, and vegetarian pyramids promoted by Oldways Preservation and Exchange Trust [www.oldwayspt.org] are also good, evidence-based guides for healthy eating. The Healthy Eating Pyramid takes advantage of even more extensive research and offers a broader guide that is not based on a specific culture. The Healthy Eating Pyramid is described in greater detail in Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating, published by Simon and Schuster (2001).