

Alcohol And Health

Moderate drinkers tend to have better health and live longer than those who are either abstainers or heavy drinkers. In addition to having fewer heart attacks and strokes, moderate consumers of alcoholic beverages (beer, wine or distilled spirits or liquor) are generally less likely to suffer hypertension or high blood pressure, peripheral artery disease, Alzheimer's disease and the common cold. Sensible drinking also appears to be beneficial in reducing or preventing diabetes, rheumatoid arthritis, bone fractures and osteoporosis, kidney stones, digestive ailments, stress and depression, poor cognition and memory, Parkinson's disease, hepatitis A, pancreatic cancer, macular degeneration (a major cause of blindness), angina pectoris, duodenal ulcer, erectile dysfunction, hearing loss, gallstones, liver disease and poor physical condition in elderly.

Some History

Alcohol has been used medicinally throughout recorded history; its medicinal properties are mentioned 191 times in the Old and New Testaments. [1](#) As early as the turn of the century there was evidence that moderate consumption of alcohol was associated with a decrease in the risk of heart attack. [2](#) And the evidence of health benefits of moderate consumption has continued to grow over time. A review of research evidence from 1900 to 1986 found a strong, consistent relationship

between moderate alcohol consumption and reduction in cardiovascular disease in general and coronary artery disease in particular. [3](#) This is important because cardiovascular disease is the number one cause of death in the United States, and heart disease kills about one million Americans each and every year. [4](#)

The Director of the National Institute on Alcohol Abuse and Alcoholism recently wrote that "Numerous well-designed studies have concluded that moderate drinking is associated with improved cardiovascular health," and the Nutrition Committee of the American Heart Association recently reported that "The lowest mortality occurs in those who consume one or two drinks per day." [5](#) Several years ago a World Health Organization Technical Committee on Cardiovascular Disease asserted that the relationship between moderate alcohol consumption and reduced death from heart disease could no longer be doubted. [6](#) But the benefits are not limited, important as they are, to reductions in heart disease.

To your health

The health benefits of moderate alcohol consumption have long been known. One of the earliest scientific studies on the subject was published in the *Journal of the American Medical Association* in 1904. [65](#)

[back](#)

Longevity

Moderate drinkers tend to live longer than those who either abstain or drink heavily.

- A recent Harvard study found the risk of death from all causes to be 21% to 28% lower among men who drank alcohol moderately, compared to abstainers. [7](#)
- A large-scale study in China recently found that middle-aged men who drank moderately had a nearly 20% lower overall mortality compared to abstainers. [8](#)
- Harvard's Nurses' Health Study of over 85,000 women found reduced mortality among moderate drinkers. [9](#)
- A British analysis of 12,000 male physicians found that moderate drinkers had the lowest risk of death from all causes during the 13 year study. [10](#)
- A large study of about 88,000 people conducted over a period of ten years found that moderate drinkers were about 27% less likely to die during the period than were either abstainers or heavy drinkers. The superior longevity was largely due to a reduction of such diseases as coronary heart disease, cancer, and respiratory diseases. [11](#)
- A large study funded by the National Institute on Alcohol Abuse and Alcoholism found that moderate drinking increased the length of life by about 3% among white males. [12](#)
- A twelve year long prospective study of over 200,000 men found that subjects who had consumed alcohol in moderation were less likely to die than those who abstained from alcohol. [13](#)

Alcohol vs. Lifestyle

Why drink to reduce the risk of heart disease? Wouldn't eating a good diet, exercising, and losing weight do the same thing?

No, it wouldn't. The moderate consumption of alcohol appears to be more effective than most other lifestyle changes that are used to lower the risk of heart and other diseases. For example, the average person would need to follow a very strict low-fat diet, exercise vigorously on a regular basis, eliminate salt from the diet, lose a substantial amount of weight, and probably begin medication in order to lower cholesterol by 30 points or blood pressure by 20 points.

But medical research suggests that alcohol can have a greater impact on heart disease than even these hard-won reductions in cholesterol levels or blood pressure. Only cessation of smoking is more effective.

Additionally, other medical research suggests that adding alcohol to a healthful diet is more effective than just following the diet alone. [60](#)

[back](#)

Healthier Lives

Moderate drinkers tend to enjoy better health than do either abstainers or healthy drinkers.

- A nation-wide survey in the U.S. revealed that daily moderate drinkers experienced significantly less acute hospitalization. [14](#)
- A nine year study of predictors of good health found moderate alcohol consumption to be associated with the most favorable health scores. [15](#)
- A nation-wide Canadian study found moderate drinkers who consumed alcohol daily to have 15% less disability than the general population. [16](#)
- A Dutch study found that moderate drinkers under stress were less likely to be absent from work than were either abstainers or heavy drinkers. [17](#)

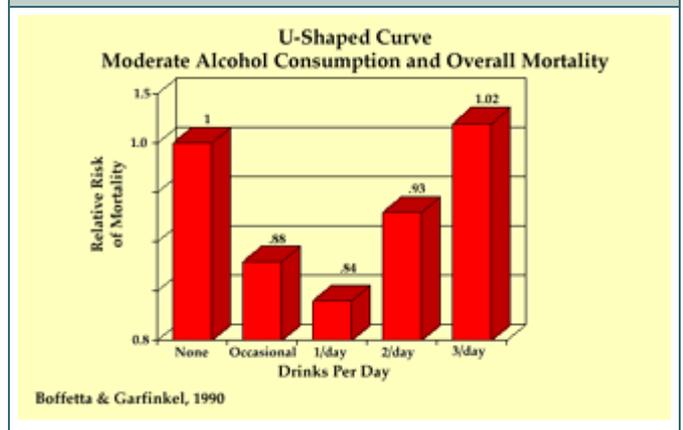
[back](#)

vs. Heart Attacks

Moderate drinkers are also less likely to suffer heart attacks than are abstainers or heavy drinkers.

- Harvard researchers have identified the moderate consumption of alcohol as a proven way to reduce coronary heart disease risk. [18](#)
- An exhaustive review of all major heart disease studies found that "Alcohol consumption is related to total mortality in a U-shaped manner, where moderate consumers have a reduced total mortality compared with total non-consumers and heavy consumers." [19](#)
- A National Institute on Alcohol Abuse and Alcoholism study asserts that "The totality of evidence on moderate alcohol and CHD (coronary heart disease) supports a judgment of a cause-effect relationship....there are cardioprotective benefits associated with responsible, moderate alcohol intake." [20](#)
- The Harvard Health Professionals Follow-Up Study of over 44,000 males found moderate alcohol consumption to be associated with a 37% reduction in coronary disease. [21](#)
- A British study of women found moderate consumption of alcohol to be associated with lower levels of cardiovascular risk factors. [22](#)
- The Honolulu Heart Study found a 49% reduction in coronary heart disease among men who drink alcohol in moderation. [23](#)
- Harvard researchers concluded about coronary heart disease that "Consumption of one or two drinks of beer, wine, or liquor per day has corresponded to a reduction in risk of approximately 20-40%." [24](#)
- At a recent conference, researchers from Korea, Italy, Germany, Poland, the Netherlands, and the United States reported striking reductions in death among moderate drinkers, with heart disease and total mortality rates about one half or less compared to non-drinkers. [25](#)
- After reviewing the research, Dr. David Whitten reported that "The studies that have been done show pretty clearly that the chances of suffering cardiac death are dramatically reduced by drinking" one or two drinks a day and asserted that "We don't have any drugs that are as good as alcohol." [26](#)
- Based on the medical evidence, noted investigator Dr. Curtis Ellison asserted that "abstinence from alcohol is a major risk factor for coronary heart disease." [27](#)

U-shaped Curve



How does alcohol reduce heart disease? It appears that moderate consumption of alcohol improves health and longevity in a number of ways, including the following:

- Alcohol improves blood lipid profile [28](#)
 - It increases HDL ("good") cholesterol [29](#)

What About...

Fetal Alcohol Syndrome?

To learn about this preventable health problem visit [Fetal Alcohol Syndrome](#).

- It decreases LDL ("bad") cholesterol [30](#)
- Alcohol decreases thrombosis (blood clotting)
 - It reduces platelet aggregation [31](#)
 - It reduces fibrinogen (a blood clotter) [31.1](#)
 - It increases fibrinolysis (the process by which clots dissolve) [32](#)
- Alcohol acts through additional ways [33](#)
 - It reduces coronary artery spasm in response to stress
 - it increases coronary blood flow [34](#)
 - It reduces blood pressure [35](#)
 - It reduces blood insulin level [35.1](#)
 - It increases estrogen levels

What About...

Gaining Weight?

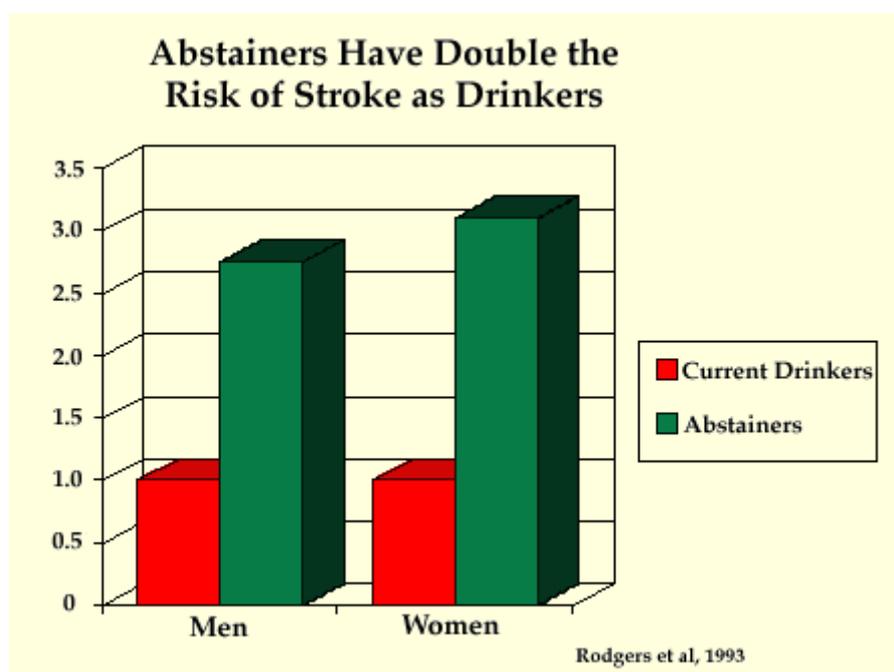
Drinking puts on pounds, right? Wrong! To learn more, visit [Alcohol, Calories and Weight](#).

[back](#)

Other Benefits

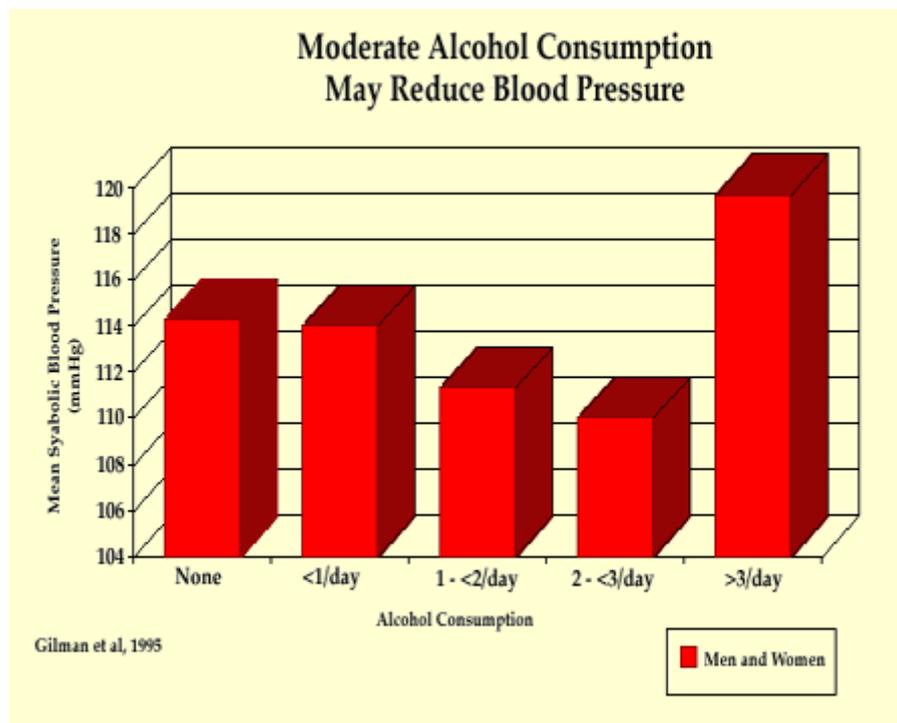
The moderate consumption of alcohol is also apparently effective in reducing the incidence of a broad range of diseases and other health problems.

A recent study published in the American Heart Association's journal found abstainers' risk of stroke to be double that of moderate drinkers. [36](#)



The American Heart Association has also reported moderate consumption of alcohol to be associated with dramatically decreased risk of stroke among both men and women, regardless of age or ethnicity. [37](#)

A recent Harvard University study found the lowest levels of hypertension among young adults who consumed one to three drinks per day. [38](#)



Harvard researchers recently found moderate drinkers to be almost 1/3 less likely to suffer Peripheral Artery Disease (a significant cause of death among the elderly) than those consuming less than one drink per week. [39](#)

A recent French study found moderate drinkers to have a 75% lower risk for Alzheimer's Disease and an 80% lower risk for senile dementia. [40](#) Many other studies have also documented the lower risk of Alzheimer's disease as well as better cognitive or thinking ability among moderate drinkers compared to abstainers. [40.1](#)

Moderate drinkers have been found to be more resistant than abstainers to five strains of the common cold virus. Those who consumed 2 to 3 drinks daily had an 85% greater resistance. Those drinking 1 to 2 drinks daily had a 65% lower risk and those who drank less than daily had a 30% lower risk than abstainers. [41](#)

[back](#)

What Is Moderation?

Medical researchers generally describe moderation as one to three drinks per day. It appears that consuming less than about half a drink per day is associated with only very small health benefits. Four or five drinks may be moderate for large individuals but excessive for small or light people. Because of their generally smaller size and other biological differences, the typical woman should generally consume 25 to 30 percent less than the average man. [61](#) And, of course, recovering alcoholics, those with any adverse reactions to alcohol, and those advised against drinking by their physicians should abstain.

And the list goes on...

Moderate consumption of alcohol appears to be beneficial to reducing or preventing even more diseases and health problems:

Angina Pectoris [42](#)

Bone Fractures and Osteoporosis [43](#)

Diabetes [44](#)

Digestive Ailments [45](#)

Duodenal Ulcer [46](#)

Erectile Dysfunction [47](#)

Essential Tremors [47.1](#)

Gallstones [48](#)

Hearing Loss [48.1](#)

Hepatitis A [49](#)

Kidney Stones [50](#)

Liver Disease [51](#)

A drink is a 12 ounce can or bottle of beer, a five ounce glass of wine, or 1.5 ounces of liquor (either straight or in a mixed drink). [62](#) [learn about [Alcohol Equivalence](#) and visit [Standard Drinks](#)]

Harvard's Healthy Eating Pyramid, produced by the Harvard Medical School Guide to Healthy Eating, was co-developed by scientists at the Harvard School of Public Health. It is based on the best available scientific knowledge and recommends drinking alcohol in moderation (unless there is a good reason to abstain). [63](#)

Drinking patterns appear to be as important as the amounts consumed. "The key to healthy, moderate consumption is a regular, one to three drinks per day pattern." [64](#) However, drinking a "weeks worth" of alcohol over a period of a few hours would be unhealthy, even dangerous, and clearly to be avoided.

All of the many health benefits of drinking apply only to moderate

consumption - - never to heavy drinking. To the contrary, heavy drinking is associated with reduced longevity and increased risk of a diversity of diseases. Unfortunately, there really can be too much of a good thing.

Salud, skoal, a votre sante', prost, l'chayim, or, in English, "to your health," but all in moderation!

The material on this site is for information only and is not advice

Macular Degeneration (Blindness) [52](#)

Pancreatic Cancer [53](#)

Parkinson's Disease [54](#)

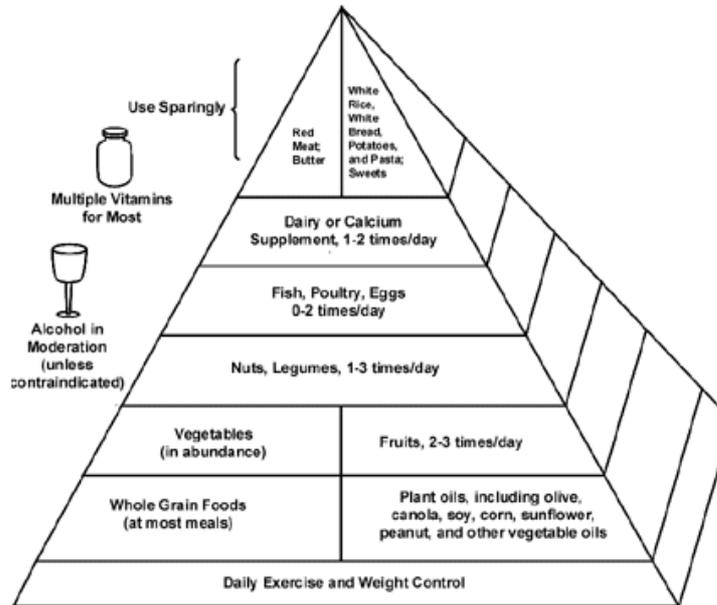
Poor Cognition and Memory [55](#)

Poor Physical Condition in Elderly [56](#)

Rheumatoid Arthritis [57](#)

Stress and Depression [58](#)

Type B Gastritis [59](#)



References

1. Straus, R. An historical perspective on the clinical uses of wine. *Vintage*, August, 1979. Referenced in Ford, G. *The Benefits of Moderate Drinking: Alcohol, Health and Society*. San Francisco, California: Wine Appreciation Guild, 1988, p. 20.
2. Mendelson, J., and Mello, K. *Alcohol Use and Abuse in America*. Boston, Massachusetts: Little, Brown and Co., 1985.
3. Moore, R., and Pearson, T. Moderate alcohol consumption and coronary artery disease. *Medicine*, 1986, 65 (#4), 242-267.

4. American Heart Association. (www.amhrt.org/hs96/biolc.html) July 19, 1997
5. www.wineinstitute.org July 18, 1997
6. Wilkie, S. Global overview of drinking recommendations and guidelines. *AIM Digest* (Supplement), June, 1997, 2-4, p. 4.
7. Camargo, C. A., et al. Prospective study of moderate alcohol consumption and mortality in US male physicians. *Archives of Internal Medicine*, 1997, 157, 79-85.
8. Yuan, J-M., et al. Follow up study of moderate alcohol intake and mortality among middle aged men in Shanghai, China. *British Medical Journal*, 1997, 314, 18-23.
9. Fuchs, C. S., et al. Alcohol consumption and mortality among women. *The New England Journal of Medicine*, 1995, 332(19), 1245-1250.
10. Doll, R., and Peto, R. Mortality in relation to consumption of alcohol: 13 years' observations on male British doctors. *British Medical Journal*, 1994, 309, 911-918.
11. Klatsky, A., Friedman, G., and Siegelaub, A. Alcohol and mortality: ten-year Kaiser Permanente experience. *Annals of Internal Medicine*, 1981, 95(2), 139-145.
12. Coate, D. Moderate drinking and coronary heart disease mortality: evidence from NHANES I and NHANES I follow-up. *American Journal of Public Health*, 1993, 83(6), 888-890.
13. Boffetta, P., and Garefinkel, L. Alcohol drinking among men enrolled in an American Cancer Society prospective study. *Epidemiology*, 1990, 1(5), 42-48.
14. Longnecker, M., and MacMahon, B. Associations between alcoholic beverage consumption and hospitalization, 1983 National Health Interview Survey. *American Journal of Public Health*, 1988, 78(2), 153; Klatsky, A., and Friedman, A. Alcohol use and cardiovascular disease: the Kaiser-Permanente experience. *Circulation*, 1981, 64 (Supplement III), 32-41; Ford, G. *Wines, Beer and Spirits: The World's Most Versatile Health Foods*, in press, p. 154.
15. Wiley, J., and Comacho, T. Life-style and future health: evidence from the Alameda County Study. *Preventive Medicine*, 1980, 9, 1-21.
16. Richman, A., and Warren, R. A. Alcohol consumption and morbidity in the Canadian Health Survey: inter-beverage differences. *Drug and Alcohol Dependence*, 1985, 15, 255-282; Kunz, J. Alcohol use and reported visits to health professionals: an exploratory study. *Journal of Studies on Alcohol*, 1997, 58, 474-479.
17. Vasse, R. M., et al. Association between work stress, alcohol and sickness absence. *Addiction*, 1998, 93 (2), 231-241.
18. Manson, J. E., et al. The primary prevention of myocardial infarction. *The New England Journal of Medicine*, 1992, 326(21), 1406-1416.

- 19.** La Porte, R., *et al.* Coronary heart disease and total mortality. *Recent developments in Alcoholism*, 1985, 3, 157-163.
- 20.** Hennekens, C. H. Alcohol and Risk of Coronary Events. In: National Institute on Alcohol Abuse and Alcoholism. *Alcohol and the Cardiovascular System*. Washington, DC: U.S. Department of Health and Human Services, 1996.
- 21.** Rimm, E., *et al.* Prospective study of alcohol consumption and risk of coronary disease in men. *The Lancet*. 1991, 338, 464-468.
- 22.** Razay, G., *et al.* Alcohol consumption and its relation to cardiovascular risk factors in British women. *British Medical Journal*, 1992, 304, 80-83.
- 23.** Blackwelder, W. C., *et al.* Alcohol and mortality. The Honolulu Heart Study. *American Journal of Medicine*, 1980, 68(2), 164-169.
- 24.** Manson, J. E., *et al.* *Prevention of Myocardial Infarction*. New York: Oxford University Press, 1996.
- 25.** Trevisan, M., *et al.* Drinking pattern and mortality: a longitudinal study; Gaziano, J. M., *et al.* A prospective cohort study of moderate alcohol consumption and sudden death in the Physicians' Health Study; Keil, U., *et al.* The relation of alcohol to coronary heart disease and total mortality in a beer drinking population in Southern Germany; Waskiewicz, A., *et al.* Alcohol consumption and 11-year total and CVD mortality among men in Pol-MONICA study; Grobbee, D. E., *et al.* Alcohol and cardiovascular risk in the elderly. All presented at the 4th International Conference on Preventive Cardiology, Montreal, Canada, June 29-July 3, 1997, and published in Abstracts from the 4th International Conference on Preventive Cardiology. *The Canadian Journal of Cardiology*, June, 1997, volume 13, Supplement B.
- 26.** Whitten, D. Wine Institute Seminar. San Francisco, CA: 1987. Quoted in Ford, G. *The French Paradox and Drinking for Health*. San Francisco, CA: Wine Appreciation Guild, 1993. Pp. 26-27.
- 27.** Vin, sante & societe. *AIM*, 1995, 4(2), 7-10, p. 9.
- 28.** LaPorte, R. E., Cresanta, J. L., and Kuller, L. H. The relationship of alcohol consumption to atherosclerotic heart disease. *Preventive Medicine*, 1980, 9, 22-40; Moore, R. D., and Pearson, T. A. Moderate alcohol consumption and coronary artery disease. *Medicine*, 1986, 65, 242-267; Doll, R. One for the Heart. *British Medical Journal*, 1997, 315, 1664-1668; Paasilta, M., *et al.* Social alcohol consumption and low Lp (a) lipoprotein concentrations in middle aged Finnish men: Population based study. *British Medical Journal*, 1998, 316, 594-595; Thun, *et al.* Alcohol consumption in middle-aged and early U. S. adults. *New England Journal of Medicine*, 1997, 336, 1705-1714. Rimm, E., *et al.* Moderate alcohol intake and lower risk of coronary heart disease: meta-analysis of effects on lipids and hemostatic factors. *British Medical Journal*, 1999, 319, 1523-1528.
- 29.** Ernst, N., *et al.* The association of plasma high-density lipoprotein cholesterol with dietary intake and alcohol consumption. The Lipid Research Clinics program prevalence study. *Circulation*, 1980, 62 (suppl IV), 41-52; Willett, W. Hennekens, C. H., Siegel, A. J., Adner, M. M., and Castell, W. P. Alcohol consumption and high density lipoprotein cholesterol in marathon runners. *New England Journal of Medicine*, 1980, 303, 1159-1161;

Barrett-Connor, E., and Suarez, L. A community study of alcohol and other factors associated with the distribution of high density lipoprotein cholesterol in older vs. younger men. *American Journal of Epidemiology*, 1982, 115, 888-893; Phillips, N. R., Havel, R. J., and Kane, J. P. Serum apolipoprotein A-I levels. Relationship to lipoprotein lipid levels and selected demographic variables. *American Journal of Epidemiology*, 1982, 116, 302-313; Fraser, G. E., Anderson, J. T., Foster, N., Goldberg, R., Jacobs, D., and Blackburn, H. The effect of alcohol on serum high density lipoprotein (HDL). A controlled experiment. *Atherosclerosis*, 1983, 46, 275-283; Camargo, C. A., Williams, P. T., Vranizan, K. M., Albers, J. J., and Wood, P. D. The effect of moderate alcohol intake on serum apolipoproteins A-I and A-II: A controlled study. *Journal of the American Medical Association*, 1985, 253, 2854-2857; Valimaki, M., Nikkila, E. A., Taskinen, M. R., and Tlikahri, R. Rapid decrease in high density lipoprotein subfraction and postheparin plasma lipase activities after cessation of chronic alcohol intake. *Atherosclerosis*, 1986, 59, 147-153; Doll, R. One for the heart. *British Medical Journal*, 1997, 315, 1664-1668; Paasilta, M., et al. Social alcohol consumption and low Lp (2) lipoprotein concentration in middle aged Finnish men: population based study. *British Medical Journal*, 1998, 316, 594-595.

30. Castelli, W. P., et al. Alcohol and blood lipids. The cooperative lipoprotein phenotyping study. *The Lancet*, 1977, 2, 153-155; Paasilta, M., et al. Social alcohol consumption and low Lp (2) lipoprotein concentration in middle aged Finnish men: population based study. *British Medical Journal*, 1998, 316, 594-595. Langer, R., Criqui, M., and Reed, D. Lipoprotein and blood pressure as biological pathways for effects of moderate alcohol consumption on coronary heart disease. *Circulation*, 1992, 85(3), 910-915.

31. Meade, T. W., Vickers, M. V., Thompson, S. G., Stirling, Y., Haines, A. P., and Miller, G. J. Epidemiologic characteristics of platelet aggregability. *British Medical Journal*, 1985, 290, 428-432; Jakubowshi, J. A., Vaillancourt, R., and Deykin, D. Interaction of ethanol, prostacyclin, and aspirin in determining platelet reactivity in vitro. *Atherosclerosis*, 1988, 8, 436-441; Meade, T. W., Imeson, J., and Sterling, Y. Effects of changes in smoking and other characteristics of clotting factors and the risk of ischemic heart disease. *The Lancet*, 1987, 1, 986-988; Seigneur, M., et al. Effect of the consumption of alcohol, white wine, and red wine on platelet function and serum lipids. *Journal of Applied Cardiology*, 1990, 5, 215-222; Renaud, S. C., Beswick, A. D., Fehily, A. M., Sharp, D. S., and Elwood, P. C. *American Journal of Clinical Nutrition*, 1992, 55, 1012-1017. Zhang, Q., et al. Effects of acute, moderate alcohol consumption on human platelet aggregation in platelet-rich plasma and whole blood. *Alcohol: Clinical and Experimental Research*, 2000, 24, 528-534.

31.1. Mennen, L., et al. Fibrinogen may explain in part the protective effect of moderate drinking on the risk of cardiovascular disease. *Arteriosclerotic and Thrombotic Vascular Biology*, 1999, 19, 887-892; Wang, Z., and Barker, T. Alcohol at moderate levels decreases fibrinogen expression in vivo and in vitro. *Alcohol: Clinical and Experimental Research*, 1999, 23, 1927-1932.

32. Sumi, H., Hamada, H., Tsushima, H., and Mihara, H. Urokinase-like plasminogen activator increased in plasma after alcohol drinking. *Alcohol & Alcoholism*, 1988, 23, 33-43.

33. For discussion, see Ellison, R. C. *Does Moderate Alcohol Consumption Prolong Life?* New York: American Council on Science and Health, 1993. P. 7.

34. Israel, Y., Orrego, H. and Carmichael, F. J. Acetate-mediated effects of ethanol. *Alcohol Clin. Exp. Res.*, 1994, *Alcohol: Clinical and Experimental Research*, 18(1), 144-148; Pelleg, A. and Porter, R. S. The pharmacology of adenosine. *Pharmacotherapy*, 1990, 10(3), 157-174; Blaise, G., Noel, J., Vinay, P., Cordoso, M., Vinet, B., Boulanger, Y., Leveille, M.,

Prud'homme, M., and Gougoux, A. Metabolic effects of acetate on the heart. *Clin. Invest. Med.*, 1989, 12(4), 254-261; Ely, S. J. and Berne, R. M. Protective effects of adenosine in myocardial ischemia. *Circulation*, 1992, 85(3), 893-900.

35. MacMahon. Alcohol consumption and hypertension. *Hypertension*, 1987, 9(2), 111-121; Dairdron, D. M. Cardiovascular effects of alcohol. *Western Journal of Medicine*, 1989, 151(4), 430-439.

35.1. Facchini, F, Chen, Y., and Reaven, G. Light-to-moderate alcohol intake is associated with enhanced insulin sensitivity. *Diabetes Care*, 1994, 17(2); Rimmj, E., *et al.* Prospective study of cigarette smoking, alcohol use and the risk of diabetes in men. *British Medical Journal*, 1995, 310, 555-559; Bell, D. Alcohol and the NIDDM patient. *Diabetes Care*, 1996, 19(5), 509-513.

36. Rodgers, H. *et al.* A case-control study of drinking habits past and present. *Stroke*, 1993. 24(10), 1473-1477.

37. American Heart Association, Northern Manhattan Stroke Study, 22nd International Joint Conference on Stroke and Cerebral Circulation, Anaheim, California, February, 1997. See also Rodgers, H., *et al.* Alcohol and stroke: a case control study of drinking habits past and present. *Stroke*, 1993, 12(10), 1473-1477; Truelsen, T., *et al.* Intake of beer, wine and spirits and risk of stroke: the Copenhagen city heart study. *Stroke*, 1998, 29(12), 2468-2472; Calcoya, M., *et al.* Alcohol and stroke: a community case control study in Asturias, Spain. *Journal of Clinical Epidemiology*, 1999, 52, 577-684; Gill, J., *et al.* Stroke and alcohol. *New England Journal of Medicine*, 1991, 315(17); Berger, K., *et al.* Light-to-moderate alcohol consumption and risk of stroke among US male physicians. *New England Journal of Medicine*, 1999, 341(21), 1557-1564.

38. Gillman, W. M. *et al.* Relationship of alcohol intake with blood pressure. *Hypertension*, 1995, 25, 1106-1110. Also: Beilin, L., Puddey, I., and Burke, V. Alcohol and hypertension - kill or cure? *Journal of Hypertension*, 1996, 10, 1-5; Ramsey, L., *et al.* Alcohol and myocardial infarction in hypertensive men. *American Heart Journal*, 1979.

39. Camargo, C. A. *et al.* Prospective study of moderate alcohol consumption and risk of peripheral arterial disease in US male physicians. *Circulation*, 1997, 95(3), 577-580.

40. Orogozo, J. M., *et al.* Wine consumption and dementia in the elderly: a prospective community study in the Bordeaux area. *Revue Neurologique*, 1997, 153.

40.1. Launer, L., *et al.* Smoking, drinking and thinking: the Zutphen elderly study. *American Journal of Epidemiology*, 1996, 143(3), 219-227; Cupples, L., *et al.* Effects of smoking, alcohol and APO genotype on Alzheimer disease: the MIRAGE study. *Alzheimer Report*, 2000, 3, 105-114; Eckhardt, M., *et al.* Effects of moderate alcohol consumption on the central nervous system. *Alcoholism: Clinical and Experimental Research*, 1998, 22(5), 998-1040; Dufouil, C., *et al.* Sex differences in the association between alcohol consumption and cognitive performance. *American Journal of Epidemiology*, 1997, 146(5), 405-412; Galanis, C., *et al.* A longitudinal study of drinking and cognitive performance in elderly Japanese American men: the Honolulu-Asia Aging Study. *American Journal of Public Health*, 2000, 90(8); Christian, J. Moderate alcohol consumption helps preserve reasoning skills. Paper presented at Research Society of Alcoholism, San Antonio, Texas, June 30, 1993.

- 41.** Cohen, S., *et al.* Smoking, alcohol consumption and susceptibility to the common cold. *American Journal of Public Health*, 1993, 83(9), 1277-1283.
- 42.** Camargo, C. A., *et al.* Moderate alcohol consumption and the risk for angina pectoris or myocardial infarction in U.S. male physicians. *Archives of Internal Medicine*, 1997, 126 (5), in press.
- 43.** Holbrook, T., *et al.* A prospective study of alcohol consumption and bone mineral density. *British Medical Journal*, 1993, 306, 1506-1509. Also see Christian, J. Moderate alcohol consumption helps preserve reasoning skills. Paper presented at the Research Society of Alcoholism, San Antonio, Texas, June 30, 1993. In addition to reasoning skills, Christian also reported greater bone density and a lower rate of death among moderate drinkers compared to abstainers and heavy drinkers; Rapuri, P. B., *et al.* Alcohol intake and bone metabolism in elderly women. *American Journal of Clinical Nursing*, 2000, 72, 1206-1213.
- 44.** Rimm, E. B., *et al.* Prospective study of cigarette smoking, alcohol use, and the risk of diabetes in men. *British Medical Journal*, 1995, 310, 555-559; Cordain, L. *et al.* Influence of moderate daily wine consumption upon body weight regulation and metabolism in healthy, free-living males. *Journal of the American College of Nutrition*, 1997, 16(2).
- 45.** Weisse, M. I., *et al.* Wine as a digestive aid: comparative antimicrobial effects of bismuth salicylate and red and white table wine. *British Medical Journal*, 1995, 311, 1457-1460; Probert, C., Emmett, P., and Heaton, K. *Quarterly Journal of Medicine*, 1995, 88, 311-315; Weisse, M., Eberly, B., and Person, D. Wine as a digestive aid: comparative antimicrobial effects of bismuth salicylate and red and white wine. *British Medical Journal*, 1995, 311, 1657-1660.
- 46.** Aldoori, W. H., *et al.* A prospective study of alcohol, smoking, caffeine, and the risk of duodenal ulcer in men. *Epidemiology*, 1997, 8(4), 420-424; Brenner, H., *et al.* Relation of smoking and alcohol and coffee consumption to active *Helicobacter pylori* infection: cross sectional study. *British Medical Journal*, 1997, 315, 1489-1492.
- 47.** CNN Morning News. 5-3-00.
- 47.1.** Boecker, H., *et al.* The effect of ethanol on alcoholic-responsive essential tremor: a positron emission tomography study. *Annals of Neurology*, 1996, 39, 650-658; Setting a steady course for benign essential tremor. Johns Hopkins Medical Letter, December, 1999; On Call. Harvard Men's Health Watch, August, 1998.
- 48.** LaVecchia, C., *et al.* Alcohol drinking and prevalence of self-reported gallstone disease in the 1983 Italian National Health Survey. *Epidemiology*, 1994, 5, 533-536; Simon, J., *et al.* Ascorbic acid supplement use and the prevalence of gallbladder disease. *Journal of Clinical Epidemiology*, 1998, 51 (3), 257-265; MacLure, K., *et al.* Weight, diet and the risk of symptomatic gallstones. *New England Journal of Medicine*, 1989 (August); Moderate drinking associated with lower risk for gallstone disease. *Alcohol Issues and Insights*, 1994, 11(1); LaVecchia, C. Alcohol in the Mediterranean diet. *International Journal for Vitamin and Nutrition Research*, 1995, 65(1), 71-72; Attili, A., *et al.* Diet and gallstones in Italy: the cross-sectional MICOL results; Sahi, T., *et al.* Body mass index, cigarette smoking and other characteristics as predictors of self-reported physician-diagnosed gallbladder disease in male college alumni. *American Journal of Epidemiology*, 1998, 147, 644-651; Leitzmann, M., *et al.* Prospective study of alcohol consumption patterns in relation to symptomatic

gallstone disease in men. *Alcohol: Clinical and Experimental Research*, 1999, 23, 835-841.

48.1. Popelka, M.M., *et al.* Moderate alcohol consumption and hearing loss: a protective effect. *Journal of the American Geriatric Society*, 2000, 48(10), 1273-1278.

49. Desenclos, J-C., *et al.* The protective effect of alcohol on the occurrence of epidemic oyster borne hepatitis A. *Epidemiology*, 1994, 5, 525-532.

50. Curhan, G. C., *et al.* Prospective study of beverage use and the risk of kidney stones. *American Journal of Epidemiology*, 1996, 143(3), 240-247; Soucie, M. J., *et al.* Relation between geographic variability in kidney stones prevalence and risk factors for stones. *American Journal of Epidemiology*, 1996, 143(3), 487-494; Curhan, G., *et al.* Beverage use and risk for kidney stones in women. *Annals of Internal Medicine*, 1998, 128(7), 534-540; Hirvonen, T., *et al.* Nutrient intake and use of beverage and the risk of kidney stones among male smokers. *American Journal of Epidemiology*, 1999, 150, 187-194.

51. Reuters, 11-8-99.

52. Obisean, T., *et al.* Moderate wine consumption is associated with decreasing odds of developing age-related macular degeneration in NHANSES-1. *Journal of the American Geriatrics Society*, 1998, 46, 1-7.

53. Ahlgren, J. D., *et al.* Epidemiology and risk factors in pancreatic cancer. *Seminars in Oncology*, 1996, 23(2), 241-250.

54. Hellenbrand, W., *et al.* Diet and Parkinson's disease I: A possible role for the past intake of specific foods and food groups. *Neurology*, 1996, 306, 1,506-1,509.

55. Christian, J. C., *et al.* Self-reported alcohol intake and cognition in aging twins. *Journal of Studies on Alcohol*, 1995, 56, 414-416; Dufouil, C. Sex differences in the association between alcohol consumption and cognitive performance. *American Journal of Epidemiology*, 1997, 146 (5), 405-412; Elias, P., *et al.* Alcohol consumption and cognitive performance in the Framingham Heart Study. *American Journal of Epidemiology*, 1999, 150 (6), 550-589.

56. Nelson, H., *et al.* Smoking, alcohol and neuromuscular and physical function of older women. *Journal of the American Medical Association*, 1994, 272(23), 1825-1831.

57. Voight, L., *et al.* Smoking, obesity, alcohol consumption and the risk of rheumatoid arthritis. *Epidemiology*, 1994, 5, 525-532.

58. Lipton, R. I. The effect of moderate alcohol use on the relationship between stress and depression. *American Journal of Public Health*, 1994, 84(12), 1913-1917; Baum-Baicker, C. The psychological benefits of moderate alcohol consumption: a review of the literature. *Drug and Alcohol Dependence*, 15, 1985; Kushner, M., *et al.* The effects of alcohol consumption on laboratory-induced panic and state anxiety. *Archives of General Psychiatry*, 1996, 53, 264-270.

59. Brenner, H., *et al.* Relation of smoking and alcohol and coffee consumption to active *Helicobacter pylori* infection: cross sectional study. *British Medical Journal*, 1997, 315, 1389-1492.

- 60.** Ellison, R., Curtis. Here's to your health. *Wine Spectator*, October 31, 1998, 34-46.
- 61.** Purdue, L., and Shoemaker, W. *The French Paradox and Beyond*. Sonoma, CA: Renaissance Publishing, 1992, p. 58; Ellison, R. C. *Does Moderate Alcohol Consumption Prolong Life?* New York: American Council on Science and Health, 1993, p. 5. The actual quantities associated with health benefits could be somewhat greater because participants in medical research studies tend to underestimate their usual amounts of alcohol consumption. See Purdue and Shoemaker, p. 57.
- 62.** The American Dietetic Association points out that the facts of alcohol beverage equivalence "are emphasized by the federal government and numerous public health organizations including Nation Institute of Alcohol Abuse and Alcoholism, Departments of Transportation and Health and Human Services, National Consumers League, National Council of Alcoholism and Drug Dependence, and Mothers Against Drunk Driving (MADD)" (American Dietetic Association, *Nutrition Fact Sheet: Moderate Consumption of Distilled Spirits and Other Beverage Alcohol in an Adult Diet*. Chicago, Illinois: American Dietetic Association, 2001, p.1). Alcohol beverage equivalence applies to standard drink sizes. Of course, five ounces of a desert wine contains more alcohol, as does a higher alcohol content beer or ale, or a distilled spirit higher than the typical 80 proof. The equivalent sizes for these drinks would differ from those of a standard drink, a fact that drinkers should keep in mind. (Carol, C. R. *Drugs in Modern Society*. Boston, Massachusetts: McGraw-Hill, 2000, p. 77.)
- 63.** Willett, W. C. with the assistance of others. *Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating*. New York: Simon & Schuster, 2001, p. 17. The alternative US Department of Agriculture food pyramid was first developed before much of our current nutritional information was available, reflects the strong influence of agricultural producers, and is highly over-simplified. The Harvard food Pyramid is free of all those shortcomings.
- 64.** Purdue, L., and Shoemaker, W. *The French Paradox and Beyond*. Sonoma, CA: Renaissance Publishing, 1992. P. 63.
- 65.** Cabot, R.C. the relation of alcohol to arteriosclerosis, *Journal of the American Medical Association*, 1904, 43, 774-775.