

To Good Wine... and Better Health

The Case for Moderate Wine Consumption

By Juliann Schaeffer

Many a generation has enjoyed the charming benefits a good glass of merlot can provide—helping to unwind after a long day, the backdrop to a richly rewarding conversation with close friends and family, or even standing alone on the merits of its taste. But much research as of late goes one step further, questioning whether wine provides even more in the way of physical health benefits. Can it really reduce your risk of heart disease or aid a client's blood sugar management?

To help answer such questions, which you may already be fielding, *Today's Dietitian* checked in with a few wine and nutrition experts for a rundown of what recent research shows as well as recommendations for incorporating wine into a healthful diet.

A Brief History

In no small way, wine has been a part of human culture for millennia, says Janet Brill, PhD, RD, LDN, author of *Prevent a Second Heart Attack*, "with evidence of wine vessels dating back 7,000 years unearthed at a Neolithic village site in Iran."

People have been infatuated with the intoxicating drink "ever since humans discovered a fruit-bearing vine crawling around oak trees and naturally fermenting," explains sommelier and wine educator Aaron Berdofe.

Pointing to the goddess of wine, mentioned with reverence throughout great literature, and the drink's role in numerous cultures around the world, Berdofe says, "Wine is elevated above the status of a mere beverage because of its mystery and the way it brings us life but also death. It is a healing potion and a poisonous vessel, a gift and a possessor and, despite its concurrent history with civilization, we are only recently beginning to understand how it works."

The world's civilizations have incorporated wine into respective cultures in various ways. "Historically, wine was a source of metabolic energy in rural populations and also was used to try and cure just about every ailment that someone was afflicted with," says Berdofe. "It has been prescribed, by doctors even, to aid digestion, ease insomnia, improve cardiovascular health, slow macular degeneration, and much, much more. People used to add wine or vinegar [to] their water canteens to ward off any bacteria sitting in their water."

"Aptly referred to as 'the drink of the ages,' wine lore permeates our world's cultures, be it in myth or medicine, passages in the Bible, or places of honor at modern-day social occasions," adds Brill. "Wine has played a major role in the culture and diet of the traditional Mediterranean people, and some scientists think it is the single ingredient most responsible for the good health enjoyed by those who inhabit this area of the world."

Heart Health

Berdofe says the vast majority of studies regarding wine's potential health benefits are in relation to heart health and "are showing that moderate consumption of alcohol, or more precisely ethanol, [reduces] the rate of death by cardiovascular disease—in some cases, a 35% reduction," he says. "Wine has the additional benefit of its natural phenolics, which help prevent the oxidization of LDL cholesterol. Red wine in particular is thought to be more effective in this, but the mechanisms behind it have yet to be fully proven."

People have pondered wine's effect on heart health for decades, as much has been made about the French paradox, which posits that the French population's high consumption of red wine could explain their low incidence of heart disease, even with a steady amount of saturated fat consumed in the likes of butter and cheese.

"Why is it that the French routinely indulge in artery-clogging cream sauces, butter, foie gras, and other fatty, cholesterol-laden foods yet have only half the rate of heart disease that we do?" asks Brill in *Prevent a Second Heart Attack*, which has an entire chapter devoted to the heart-health benefits of red wine. "Something in the red wine neutralizes heart attack risk, and that something is the powerful antioxidant polyphenols."

Brill says three specific types of polyphenols stand out among the red wine crowd for their notable cardioprotective benefits: resveratrol, procyanidins, and quercetin.

"There's no question that a little wine with food can do a heart good. The best-known cardioprotective effect of red wine is its ability to increase the 'good' HDL cholesterol level—one to two drinks per day is linked to an average 12% increase in HDL. The biological basis for red wine's preventative effects lies in its anti-inflammatory actions as well as its ability to positively affect the endothelial layer [the inner layer] of your arteries and reduce LDL oxidation," Brill explains in her book.

In addition to the HDL benefits, she notes that drinking a moderate amount of red wine daily can boost your heart disease defense system by decreasing inflammation and lowering blood pressure. "A strong body of scientific evidence estimates that in both men and women, light to moderate alcohol consumption reduces risk of death from a heart attack by 30% to 50%," according to Brill.

"Red wine, in particular, is thought to reduce the development of smooth muscle cells which, if allowed to proliferate, contribute to



atherosclerosis,” adds Kelly O’Connor, RD, LDN, CDE, a diabetes educator at Mercy Medical Center in Baltimore. “Also, I have read more and more studies that indicate the benefits of red wine are particularly in effect if wine is consumed at meal-times. It is thought the beneficial ingredients may counter the effects of fatty foods, perhaps delaying and/or decreasing their absorption into the body.”

While much ado has been made in the media about resveratrol in relation to these claims, Berdofe says this may be slightly misguided. “If you were to ‘drink your way to better health’ and get all the resveratrol [some] studies are recommending, you would have to drink the equivalent of 80 bottles of wine a day,” he says. “The benefits of wine, and red wine in particular, for cardiovascular health really come through the sum of their parts and not one specific compound.”

Alcohol has also been shown to act as a sort of blood thinner, according to Berdofe. “The phenolics in wine also appear to have this effect, which in turn can reduce the risk of stroke-causing blood clots,” he says.

In general, Katherine Brooking, MS, RD, cofounder of AppforHealth.com, says, “It’s been well documented that moderate amounts of alcohol can raise your [HDL] cholesterol and thin your blood. This is thought to be one of the primary cardiovascular benefits from wine.”

Overall Longevity

When it comes to living longer overall, Brill cites a recent happiness survey that showed the Danes are the happiest people in Europe. “It comes as no surprise then that a large study out of Copenhagen found that moderate alcohol intake combined with regular physical activity is the best recipe for a long, happy, and low-stress life,” she says.

“Nearly 12,000 Danish people were followed for approximately 20 years, providing data on level of physical activity, alcohol consumption habits, and other health statistics,” she continues. “The findings? Being both physically active and drinking at least one drink per week reduced risk of a fatal heart attack by 50% compared to inactive nondrinkers.”

Berdofe agrees, noting that “wine seems to be an integral part in numerous countries that have life expectancies longer than the United States.”

While O’Connor says recent studies have mostly attributed longevity to the resveratrol in red wine, she says it could also be due “to the lack of incidence of coronary artery disease, stroke, diabetes, etc. So it may be that the wine does not itself cause longevity, but its components greatly decrease the risk of diseases that cut lives short.”

Yet Brill says, without question, this much scientific data is clear: “Drinking red wine regularly and lightly to moderately with meals guards against heart disease and lengthens life, whereas consuming high doses of alcohol harms the heart and causes disease.”

Cancer Risk

According to O’Connor, recent studies have shown that alcohol (red wine in particular) may potentially decrease the risk of colon cancer and prostate cancer if consumed in moderation.

However, Berdofe says this topic can be tricky, as “One study will show alcohol reduces the risk of cancer and the next will show it increases it,” he explains. “The common lining in all of these studies, though, is that none have shown that moderate consumption of alcohol increases the risk of cancer.”

“The Cancer Council of Australia has recently made headlines [in May] by recommending people abstain from alcohol completely to reduce their risk of cancer,” he continues. “Unfortunately, they are basing this recommendation on studies that show an increased risk in cancer by those who consume an abusive amount of alcohol. At best, we can say that moderate alcohol consumption potentially may reduce the apparent risk by a greater or lesser extent than anything else pending further evidence. Or it may have no effect at all either way.”

Diabetes Risk

What about recent research supporting wine consumption for clients with diabetes? Berdofe cites a recent Austrian study that showed polyphenols in red wine bound to the same protein as the type 2 diabetes drug rosiglitazone.

“However, as the National Health Service in the United Kingdom pointed out, the results of this in vitro study does not mean type 2 diabetics should drink wine instead of taking their medication,” he clarifies. “[Yet] there shouldn’t be any harm in having a small amount of dry red wine with the meal, and in fact it may even help with insulin resistance in those afflicted.”

In relation to wine and overall risk of diabetes, O’Connor says there’s enough data to resist chastising clients with diabetes who partake in moderate wine consumption but not enough to recommend wine to those who don’t already drink.

“As a diabetes educator, I have read some studies detailing the association of wine with decreased risk of type 2 diabetes mellitus,” she says. “The studies are not conclusive enough that we have begun to recommend consumption of wine to those who do not drink, however.”

What to Drink

While concrete conclusions regarding wine’s effect on health are hard to come by and specifics are just now starting to come into focus for researchers, Berdofe says it appears “that it really is the total sum of the parts of that are behind the magic. Resveratrol, PVPP [polyvinylpyrrolidone], coumaric acids, and many more are all making up the cocktail.”

According to Berdofe, most of the evidence coming from clinical studies favors red wines over white varieties—and of those reds, ones that are more tannic. “This could be because of the difference in concentration of polyphenols,” he says. “When red wine is made, vintners leave the solid parts of the

Sommelier and wine educator Aaron Berdofe offers a breakdown of the more popular varieties and gives his recommendations for what regions to look for when buying and what to pair that bottle with when you get it home. “As a rule of thumb, the old adage ‘What grows together, goes together’ works wonderfully for wine and food pairings,” he says.

For more recommendations and wine trivia tidbits, check out Berdofe’s *Wine and Food Experience* blog at www.aaronberdofewine.com.

Type	Varietal	Characteristics	Recommended Wine Regions	Recommended Basic Food Pairings
White	Chardonnay	Fruit: apple (sometimes baked), pear, lemon, mango, pineapple, peach Dairy/bakery: cream, butter, biscuits, yeast Woody: oak, vanilla, toast, smoke Caramelized: honey, butterscotch Nutty: popcorn, almond, hazelnut in older wines	Burgundy (France), Napa (U.S.), Sonoma (U.S.), Piedmont (Italy), Victoria (Australia)	Roast chicken, turkey, oysters, smoked fish (with oak aging), guacamole
	Sauvignon Blanc	Fruit: gooseberry, passion fruit, kiwi, lime and lemon zest, grapefruit Vegetal: asparagus, green pepper, cut grass, green beans Earthy: wet stone, gunpowder and flint	Loire Valley (France), Bordeaux (France), Marlborough (New Zealand), Casablanca (Chile), Sonoma (U.S.)	Fish, shellfish, mussels, pork, chicken, salads, asparagus, ceviche
	Riesling	Fruit: lime and lemon peel, peach, quince, apricot Other: kerosene (mature Riesling) In the dessert wine fashion: honey, raisin, and spice	Mosel (Germany), Rheingau (Germany), Alsace (France)	Thai, Chinese, light fish, salty foods
Red	Pinot Noir	Fruit: strawberry, strawberry jam, black cherry, plum, raspberry Earthy: leather, game, mushrooms, beetroot, barnyard Floral: violets	Willamette Valley (U.S.), Russian River Valley (U.S.), Burgundy (France), Marlborough (New Zealand)	Lean meats, smoked/wood-roasted meats, dried dark fruits, sweet spices, sautéed mushrooms
	Merlot	Fruit: plum, prune, black cherry, fig Other: fruitcake, chocolate It is the texture or mouthfeel that is most important for the popularity of Merlot—its richness, suppleness, and softness	Bordeaux (France), Napa Valley (U.S.), Walla Walla (U.S.), Tuscany (Italy), Paarl Hills (South Africa)	Lean steak, duck, ham, lamb, mild barbecue
	Cabernet Sauvignon	Fruit: black currant (cassis), black cherry, blackberry Earthy: cigar box, tobacco Herbal: mint in U.S., eucalyptus in New Zealand Can have vegetal, bell pepper streak if a little underripe; also tannic, concentrated, full bodied	Bordeaux (France), Napa Valley (U.S.), Coonwarra (Australia), Tuscany (Italy), Colchagua (Chile)	Steak, venison, hamburger, chocolate, blue cheese



grapes on longer to give the wine more noticeable tannins [that cotton-wrapped feeling around your tongue and gums] and give the wine its color. This also imparts more of the grape's original chemical compounds into the fermentation and aging process."

Indeed, red wine has 10 times the polyphenol content of white wine, says Brill. If your clients happen to be looking to you for red suggestions, Brill suggests pinot noir might be a good pick for any possible health benefits.

"Pinot noir has ... been shown to have the highest level of the potent nonflavonoid antioxidant resveratrol. This is especially true for the varieties grown in cooler, rainy locales because grapes produce resveratrol to ward off fungal infections and other environmental stresses that are more prevalent in cold, wet environments," notes Brill, adding that this type of wine tends to have maximum sun exposure, which could explain the high flavonoid content.

Downside to Drinking Too Many Glasses

In addition to data on wine's health benefits, even more conclusive is the variety of drawbacks that go along with overconsumption of alcohol in general. To paraphrase the Swiss Renaissance physician and alchemist Paracelsus, "The poison is in the dose," says Berdofe. "The truth lies with everything we ingest. Excessive consumption of wine or any alcohol can lead to liver damage, addiction, and even death. There is no disputing this. I may have a passion for wine and the experience it brings with it, but there really is such a thing as too much of a good thing."

Brill concurs: "When it comes to drinking alcohol, it is clearly a case of a double-edged sword. One fact is certain: Moderation is the magic word, meaning a little is good and a lot is not better. Wine is beneficial for your health only in moderation."

While moderate drinking may play a part in a healthy heart, overconsumption does just the opposite and is associated with a sharp increase in the risk of not only heart disease but also high blood pressure, stroke, certain cancers, and liver cirrhosis as well as alcohol abuse and alcoholism, says Brill.

"Excessive drinking can also shorten life span. So keep in mind that when it comes to your red wine consumption, the difference between drinking in moderation and drinking in excess is the difference between preventing disease and causing

disease," she explains. "Only include a red wine prescription in your diet plan if you and your personal physician mutually agree that you can drink safely."

In addition, some people should abstain altogether, as alcohol can interact with certain prescription medications and no amount of alcohol has been proven safe for women who are pregnant. "For women at risk of breast cancer, any amount of alcohol increases risk," adds Brill, noting that drinking is also ill advised for patients who have been diagnosed with cardiomyopathy or cardiac arrhythmias.

Alcohol consumption, particularly red wine, is also known to trigger migraines in those prone to them, says O'Connor.

"I must also usually remind my patients that wine is not calorie free, and 4 oz of wine contains about 100 to 120 kcal," adds O'Connor. "It adds up quite quickly and easily if one consumes two or three glasses of wine with a meal or splits a bottle of wine."

Incorporating Wine Into a Healthful Diet

With all the evidence, and so much of it inconclusive, what's the takeaway message about this drink of the ages? "In moderation and as part of an overall healthy diet, wine can be a healthful drink," says Brooking. "However, the amount of wine you drink matters tremendously. Drink more than what's recommended, your health benefits are lost and your health risks go up."

That risk should be a serious consideration before prompting anyone who does not drink to start drinking a glass of wine for their health. And although the research is becoming more and more convincing, O'Connor points to the American Heart Association, which does not currently recommend that someone begins drinking if he or she currently does not. "I have never counseled a patient to do so to date," she says.

"Always follow the Dietary Guidelines of having no more than one drink a day for females and no more than two for males," says Berdofe. "And don't think this means that if you have six drinks in one night, you can just take the next few days off."

One drink is defined as 5 oz or 150 mL, which means a standard 750 mL bottle of wine has about five glasses worth in it. "The best way to start incorporating wine into the diet and maintaining it is to have it with food," Berdofe suggests.

O'Connor agrees with suggesting clients imbibe at mealtimes. "Since some of the research indicates that the components of wine may be prohibitive of fatty acid absorption, I think

it makes sense to recommend drinking the wine at a mealtime," she explains. "Especially if any individual has diabetes and wants to have a drink, we would recommend having the drink with a meal, if your diabetes is well controlled and is permissible, and not just by itself at happy hour."

One additional advantage to partaking in a glass of pinot noir with a late-night repast? "It encourages you to slow down, relax, and truly savor your meal," says Brill. "There is no greater pleasure than to sit down to a leisurely dinner of deliciously fresh whole food, artfully prepared, tempered with a flavorful glass of pinot noir, and shared with friends and family."

While research as of yet hasn't linked any particular health benefits to pairing wines with certain foods, Berdofe says that shouldn't negate the good things such a pairing brings. "Anyone who has enjoyed a tannic red wine with a well-prepared steak or a glass of unoaked Chardonnay with fresh oysters will swear by it," he says. "Side effects of wonderful wine and food pairings may include increased meal satisfaction, improved digestion, and elevated mood."

In addition, he says wine has been shown to act as an antimicrobial agent, providing some protection from bacteria in food much as wasabi does for sushi. "Drinking wine with food is one of those old wives' tales that actually has some truth behind it," he says.

What about cooking with your favorite red? Any greater benefits there? "There seem to be few studies which address the issue of cooking with wine and whether or not the health benefits are still substantial," says O'Connor. "It's likely they are not as substantial as most of the alcohol/wine burns off during cooking. Therefore, any benefits that the alcohol itself has provided are now minimal."

"However, it has been theorized that what remains, after cooking off the alcohol, may be just the antioxidants, so the effects may be as significant," she adds, noting that there are no known negatives to such an activity.

In general, Brill believes drinking in moderation, especially red wine, can do many a body good. "A daily tippie of your favorite red, used to wash down your olive oil-infused Mediterranean-style meal, will add years to your life and life to your years," she says. "Freshly prepared, Mediterranean plant-based meals—packed with disease-fighting plant antioxidants and paired with your favorite glass of red wine—are sure to please the palate and fortify your daily disease-defense system. Plus savoring a good glass of wine will help you to slow down, enjoy the dining experience, and ultimately eat less—a perfect weight-loss tool."

— Juliann Schaeffer is an associate editor at Great Valley Publishing Company and a regular contributor to *Today's Dietitian*.

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