

## The Case for Red Wine

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**Posted: Wednesday, December 05, 2001**

In the eyes of science, all wine is not created equal. Research indicates that red wine provides the most significant protection against ill health.

The key element appears to be the greater amount of polyphenols contained in red wines. Polyphenols are known to act as antioxidants, which reduce the speed and level at which our bodies suffer from oxidative stress, which in turn kills cells and triggers diseases, especially cancer. The term "polyphenol" encompasses certain compounds derived from plants. Other important sources of polyphenols include fresh fruits and raw vegetables, tea, grains and seeds.

Full-bodied young reds average 0.14 ounces of polyphenols per liter of wine, or 10 times more than white wines, according to Joseph Vercauteren, a Bordeaux university professor who is a leading expert on polyphenols. Reds form complex polyphenols during winemaking and aging. Grape tannins make up 35 percent of total phenolics in reds, and anthocyanin pigments (the color) about 20 percent. Whites lack tannins and anthocyanin (though they do contain lesser amounts of other polyphenols).

Research confirms the superiority of red wines over whites in terms of health benefits. In a 1998 study published in the American Journal of Clinical Nutrition, some volunteers drank half a bottle of red wine daily for two weeks, while others drank the same amount of white wine. The antioxidant capacity recorded in the plasma of the volunteers peaked within half an hour or so after drinking the red wine and stayed in the body for two to four hours. "White wine consumption didn't have any effect," reported researcher Shailja Nigdikar and colleagues.

Similar results emerged from a study of 44 young men from Chile. Federico Leighton, a biologist at Universidad Católica de Chile, in Casilla, fed his volunteers a high-fat diet similar to that consumed by many people living in Western, industrialized countries. Then, in subsequent three-week periods, he complemented this unhealthy diet with a daily glass of white wine, then a daily glass of red wine, and finally, with an additional eight servings daily of fruit and vegetables, but no alcohol.



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The study showed that both the white and red wine increased the high-density lipoproteins -- HDLs or "good cholesterol" -- that tend to clean up arteries. This was further proof that drinking a moderate amount of alcohol protects against heart disease. But red wine was slightly more effective.

Compared with the Chilean volunteers who ate only the high-fat diet, those who added a glass of red wine a day increased their level of good cholesterol by 14 percent. The HDL level went up 9 percent with a daily glass of white wine and up 5 percent with the additional servings of fruit and vegetables (without wine).

Leighton also measured the oxidative damage to the volunteers' DNA caused by the high-fat diet. When the volunteers drank red wine, they reduced the high-fat diet's oxidative damage to their DNA by 50 percent. White wine lowered the damage by 16 percent. The fruit and vegetable addition reduced the DNA damage by 42 percent.

The free flow of blood is good for our health, and Leighton measured changes in the diameter of the volunteers' vessels. A glass of white wine didn't make a difference. But a glass of red wine markedly enlarged the volunteers' arterial diameter, improving their endothelial function -- essentially, their arterial health. The fruit and vegetable servings had almost the same positive effect as the red wine.

"Moderate wine consumption and [additional servings of] fruits and vegetables lower cardiovascular risk, and red wine provides additional benefits probably due to its antioxidant properties," concluded Leighton.

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This article appears in the Dec. 15, 2001, issue of *Wine Spectator* magazine, page 53. ([Subscribe today](#))

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