



PIC QUESTION OF THE WEEK: 6/08/09

Q: Please provide some general information on the dietary supplement known as resveratrol.

A: Several years ago, the polyphenol compound known as resveratrol was reported to extend the lifespan of the fruit fly *D. melanogaster* and the nematode *C. elegans*. This finding was extended by some researchers who suggested the compound might possibly delay the human aging process. Resveratrol has been the topic of a number of national television investigative reports and is frequently promoted in the print and electronic media. The compound may be found in a number of foods including blueberries and dark chocolate, but is especially abundant in the *skin* of some types of grapes and the red wines produced from them. It is also found in significant quantities in various types of peanuts. The actual mechanism for resveratrol's proposed effect has not been established, but might be related to the observation that in some species of yeasts (and some mammals), selective long term dietary restriction and reduction of some nutrients may prolong lifespan. It is unknown how this effect directly relates to humans. Resveratrol possesses some antioxidant properties and may also reduce platelet aggregation. Proanthocyanidins, compounds found in grape *seed* extract, are powerful antioxidants that reduce cellular damage associated with free radicals (activated oxygen molecules). Many consider these compounds to be responsible for the cardiovascular benefits associated with red wine. It is possible that both resveratrol and proanthocyanidins contribute to possible improved health outcomes associated with the use of grape products including red wine and natural grape juice. The amount of resveratrol in red wine varies greatly and increasing wine consumption for the purpose of increasing resveratrol levels poses some health risks. Although resveratrol supplements are commercially available, there is little data to support appropriate dosage or identify adverse effects or their potential for drug interaction. Alternative medicine practitioners have promoted the use of grape products for various conditions including hypertension, menopausal symptoms, varicose veins, elevated cholesterol levels, dermatitis, and urinary problems. They have also been recommended for managing inflammatory conditions of the gums, throat, eyes, and mouth. Although used rarely today, the *grape diet* was promoted during various periods of the twentieth century to eliminate bodily toxins, thus preventing cancer and virtually all other diseases. The popularity of dietary supplements such as resveratrol is based on a limited and somewhat suspect scientific and medical database. There do not appear to be any published human studies on this compound, while its efficacy and safety profile still remain in question.

References:

- Resveratrol, the "wine pill." Pharmacist's Letter/Prescriber's Letter 2007;23(1):230110.
- Bass TM, Weinkove D, Houthoofd K, Gems D, et al. Effects of resveratrol on lifespan in *Drosophila melanogaster* and *Caenorhabditis elegans*. Mech Ageing Dev 2007;128: 546-52.
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