

# Grape Seed Extract

## *The Power within the Grape*



by Margy Squires

*Vitis vinifera* or grapes have been renowned as a health food dating back to the original Garden. But what exactly is the power within this colorful fruit and what benefits can you expect?

Much research has been done since we first published our *Grape Seed Extract* article in 2007 and it's all good news! Prior research establishes grape seed extract as an antioxidant with anti-inflammatory, anti-allergenic and antimicrobial properties. Newer studies show this purple polyphenol possesses the ability to help you combat hypertension, painful neuropathy, obesity and even cancer. You'll find the studies and respective doses on the other side.

Grape seed extract (GSE) contains various polyphenolic compounds and 80-90% of these are *oligomeric proanthocyanidin complexes* (OPCs). These OPCs help block the release of various chemicals such as substance-P and other excitatory cytokines that cause inflammation. GSE's OPCs also boost antioxidant activity by increasing the levels of superoxide dismutase (SOD) and glutathione, the master antioxidant. The dual nature of these OPCs are the "power within" GSE.

**Antioxidant Extraordinaire.** GSE protects cells from oxidative stress and the damage caused by reactive oxygen species (ROS). Since all humans have to breathe and perform numerous chemical reactions which create these species, having an arsenal of antioxidant protection on a daily basis is critical to health. These ROS are also blamed for aging, another activity humans are known to do. Antioxidants also help speed the healing process while limiting the impact of certain diseases. Some antioxidants, like GSE, also may help prevent disease in the first place.

**The Power to Quench.** GSE's second weapon for cellular defense is reducing the inflammatory response, making it useful to just about every disorder imaginable, given that inflammation is the body's first reaction to any insult. Inflammation is associated with arthritis, cancer, cardiovascular disease, diabetes, obesity and a whole host of other disorders.

**Defense for an American Dilemma.** Let's use a specific threat to American health, metabolic syndrome or MET-S. MET-S is a combination of risk factors from high blood sugar, high cholesterol, hypertension and obesity which set you up for cardiovascular disease, America's number one cause of death. Diabetes and cancer follow close behind. MET-S factors have common instigators, mechanisms of action and share common biochemical pathways. All these parameters can be influenced by GSE.

MET-S is highly linked to the obesity epidemic. Statistics from the National Institutes of Health back up the hard truth.

- ◆ More than 2 in 3 adults are overweight or obese
- ◆ More than 1 in 3 adults are obese
- ◆ More than 1 in 20 adults are extremely obese
- ◆ About 1/3 of children and adolescents ages 6 to 19 are overweight or obese
- ◆ More than 1 in 6 children and adolescents ages 6 to 19 are obese

In obesity studies, insulin resistance may be one of the causes for gaining weight and being impervious to any weight loss efforts. GSE appears to mitigate the risk factors of high cholesterol, hypertension and blood sugar, as well as reduce insulin resistance. GSE may also be able to reduce stubborn "brown" fat stores to help weight loss according to preliminary animal studies.

**Power for Muscles.** As mentioned, aging is something all humans do. One aspect of aging is losing muscle mass and strength. This muscle "wasting" can occur in those with cancer, AIDS and also arthritis or other disabling conditions with limited activity. Notably, muscle wasting is associated with chronic inflammation. Through its anti-inflammatory effect, GSE may be a nutrition based option. GSE reduces inflammatory markers, by acting on certain chemical signals that prevent muscle (protein) breakdown and thus preserves muscle mass. Interestingly, in its dual role as an antioxidant, GSE helps fight ROS that occur for those with high activity levels like volleyball players (see Studies).

**Power for Pain.** "Pain is associated with a wide range of injury and disease, and is sometimes the disease itself", according to the Academy of Integrative Pain Medicine, an organization which focuses on pain management. And while acute pain is a normal reaction to an injury and a signal of alarm from the nervous system to take action, chronic pain can last weeks, months or years. Pain signals fire long after the injury has healed. More than 100 million Americans suffer chronic pain, reports the Institute of Medicine, affecting their daily function as well as their quality and enjoyment of life.

Neuropathic pain is one category of chronic pain from multiple causes including diabetes, trauma and regional pain disorders like fibromyalgia. Neuropathy or nerve pain is associated with severe and chronic sensory disturbances. This "disturbed" state can cause spontaneous pain, an amplified pain response (hyperalgesia) and pain from stimuli

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not normally perceived as “painful” (allodynia). While many drug options are available for nerve pain, their effectiveness for chronic pain is limited to drug tolerance and common side effects. Oxidative stress and production of ROS increase inflammatory cytokines, decrease antioxidant status and result in abnormal cell structure and function in the absence of adequate immune defense. GSE significantly reduces this effect by inhibiting the number of inflammatory pathways and raising the level of potential antioxidants such as SOD and glutathione. Other studies show GSE helps protect nerves in Alzheimer’s and Parkinson’s, but further studies are needed.

**Safety.** In the research, a higher amount of GSE was used which may make you wonder if safety studies have been done too. When it comes to human studies, a safe upper limit is always established. In a 4-week safety test done in Japan,



subjects were given 1000, 1500 or 2500 mg of GSE daily. All subjects completed the study and the authors concluded GSE safe and well-tolerated. Most study doses did not exceed 300 mg. Since GSE may thin the blood, check with your health care professional before using if you are on a blood thinner.

**More Health Clout.** Although only a few examples are given, by now you’re realizing there’s more power in the extract of these tiny seeds to add up to multiple benefits for your health. So please, read the studies. Then get the purple power for yourself!

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### Read More in the TyH Health Library Online

- ◆ Bioflavonoids, Color Yourself Healthy
- ◆ Grape Seed Extract

## Grape Seed Extract: The Studies

Why take our word for what works? TyH chooses supplements based on research studies and GSE’s benefits warrant your consideration! The representative studies and doses used are listed for you and your health care professional to review.



### Antioxidant/Oxidative Stress

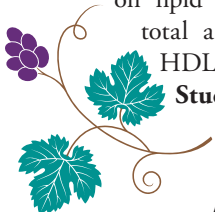
Exercise induces oxidative stress. An 8-week study of 40 female volleyball players tested the MDA stress biomarker, insulin resistance and glutathione (GSH) levels for antioxidant status. Those on GSE had higher GSH levels, and lower MDA and insulin resistance than placebo takers. GSE had a “significant” difference against oxidative stress. [Taghizadeh et al, 2016] **Study Dose:** 300 mg twice daily.

### Blood Pressure & MET-S

In a 6-week trial of 32 adults (age 25-80 years) who were diagnosed “pre-hypertensive”, GSE lowered BP so well that the researchers did a second 8 week blinded study in MET-S subjects with similar effective results. [Robinson et al, 2012] **Study Dose:** 300 mg daily.

### Cholesterol/Lipids

Lipid deposits inside blood vessels may oxidize to form plaques and lead to cardiovascular disease. A crossover study of 52 hyperlipidemic subjects for 16 weeks had a “beneficial effect on lipid profiles”. The GSE group had decreased total and oxidized LDL with slight increase in HDL (good) cholesterol. [Razavi et al, 2013]. **Study Dose:** 200 mg daily.



### Diabetes & CV Risk

In a 4-week crossover study, 32 type 2 diabetes subjects took GSE 600 mg twice a day. Results? GSE “significantly improved” markers of inflammation, glycemia and oxidative stress, suggesting GSE has a “therapeutic role in decreasing cardiovascular risk”. [Kar et al, 2009]. **Study Dose:** 600 mg twice daily.

### Leg Swelling in Sedentary Lifestyle

Prolonged sitting can result in leg swelling due to decreased circulation. Leg measurements were taken every 2 hours on sedentary Japanese female workers. Workers given GSE had 70% less leg swelling after several hours than placebo takers. GSE appears to strengthen blood vessels and improve circulation. [Sano et al, 2013]. **Study Dose:** 250 mg daily.

### Menopause Symptoms

GSE 100 or 200 mg or placebo was given to 96 menopausal women age 40-60 for 8 weeks. Clinical measurements were taken at the start, at 4 weeks and at study end. Significant changes in insomnia, hot flashes and physical symptoms were seen in the 200 mg GSE group after 8 weeks. Anxiety/depression scores and blood pressure decreased after 4 weeks, and muscle mass increased after 8 weeks for both GSE doses. [Terauchi et al, 2014] **Study Doses:** 100 mg or 200 mg GSE daily.

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