



# Pycnogenol®

## A Long History of Use

by derma e®

**M**edicine men and doctors have prescribed pine bark to treat a variety of conditions for over two thousand years.

Hippocrates, considered the founder of modern medicine, used pine bark as a remedy for inflammatory diseases in the 4th century B.C. Native Americans consumed pine bark in food and drinks and medicinally applied it to inflamed wounds and ulcers (Packer, Rimbach, and Virgili, 1999). When the French explorer Jacques Cartier found his ship stranded in the dead of winter, 1535, the crew began to suffer from scurvy. A friendly Quebec Indian suggested a tea made from pine bark; miraculously, the sailors recovered. In the 1960's Canadian scientist Jacques Masquelier found Cartier's writings, searched for the specific species of pine that had saved the explorers, and later patented this powerful compound under the name Pycnogenol® (Packer and Colman, 125-126). With the rediscovery of this extremely powerful antioxidant, modern science has begun to document and discover the strong protective and healing properties of Pycnogenol®.



### A Super Antioxidant

Today, Pycnogenol® is extracted from the French maritime pine grown in Southern France. Trees must grow at least 20-25 years before being harvested to guarantee a consistent complex rich in proanthocyanidins (a class of flavonoids), catechin, epicatechin, and taxifolin, as well as other still unidentified components.

The raw product – a light rust brown colored powder – gives Pycnogenol® crèmes, gels, and lotions their characteristic color. If a skin care product claims to contain Pycnogenol yet is not colored, it probably does not contain enough Pycnogenol® to be therapeutic.

In studies comparing Pycnogenol® antioxidant activity with that of other antioxidants, Pycnogenol® outperformed vitamin E and vitamin C (Chida et. al., 1999). Furthermore, Pycnogenol® also enhances vitamin C function by recycling vitamin C (Pycnogenol® can accept the free radical from vitamin C so that the vitamin C molecule can scavenge another free radical) and extends the life of vitamin E by protecting vitamin E from degradation (Cossins, Lee, and Packer, 1998). Pycnogenol® both functions as an extremely powerful antioxidant itself, and works with other antioxidants in the body, strengthening their function. Since Pycnogenol® was identified as a unique blend of antioxidants, scientists have conducted numerous studies demonstrating Pycnogenol's® amazing effects on health and elucidating the physiological mechanisms.

### Soothing, Protective and Anti-inflammatory

Just as Hippocrates first noted, Pycnogenol® reduces inflammation. Exposure to UV radiation causes sunburn and an inflammatory reaction characterized by edema (water retention or swelling). Topical application of Pycnogenol® after UV exposure significantly decreased the inflammatory response, resulting in less edema (Sime and Reeve, 2004). Studies suggest that Pycnogenol® inhibits pro-inflammatory molecules called cytokines, thereby inhibiting the inflammation (Packer et al, 1999). Another study also demonstrated that Pycnogenol® significantly reduced swelling and redness caused by chemical irritants (Blazso, Gabor, and Rohdewald, 1997). Pycnogenol® can soothe irritated skin and diminish inflammation.

Additionally, if Pycnogenol® is applied before exposure to UV radiation, Pycnogenol® protects the skin cells. In one study, fifty-percent of unprotected skin cells died after UV radiation. However, if Pycnogenol® was applied before exposure, only fifteen percent of the skin cells died (Packer and Colman, 2004). Remember that free radical damage due to prolonged exposure to the sun photoages skin causing wrinkles,



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## Pycnogenol® *continued*

lines, and older looking skin. Pycnogenol® acts as a natural sunscreen protecting the outer layer of skin from harmful UVB rays and preventing photoaging and consequent wrinkling of skin. Regular usage of Pycnogenol® will protect skin, soothe skin, and inhibit inflammation.

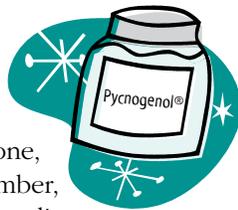
### Improves Circulation and Skin Tone

Several studies also document Pycnogenol's® ability to improve circulation by strengthening the capillary system and relaxing constricted blood vessels. In response to certain stress hormones, blood vessels constrict, decreasing the flow of blood and nutrients. Pycnogenol® relaxes these constricted vessels, restoring blood flow and nutrient delivery (Fitzpatrick, Bing, and Rohdewald, 1998). Well-nourished, well-oxygenated cells are healthier cells. Weakened or damaged capillaries leak fluid causing fluid retention and impaired circulation.

Pycnogenol® protects capillaries from degradation by scavenging free radicals. It also binds to the collagen fibers that line capillary walls, protecting the collagen, strengthening the capillary wall, and possibly even repairing damage to collagen fibers (Blazso et al., 1997; Petrassi, Mastromarino, and Spartera, 2000). In a study described in *The Antioxidant Miracle* researchers attached weights to collagen fibers and soaked them in water for twenty-four hours, simulating years of aging. When Pycnogenol® was added to the water, the collagen fibers shortened. The Pycnogenol® helped strengthen and repair the aged collagen (Packer and Colman, 204). Skin cells depend on collagen and elasticity for their structure. Damaged, aged collagen results in sagging, wrinkled skin; strengthening the collagen fibers will help improve skin elasticity and tone and revitalize skin. Pycnogenol's® selective binding of collagen supports the capillary system and restores skin health.

### Pycnogenol® for Skin Health

Pycnogenol® is an amazing combination of over forty antioxidants, one of the most powerful compounds yet discovered. It is non-toxic and can be used by everyone, including those with sensitive skin (remember, it is always a good idea to test a new ingredient



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by first applying a little to the inside of the arm). Applied as part of your daily skin care routine, Pycnogenol® will act as a natural sun screen, protecting skin from free radicals caused by UV exposure, and help skin recover from a day in the sun.

By improving microcirculation, Pycnogenol® can help reduce under-eye puffiness caused by leaky capillaries (but not fat pads). Pycnogenol® strengthens capillaries, preventing leakage, and encourages the capillary system to reabsorb the fluid.

Pycnogenol® is an extremely powerful antioxidant, scavenging free radicals before they can damage skin structures, and enhancing the antioxidant activity of both vitamin E and vitamin C. Pycnogenol® will rejuvenate skin and slow down the skin aging process. Although Pycnogenol® is available as a supplement, for optimum skin health, use Pycnogenol® topically. This assures that your skin receives enough Pycnogenol® to stay healthy and radiant.

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