



Medscape
June, 20 2006



Pycnogenol May Help Reduce Muscular Cramps and Pain **CME**

News Author: Laurie Barclay, MD

CME Author: Charles Vega, MD, FAAFP

Release Date: June 20, 2006; **Valid for credit through June 20, 2007**

Credits Available

Physicians - up to 0.25 *AMA PRA Category 1 Credit(s)*TM for physicians ;

Family Physicians - up to 0.25 AAFP Prescribed credit(s) for physicians

All other healthcare professionals completing continuing education credit for this activity will be issued a certificate of participation.

Participants should claim only the number of hours actually spent in completing the educational activity.

June 20, 2006 — Pycnogenol is effective in reducing cramps and muscle pain at rest and before and after exercise in both patients with vascular disease and in otherwise healthy athletes, according to the results of a study reported in the June issue of *Angiology*.

"With the millions of athletes worldwide, this truly is a profound breakthrough and extremely significant for all individuals interested in muscle cramp and pain relief with a natural approach," coauthor Peter Rohdewald, MD, from the University of Muenster in Germany, said in a news release. "These findings indicate that Pycnogenol can play an important role in sports by improving blood flow to the muscles and hastening post-exercise recovery."

In the first part of the study, 66 healthy subjects took four 50-mg Pycnogenol capsules (total dose, 200 mg/day) and were instructed to drink at least 1.5 L of water daily. The difference between number of cramp attacks recorded within the 2 weeks before starting Pycnogenol and the number of episodes during the fourth ($P < .05$) and fifth ($P < .05$) week were statistically significant.

In healthy subjects, the average number of cramping episodes decreased from 4.8 ± 1.2 events per week to 1.3 ± 1.1 at 4 weeks ($P < .05$). In patients with vascular disease, the episodes decreased from 6.3 ± 1.1 to 2.6 ± 0.4 per week ($P < .05$). In athletes, the number of episodes decreased from 8.6 ± 2 to 2.4 ± 0.5 ($P < .05$). At 5 weeks, all 3 groups had decreases to levels lower than before consumption of Pycnogenol ($P < .05$).

During the second part of the study, 47 patients with intermittent claudication and diabetic microangiopathy were evaluated and treated for 1 week with Pycnogenol or placebo after a 2-week run-in phase. There was a significant decrease in cramping episodes and in muscular pain in those patients receiving pycnogenol. Patients with diabetic microangiopathy had a 20.8% decrease in pain, and those with claudication had a 21% decrease while supplementing with pycnogenol. Patients receiving placebo had no decrease in pain.

"Pycnogenol improves the blood supply to muscle tissue creating a relief effect on muscle cramping and pain," Dr. Rohdewald says. "Nitric oxide (NO) a blood gas, is well known to enhance blood flow and Pycnogenol may be influencing the activity of NO. The insufficient production of NO is the common denominator responsible for impaired blood flow in vascular disease."

Angiology. 2006;57:331-339

Learning Objectives for This Educational Activity

Upon completion of this activity, participants will be able to:

- List conditions that may be improved with the use of Pycnogenol.
- Identify the effects of Pycnogenol on cramping and muscular pain among patients with various underlying conditions.

Clinical Context

Pycnogenol is a naturally occurring compound found in French maritime pine bark. Chemically, Pycnogenol is a combination of procyanidins and phenolic acids and is purported to have significant antioxidant effects, in part by enhancing the actions of vitamins C and E.

A review by Rohdewald, published in the April 2002 issue of the *International Journal of Pharmacology and Therapeutics*, noted that Pycnogenol had been demonstrated to be effective as a preventive or therapeutic medicine in a wide range of conditions, including sunburn, asthma, systemic lupus erythematosus, and, possibly, hypertension and cardiovascular disease. Pycnogenol was also suggested to improve symptoms of premenstrual syndrome, including abdominal cramps.

The current study examines whether Pycnogenol could improve cramps and abdominal pain among athletes as well as patients with diabetes and peripheral vascular disease.

Study Highlights

- The first part of the study was an open-label trial of Pycnogenol among 3 patient groups: healthy subjects with cramps at least 4 times per week, patients with chronic venous insufficiency and cramps 4 to 6 times per week, and athletes who experienced cramps at least 8 times weekly during athletic events. All subjects also reported moderate to severe muscular pain at least 3 days per week. Individuals with other medical illnesses or who were receiving any other medications were not eligible for this trial.
- Participants received 50 mg of Pycnogenol 4 times daily along with a recommendation to drink at least 1.5 L of water daily. The treatment period lasted 4 weeks.
- Study outcomes included the frequency of cramps and a 10-point visual analog scale of muscular cramps and pain.

- The study cohort included 22 individuals in the healthy patient subgroup, 21 patients with venous insufficiency, and 23 athletes. Equal numbers of men and women participated in the trial.
- Mean baseline frequency of cramps per day in the healthy patient, patient with venous insufficiency, and athletic patient groups were 4.8, 6.3, and 8.6, respectively. These mean values decreased to 1.3, 2.6, and 2.4 cramps per day in the 3 groups, respectively, after 4 weeks of treatment with Pycnogenol. The visual analog scores for muscle cramping and pain also decreased significantly with treatment in all participant subgroups, and follow-up evaluations of cramp severity and frequency demonstrated a significant effect for Pycnogenol for 1 week following the end of study treatment.
- The second part of the study was a placebo-controlled test of 100 mg of Pycnogenol twice daily. Subjects included patients with intermittent claudication, defined by symptoms on a defined treadmill protocol, and patients with diabetes and microangiopathy and neuropathy. The treatment period was 4 weeks, and the outcome measures were again the frequency and severity of muscular cramping and pain.
- 25 patients with intermittent claudication participated in the trial along with 22 patients with diabetic microangiopathy.
- The mean numbers of cramping episodes per day at baseline were 9.5 and 8.9 in the claudication and diabetes groups, respectively. These mean respective levels decreased to 3.2 and 3.0 episodes per day with study treatment. Pycnogenol was superior to placebo in this outcome.
- While analog measurements of muscular cramping and pain remained stable in the placebo group during the treatment phase, Pycnogenol significantly improved symptoms. Again, the positive effects of Pycnogenol remained evident for 1 week following cessation of study therapy.
- There were no adverse events associated with study treatment.

Pearls for Practice

- A previous review of Pycnogenol suggested that this naturally occurring compound could be effective in the prevention or management of a variety of maladies, including sunburn, asthma, systemic lupus erythematosus, premenstrual syndrome, and, possibly, hypertension and cardiovascular disease.
- The current study demonstrates that Pycnogenol can reduce the frequency and severity of muscle cramps among healthy patients; athletes; and patients with chronic venous insufficiency, intermittent claudication, and diabetes with microangiopathy. Treatment effects lasted for 1 week beyond the end of Pycnogenol therapy, and there were no adverse events associated with treatment.