Runs in the Veins: Healing blood clots naturally

By Dan Orzech

While on a 10-day camping trip in the backwoods of West Virginia, Rusty Neithammer noticed his calf starting to swell. It didn't hurt, and Neithammer, a 45-year-old electrical engineer, shrugged it off as an insect bite. Back home, however, his doctor sent him to get an ultrasound. The diagnosis: deep vein thrombosis or DVT. In layman's terms, a blood clot.

Neithammer was lucky. The clot could have killed him. He'd gone to the doctor not so much for his leg, but because he'd noticed shortness of breath while hiking. Part of the blood clot had broken off and traveled from his leg to his lungs. Doctors call this a pulmonary embolism—a blockage of blood flow to the lungs—and each year, more than 200,000 people in the US die from it.

Over a lifetime, you have roughly a one in 20 chance of getting DVT—which equates to about 2 million Americans annually. Not all of those blood clots break free, although more than half a million Americans end up in the hospital to treat either the clot or a pulmonary embolism. And not everyone is satisfied with the current standard of treatment. Some DVT patients—Neithammer included—are searching for alternative remedies.

Pump it up

In most cases, doctors don't really know what causes DVT. Researchers are, however, beginning to identify factors that increase your risk for them. Powerful calf, quad, and hamstring muscles surround the veins in our legs. Along with making movement possible, the action of these muscles pumps blood back to the heart. When we sit or lie still for too long, blood may pool in the legs, providing an opportunity for the stagnant blood to congeal and clot. That puts immobilized hospital patients at risk, but even sitting still for shorter periods—on an airplane flight, for example—may pose a problem. A number of studies in the past few years point to airline travel as a potential contributor to DVT, and some international carriers now suggest passengers get up and move their legs as much as possible. Being trapped and immobilized behind a snoring passenger in the aisle seat may not be the only danger you face, however. Changes in air pressure or oxygen levels in planes may also up your risk for DVT. A 2006 study in the British medical journal *Lancet* found that people on an eight-hour flight were more likely to get blood clots than people sitting in a movie theater for the same period. But other studies using pressure chambers to simulate the changes in air pressure inside an airplane didn't find the same risk. Traveling by car, train, or bus also predisposes you to clots.

Other risk factors exist as well. Pregnant women are five times more likely to develop DVT, apparently because the body ups the blood's tendency to clot to prevent excessive bleeding during childbirth. The estrogen in birth-control pills also facilitates clotting and puts women at a three to six times higher risk than women not on the Pill. The Factor V Leiden gene (which you can get tested for) predisposes you to DVT as well. Finally, pioneering research by Dallas doctor William Rea in the 1970s suggested that toxins in the environment, such as pesticides, household cleaners, and allergenic foods, might play a role in causing blood clots in some people. Unfortunately, little follow-up research has occurred.

Tricky medicine

The standard treatment for DVT involves injections of an anticoagulant for a few days, typically heparin or a heparin-derivative called Lovenox, followed by six months or more of an oral anticoagulant called Coumadin. Both heparin and Coumadin can spell trouble though. If blood levels of either drug get too high, they can cause dangerous internal bleeding by "thinning" the blood. Also, although many people take Coumadin for extended periods, sometimes years, it can cause osteoporosis by interfering with a protein vital for bone formation. Coumadin is also notoriously difficult to manage, with each patient absorbing and processing it differently depending on their physiology, levels of exercise, stress, and diet. Green leafy vegetables, green peppers, tea, and canola oil, all rich in vitamin K—an essential component in blood

clotting—can interfere with Coumadin. So can cranberry juice, according to some reports, because its flavonoids inhibit enzymes that break down the drug.

The stakes for blood clots patients are high. Too little of the drug, and the clots may return; too much, and internal hemorrhaging may result. Not surprisingly, many DVT patients struggle with finding the right dosage of Coumadin. Neithammer had regular blood tests to monitor his clotting levels, but the results were "all over the place," he recalls. When the amount of Coumadin in his blood got too high, he says, "I got many frantic phone calls from the doctor's office, telling me to stop Coumadin and eat spinach."

Natto power

Despite the problems, after seven months on Coumadin, Neithammer's clots were gone. His doctor then suggested a daily aspirin as a preventive. But Neithammer's troubles weren't over. Five years later, the clots returned, and along with them, an ulcer in his esophagus, which he suspects the aspirin triggered. The ulcer ruled out Coumadin, because of possible bleeding in the esophagus. So after a course of heparin, Neithammer turned to a different remedy: 200 mg a day of nattokinase, an enzyme found in soy shown to help dissolve blood clots.

His doctors, says Neithammer, "were literally horrified," that he was taking dietary supplements for something as serious as a blood clot. But for Neithammer, the proof was in the results. After more than a year on nattokinase, an ultrasound showed no sign of clots. The veins, according to his radiologist, were "clear and pliable."

The early research on nattokinase and clots appears to echo Neithammer's experience. Several studies suggest it dissolves clots in dogs and rats, and one small clinical study in the journal *Acta haematologica* demonstrated nattokinase's ability to reduce clotting in people taking it three times a day. Another study found that a combination of nattokinase and pycnogenol (an extract of pine bark that can improve circulation) reduced the risk of blood clots among airline passengers on transatlantic flights. The study looked at 224 people at high risk of DVT, including people who'd previously had a blood clot, flying between London and New York. Half of them received nattokinase and pycnogenol two hours before flying and again during the flight, while a control group was given a placebo. Ultrasounds before and after the flights found that more than 5 percent of the control group had developed symptomless DVT, while none of the passengers who took nattokinase and pycnogenol did.

Tai, a pharmacist in Michigan who published a review of the research on nattokinase in the *American Journal of Health* last year, cautions that not enough data exists to determine hard-and-fast dosages or exactly who might benefit from nattokinase.

The natural approach

That hasn't stopped patients with DVT from using nattokinase or doctors from recommending it. Martin Milner, ND, for example, has treated several dozen DVT patients with nattokinase over the past five years. "A combination of nattokinase and other nutraceuticals such as omega-3 fatty acids, bromelain (an anti-inflammatory), and ginkgo biloba, works really well for DVT," says Milner, medical director of the Center for Natural Medicine in Portland, Oregon, and a professor at the National College of Naturopathic Medicine. Some of his patients are able to completely forego the Coumadin and use only a natural approach.

The dosage of nattokinase and other supplements depends on blood tests determining your clotting ability. DVT patients often begin with doses of several hundred milligrams a day. The amount required can vary widely among individuals, so consult with a holistic doctor.

Using alternative remedies for DVT "can be hard," Milner says. "Sometimes you have to use a lot of natural medicine to get the bleeding times and levels of clotting components right." But the results, he says, make it worthwhile: "We have multiple cases of DVT that have fully resolved in six to 12 months—

without Coumadin."

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Does Aspirin Prevent Blood Clots?
While doctors frequently suggest taking aspirin to help prevent deep vein thrombosis (DVT), little evidence supports this. Aspirin does help prevent blood clots in the arteries, but those differ from clots in the veins. Arterial clots are composed of cells called platelets. Aspirin, ibuprofen, and similar anti-inflammatory drugs make the platelets slick, which keeps the blood flowing and helps prevent strokes. Since venous clots are made up of fibrin, not platelets, however, aspirin does little to prevent DVT.

Warning Signs
Blood clots in the veins can strike without warning, in just about anyone—even athletes in top condition. In more than 50 percent of cases, no obvious symptoms manifest, but warning signs to watch for include:
• Pain or tenderness in the leg, particularly the calf
• Swelling of the leg
• A change in skin color, either redness or a bluish tint, from poor oxygen circulation
• Shortness of breath