

# Chelation Therapists: Charlatans or Saviors?

Hailed as a miracle cure by its proponents and condemned as a fraud by its critics, chelation therapy is being sought by many people, mostly elderly, as a cure for whatever ails them

By DAWN D. BENNETT

**S**eventy-nine-year-old J. B. Snelson complains little about his health. But the retired veterans hospital ward foreman from Knoxville, Iowa, has one problem: cold feet. Snelson's feet get so cold at night that he can't sleep.

Doctors told Snelson that his cold feet probably were caused by poor circulation, but they seemed unable to help him. Snelson went to the Mayo Clinic in Rochester, Minn., for help, but doctors there told him nothing was wrong with his circulation. They suggested it was just nerves and probably imaginary, he says.

Then Snelson got an ad in the mail for a clinic in a Kansas City, Mo., suburb that offers chelation therapy. The ad said the therapy improves a potpourri of ailments, from poor circulation to heart disease to arthritis. Believing the therapy might speed up his circulation and get more blood to his feet, Snelson decided to take the long bus ride from Knoxville to Kansas City and try the treatment. "Since I tried so many things that didn't work, I thought this would be the salvation, the thing that hit the bull's-eye," he recalls.

Snelson sat in the waiting room of McDonagh Medical Center in Gladstone, Mo., this winter, waiting for his first chelation treatment. A couple from Montana were newcomers, too. They came in the hope that chelation therapy would help improve their breathing and memory. Most of the people waiting were elderly.

The license plates in the parking lot showed that they came from as far away as Oregon and Ohio seeking a cure for their various ills.

**C**helation therapy, touted as a miracle cure by its proponents and denounced as a fraud by its critics, has been used to treat 400,000 people at 1,000 or so clinics across the nation, its proponents say. Food and Drug Administration (FDA) spokesperson Bruce Brown says the estimate should be more conservative, but that the FDA doesn't know the exact count. The agency has asked state health departments to report any chelation therapy being offered in their states.

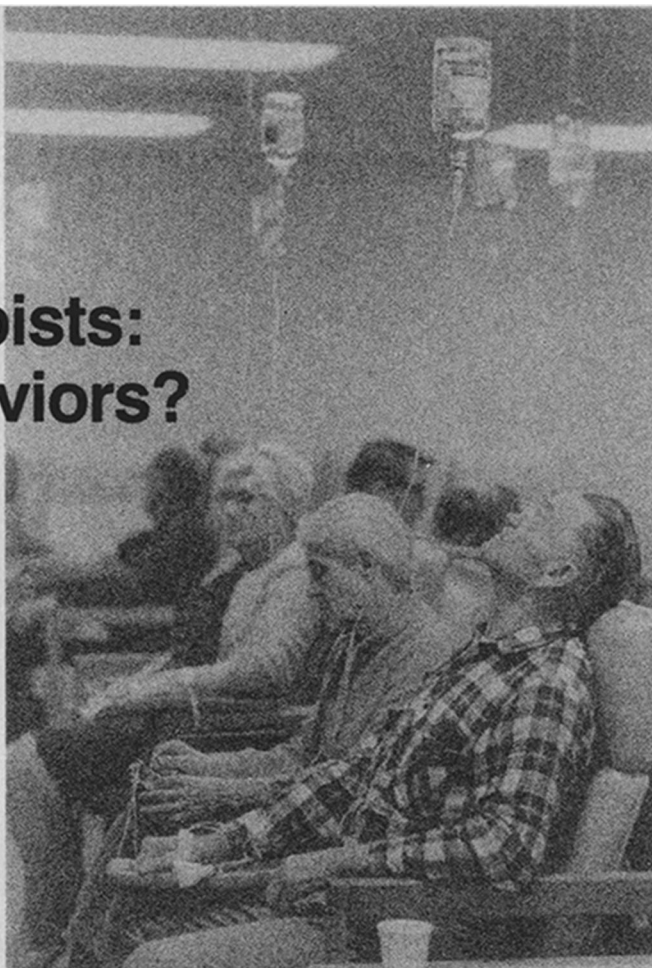
The therapy involves the introduction of a chelating agent, ethylenediamine tetraacetate [EDTA], into a patient's bloodstream for about 20 to 30 four-hour-long sessions. The EDTA purportedly binds to, or chelates, the calcium in atherosclerotic plaques, breaking up the plaques and increasing the diameter of arteries to let blood flow through more easily. The EDTA-calcium complex is then excreted from the body.

Such was the mechanism originally proposed in the mid-1950s to explain how chelation therapy works. But this mechanism, along with the therapy itself, has been discredited by most members of the medical profession, including the American Medical Association, American Heart

Association, American College of Physicians and American Osteopathic Association.

An article in the July 1984 HARVARD MEDICAL SCHOOL HEALTH LETTER explains why: "Even if chelation therapy did take calcium out of atherosclerotic plaques, it does not automatically follow that blood flow would improve as a result. The remaining material—cholesterol, excessive smooth muscle tissue and fibrous scar—would still remain to obstruct blood flow."

Such criticism has led chelation therapists to set aside their original mechanism and propose a free-radical mechanism to explain how the therapy works. (Free radicals are atoms or groups of atoms with an unpaired electron, which makes them extremely reactive.) A Jan. 19 LANCET editorial lends some credence to the free-radical mechanism. It says chelating agents might help limit tissue damage done by oxygen-derived chemical species, such as superoxide free radicals ( $O_2^-$ ) and hydrogen peroxide ( $H_2O_2$ ). These species produce hydroxyl radicals ( $OH^\cdot$ ), which can cause degradation of DNA and destruction of the endothelial cells lining blood vessels. Both processes have been implicated in aging. Hydroxyl production from  $O_2^-$  and  $H_2O_2$  requires iron, the editorial says; thus an agent that removes iron would help prevent the damaging effects of free radicals. Chelating agents do just that.



The editorial mentions desferrioxamine as a chelating agent to help prevent tissue damage from free radicals. It does not mention EDTA, although EDTA is known to chelate iron.

But osteopath Edward McDonagh, founder of the Gladstone clinic and several other clinics throughout the Midwest and South, believes the mechanism holds true for EDTA as well. "Free-radical reactions need metalloenzymes to progress," he says. "Using EDTA to remove the metal is one way of stopping the reactions, and since aging involves the uninhibited production of free radicals, EDTA is one way to help in this regard."

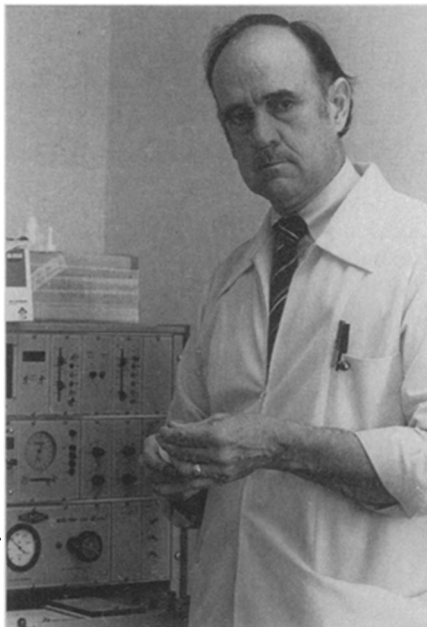
Aside from the fact that a free-radical mechanism is only one of several theories proposed for how aging occurs, the chelation therapists' emphasis on mechanism instead of effectiveness is a sure sign the therapy is a fraud, says William Jarvis, president of the National Council Against Health Fraud in Loma Linda, Calif. Chelation therapists talk about how the therapy works, he says, to make themselves sound more scientific. "Once they start talking mechanism and avoiding the question of safety and effectiveness, that's a tip-off that it's quackery."

Another sign that chelation therapy is a fraud, critics say, is the long list of ailments it is said to help. In his book, *Chelation Can Cure*, McDonagh describes how the therapy can help prevent senility, reverse blindness, treat diabetes, open blocked arteries and exert an anti-aging effect.

Fraudulent or not, chelation therapy is being sought out by many people as an alternative to conventional medical treatments, most notably coronary bypass surgery. "People are being scared by the thought of open-heart surgery into trying a dangerous alternative," says FDA's Brown.

The FDA in 1953 approved EDTA for use in treating heavy metal poisoning, such as lead poisoning, and a rare copper storage disease called Wilson's disease. It did not approve EDTA for the uses proposed by chelation therapists. But because of a loophole in the law regulating use of drugs like EDTA, as long as a practitioner does not mislabel it, the FDA can't stop its use, Brown says. "The product [EDTA] as manufactured and labeled is perfectly fine," he explains. "It's individuals who are violating the law, and the FDA doesn't regulate individuals."

Nonetheless, chelation therapy is generating major lawsuits. Joseph Hoskins of Excelsior Springs, Mo., last year charged McDonagh with negligence and malpractice. Hoskins came to the McDonagh clinic with claudication, a narrowing of leg arteries that causes cramping upon walking. But after receiving chelation treatments, his right leg became gangrenous and had to be amputated. Hoskins's lawyer, James Bartimus of Kansas City, Mo., alleges that McDonagh failed to diagnose Hoskins's



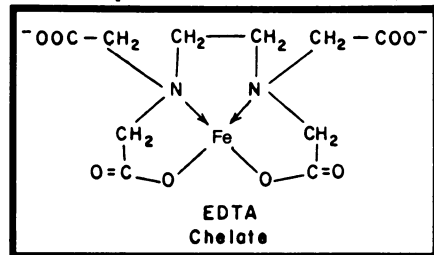
Photos: Betsy Brill

*Edward McDonagh believes chelation therapy can help patients for whom conventional therapies have failed. Clinic patients, opposite page, chat or cogitate while being injected with solutions of EDTA.*

proper condition and, by giving chelation therapy, masked the condition and delayed proper treatment. Hoskins is seeking more than \$1 million in damages.

McDonagh says that such lawsuits are the exception rather than the rule. Like any medical practitioner, chelation therapists are subject to malpractice suits — but because chelation therapy isn't accepted by many standard practitioners, he says, the suits are magnified. "We've been called charlatans and frauds by standard practitioners, but for 22 years, our only source of income has been satisfied patients."

Patients pay a high price, however, for any satisfaction they get from chelation therapy. A standard course of therapy calls for about \$1,000 for preliminary tests "of doubtful value," according to the HARVARD MEDICAL SCHOOL HEALTH LETTER. The McDonagh Medical Center then charges about \$72 for each EDTA treatment. Materials and labor for each treatment cost chelation clinics less than \$15 (\$5 for one dose of EDTA and \$7.50 for nurse supervision, according to the newsletter's estimates). This leaves about \$55 for overhead and profits from one treatment, but



*Claw-shaped EDTA molecules surround and inactivate iron, lead or calcium ions.*

most patients require 20 to 30 treatments. Insurance does not cover the therapy, so patients must pay about \$3,000 for one round of testing and treatments. Many patients undergo a second round of treatments.

What's in it for the price? University of Missouri-Columbia biochemist Boyd O'Dell says the most valuable part of the therapy often can be gotten elsewhere for much less or for free. He's referring to the diet and exercise counseling that goes along with the standard chelation treatments. O'Dell believes that such counseling, along with the motivation clinic personnel provide, is probably more important than the EDTA treatments to any success resulting from chelation therapy. "It's a common trick in this business to bring in some things that are really doing some good, such as good diet, exercise and the attention of a doctor who gives the patient some motivation."

Is there anything to lose? Quite a bit, according to many physicians and scientists. Chelation therapy can prevent patients from seeking out conventional treatments that might do them some good, O'Dell says. In some cases, the therapy causes permanent damage. The Oct. 5, 1984 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION recorded the case of a 70-year-old man with renal insufficiency who sought treatment at a chelation therapy center for circulatory problems. He was given 2.5 grams of vitamin C in solution for five hours in preparation for the therapy. The treatment resulted in excessive production of oxalate, which accumulated as kidney stones, requiring that the patient be on dialysis for the rest of his life.

Chelation therapy has been compared to laetrile, the now-discredited cancer therapy, in that it gives people a false sense of security and its promoters a large income. But John Renner, president of the Kansas City (Mo.) Committee Against Nutrition Fraud and Abuse, believes chelation therapy will exceed laetrile "in misery and money." Unlike laetrile, EDTA is legal and approved by the FDA, and is thus more readily accessible, Renner points out. In addition, promoters of laetrile accumulated their income all at once because of the sudden waxing and waning of the treatment, Jarvis says, but promoters of chelation therapy stand to gain much more by building up their incomes over several years.

Like laetrile, chelation therapy seems to be a modern version of patent medicines of old. No longer hawked on the streets, and more sophisticated than herbals and exotic mixtures, chelation therapy nonetheless appeals to those looking for a quick and easy fix to medical problems. "Some of us would like to avoid aging and disease," O'Dell says, "and people are very vulnerable to looking for easy answers. It's difficult for people to see that it's not magic." □