New backing for an old cure

Magnetic fields can reduce swelling, a study suggests

BY BRIAN McNEILL
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CHARLOTTESVILLE — Ancient Greek physicians believed that magnetic rings could treat arthritis. The Middle Ages alchemist Paracelsus claimed he could heal patients by passing magnets over their bodies. And during the Civil War, rural healers used magnets to treat wounds and ailments.

A new study by biomedical engineering researchers at the University of Virginia suggests that magnetic fields can reduce swelling when applied immediately after injury.

"This area of medicine is thousands of years old," said Thomas Skalak, professor and chairman of biomedical engineering at U.Va. "Our research is among the first scientific evidence that a static magnetic field can lead to a reduction or prevention of swelling."

Skalak and former doctoral student Cassandra Morris tested their theory on rodents.

They applied inflammatory agents to the anesthetized hind paws of rats, simulating the conditions of a tissue injury. Then, under a microscope, they observed the paws' swelling decrease when they applied magnets to the injury. The magnets were about 10 times stronger than a typical refrigerator magnet.

The results of the study, published in the American Journal of Physiology, indicate that magnet therapy could be useful in treating everyday bumps, bruises and sprains. Skalak envisions a time when magnetic devices could be applied to common injuries, much like ice packs.

Muscle bruising and sprains are the world's most prevalent injuries. By reducing or preventing swelling, Skalak said, an injury can heal faster.

"This could have a huge set of applications to a huge set of the population," he said. "It could seriously improve a person's quality of life."

Skalak's research into magnets is financed by an $875,000 grant from the National Center for Complementary and Alternative Medicine at the National Institutes of Health.

Originally, Skalak's research team sought to investigate whether magnets could increase blood flow, a common claim by medical magnet manufacturers.

The U.S. Food and Drug Administration has not approved the marketing of any magnets that make claims to benefit health.

Yet belief in the medical use of magnets has persisted. According to the NIH, a 1999 study found that 18 percent of patients with rheumatoid arthritis, osteoarthritis or fibromyalgia had tried magnets or copper bracelets. Nationally, the medical magnet market is estimated to be worth about $500 million annually. The worldwide market, according to the NIH, is closer to $5 billion.

Ann Gill Taylor, a U.Va. nursing professor and director of the university's Center for the Study of Complementary and Alternative Therapies, has researched the power of magnets in treating chronic pain. She expects additional research will validate Skalak's findings.

"While this research is in its infancy, in terms of the number of studies conducted, with repeated work we're going to see that others will observe the same results that Dr. Skalak found in his laboratory."

• Brian McNeill is a staff writer at the Daily Progress in Charlottesville.