



Dr. Kirk Bucon, left, and Dr. Stan Wehn consult over MRI films of athlete Tim Fearon.

Picture of Health

When friends persuaded 45-year-old Tim Fearon to run his first marathon, he jumped right into training. But as his daily mileage climbed, the avid cyclist and mountain climber found himself overcome by hip pain.

Mr. Fearon, a physical therapist, reasoned he had developed tendinitis from "simply overdoing it." He decided to stretch more diligently and back off his routine. Just to be sure the problem wasn't more serious, he visited his physician and had a hip x-ray. However, the x-rays were completely normal. Fearon left his physician's office after receiving a steroid injection to reduce the ache and inflammation. "As an athlete," he told himself, "you have to expect some pain." He continued training for the marathon.

Unfortunately, the pain intensified until he could barely walk. Becoming increasingly concerned and frustrated with conservative therapy, Mr. Fearon and his physician decided to proceed by arranging for the ultimate bone and joint scanning test—magnetic resonance imaging, better known as MRI. Mr. Fearon was referred to Valley Radiologists Ltd., one of the oldest and largest diagnostic imaging practices in the valley. The group's 31 radiologists, working out of four hospitals (networking with the use of highspeed digital teleradi-

ology displays) and 11 outpatient clinics, service the community with seven high-field strength MRI scanners.

Director of MRI for Valley Radiology, **Kirk Bucon, M.D.**, specializes in using MRI to pinpoint musculoskeletal problems and such sports injuries as: a torn knee meniscus, an injured rotator cuff in the shoulder, a herniated disc in the spine. "MRI is one of the greatest medical technological advances of the century," states Dr. Bucon. After training with one of the early gurus in the field, Dr. Bucon is not only an expert in musculoskeletal imaging, but passionate about the future of MRI and its application to all sorts of various medical problems. He notes, "Due to its superb sensitivity and specificity, MRI provides greater soft tissue contrast than any other imaging modality, enabling us to detect problems earlier." He adds, "Increasingly, MRI is the examination of choice in many disease processes."

As its name suggests, MRI relies on a powerful magnet to produce images. The main magnet aligns the hydrogen protons in the body while extra energy is supplied by simple radio waves. When the radio waves are turned off, the "excited" protons give back their energy. This energy is then detected by receivers or "coils" in the scanner. This information is rapidly processed to develop both two and three-dimensional

images. Radiologists can adjust the timing and frequency of the radio waves in varying "pulse sequences." In this way, specific protocols can be designed for each patient and problem.

In Mr. Fearon's case, Dr. Bucon used a pulse sequence called fat suppressed inversion recovery, making bone abnormalities particularly visible. Dr. Bucon detected a subtle stress fracture, a potentially destructive injury, inside the otherwise intact bone. Had Mr. Fearon continued running, he would have risked further damage to his hip. "I left on crutches and kept off the leg for 6 months," Mr. Fearon says with relief. "The MRI gave me invaluable information."

Neuroradiologist **Stan Wehn, M.D.**, Medical Director at Palm Valley MRI, one of Valley Radiologist's expanding offices notes, "The reassurance that an MRI can provide is often the turning point in a patient's care." As a former United States Air Force family physician, who later sub-specialized in neuroradiology at Duke University, Dr. Wehn is especially well poised to understand the role that present day MRI technology can play in the everyday workup of common problems. "MRI has profoundly changed how we manage patients," he remarks.

"MRI gave me invaluable information," says Tim Fearon, who was able to resume his pastime.

Not long ago, patients with neurological symptoms such as severe headaches, dizziness and seizures, underwent painful and risky procedures in order to determine a diagnosis. Now, MRI offers a better solution: With precise imaging, the radiologist can visualize many problems before they become life threatening. Techniques that demonstrate blood flow in carotid arteries can predict whether plaque in the vessels puts the patient at risk for a stroke. Deep within the brain, abnormalities such as aneurysms, abscesses and tumors can be detected when they are very small or early in their development. The beauty of MRI, Dr. Wehn explains, "rests in the ability to create images in three dimensions, giving the best possible view in exquisite anatomical detail."

The 15 to 40 minute test is more versatile than a CT scan and uses none of the radiation of x-rays. Patients can listen to stereo-music during the procedure in order to relax. For those patients who suffer from claustrophobia, Valley Radiologists offer a "large bore" MRI scanner, which has a roomier patient space but does not compromise image quality or clarity. "What's best about MRI," Dr. Wehn emphasizes, "is that most of the time, the test serves to reassure anxious patients and their physicians." He adds, "The news is often good." For information or referrals: (623)535-0917 ■

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