



ARTHRITIS

VA researchers are working to understand the biological causes of osteoarthritis and rheumatoid arthritis, which together affect more than 28 million Americans. Research also includes understanding risk factors for the diseases, the most effective medical and rehabilitation strategies, and the risks and outcomes of joint replacement surgery. Among the VA sites conducting important work in this area is the Bone and Joint Rehabilitation Center of Excellence, based at the VA Palo Alto Health Care System.

EXAMPLES OF VA RESEARCH ADVANCES

PACING ACTIVITIES TO REDUCE PAIN—Ann Arbor VA researchers are conducting a trial that tests activity pacing in people with osteoarthritis. This is a strategy to plan rest breaks during the day, which helps to avoid arthritis flare-ups. A pilot study showed that tailored activity pacing reduced fatigue and made daily activities easier. The full-scale trial will include 156 people, randomized to receive usual care or activity pacing. One activity-pacing group will receive three tailored occupational therapy sessions; the other will receive three general OT sessions. The activity-pacing groups also will receive follow-up phone calls. After six months, the researchers will evaluate fatigue, pain, and physical activity levels in all three groups.

TNF-ALPHA INHIBITORS NOT LINKED WITH HEART PROBLEMS—St. Louis VA researchers analyzed data from nearly 21,000 Veterans with rheumatoid arthritis to see if those who used TNF-alpha inhibitors had increased risks of heart problems or death. They found no increased mortality risk in any age group. They also found no increased risk of heart problems; in fact, in patients younger than 63, those using TNF-alpha inhibitors had a 10 percent lower risk of heart problems, including heart failure, atherosclerosis, and peripheral artery disease. TNF-alpha inhibitors are commonly used in rheumatoid arthritis treatment; three are currently approved for use in the United States.

IMMUNE SYSTEM CHANGES MAY LEAD TO OSTEOARTHRITIS—Researchers led by a Palo Alto VA team have found that the complement system plays a role in the development and spread of osteoarthritis. The complement system is part of the body's immune system; it normally protects the body from harmful bacteria and viruses. This study discovered that one part of the complement system, called the membrane attack complex, is formed and activated in the joints of humans and mice affected by osteoarthritis. Researchers believe that the activation leads to low-grade inflammation and the production of enzymes that break down cartilage, resulting in osteoarthritis. This study and others like it are changing the paradigm of how osteoarthritis begins; in the past, scientists believed osteoarthritis resulted from years of wear and tear.

- ★ **FACTS ABOUT ARTHRITIS**—*Osteoarthritis, or degenerative joint disease, is the most common form of arthritis. According to the Arthritis Foundation, it affects up to 27 million Americans, most of them elderly. Symptoms include pain, stiffness and swelling in the joints. Scientists once thought the disease resulted from years of use of the joints; now they are exploring a complex web of biological factors that may contribute to cartilage breakdown. Rheumatoid arthritis affects about 1.3 million Americans. In this disease, the body's immune system attacks its own joint tissue, causing inflammation. Rheumatoid arthritis can result in the destruction of cartilage and bone. Researchers believe the damage begins early in the disease process, so early diagnosis and treatment are important.*