

KEY WORDS

Acupuncture; The use of fine needles inserted at specific points on the skin. Primarily used for pain relief, acupuncture may be a helpful component of an osteoarthritis treatment plan for some people.

Analgesics; Medications designed to relieve pain. Pure analgesics do not have an effect on inflammation.

Anti-CCP antibodies; Antibodies to cyclic citrullinated peptide. A positive test for the antibodies is useful for confirming a diagnosis of rheumatoid arthritis. In fact, tests for the antibodies can be positive years before the development of symptoms.

Apoptosis; Programmed cell death. This is a mechanism by which the body rids itself of old or unhealthy cells. A problem with this mechanism can allow cells that react against the body's own tissues to survive.

Arthrodesis; A surgical procedure that involves removing the joint and fusing the bones into one immobile unit, often using bone grafts from the person's own pelvis. Although the procedure limits movement, it can be useful for increasing stability and relieving pain in affected joints. The most commonly fused joints are the ankles and wrists and joints of the fingers and toes.

Arthroscopy; A procedure involving a small incision that removes loose pieces of bone and cartilage from the joint.

Autoimmune disease; A disease in which the immune system, which is designed to protect the body from foreign invaders, mistakenly sees the body's own tissues as foreign and makes autoantibodies against them, leading to tissue destruction.

Biologic response modifiers; Genetically engineered medications that help reduce inflammation and structural damage to the joints by interrupting the cascade of events that drive inflammation.

Biomarkers; Physical signs or biological substances that indicate changes in bone or cartilage. Doctors believe that one day they may be able to use biomarkers to diagnose osteoarthritis before it causes noticeable joint damage and to monitor the progression of the disease and its responsiveness to treatment.

Bone spurs; Small growths of bone that can occur on the edges of a joint affected by osteoarthritis. These growths are also known as osteophytes.

Bouchard's nodes; Small, bony knobs associated with osteoarthritis of the hand that can occur on the middle joints of the fingers.

C-reactive protein; A protein produced by the body during the process of inflammation. A positive blood test for the protein indicates the presence of inflammation in the body. The

test may be used in diagnosing rheumatoid arthritis and monitoring disease activity and the response of treatment.

Cartilage; A tough, elastic tissue that covers the ends of the bones where they meet to form joints. In rheumatoid arthritis, the inflamed synovium invades and destroys joint cartilage.

Cartilage; A hard but slippery coating on the end of each bone. The breakdown of joint cartilage is the primary feature of osteoarthritis.

Collagen; A family of fibrous proteins that are components of cartilage. Collagens are the building blocks of skin, tendon, bone, and other connective tissues.

Corticosteroids; Powerful anti-inflammatory hormones made naturally in the body or made by humans for use as medicine. Corticosteroids may be taken orally to relieve the systemic inflammation of rheumatoid arthritis or injected directly into an inflamed joint to temporarily reduce inflammation and relieve pain.

COX-2 inhibitors; A subclass of nonsteroidal anti-inflammatory drugs (NSAIDs) that are formulated to relieve pain and inflammation with less risk of gastrointestinal ulcers.

Chondrocytes; Components of cartilage. Chondrocytes are cells that produce cartilage, are found throughout cartilage, and help it stay healthy as it grows. Sometimes, however, they release certain enzymes that destroy collagen and other proteins.

Chondroitin sulfate; A naturally existing substance in joint cartilage that is believed to draw fluid into the cartilage. Chondroitin is often taken in supplement form along with glucosamine as a treatment for osteoarthritis.

Diabetes; A disease that affects the body's ability to produce or use insulin, resulting in an inability to control the level of sugar in the blood. If not properly treated, high blood sugar levels eventually can lead to problems such as kidney disease, heart disease, and blindness.

Dietitian; A health professional who teaches ways to use a good diet to improve health and maintain a healthy weight.

Disease-modifying antirheumatic drugs (DMARDs); A class of medications used in the treatment of rheumatoid arthritis. DMARDs do more than ease the symptoms of rheumatoid arthritis, like some other treatments. They often slow or stop the course of the disease to help prevent joint damage.

Erythrocyte sedimentation rate ("sed rate"); A blood test used to detect and monitor inflammation. It is measured by recording the rate at which red blood cells fall and form sediment at the bottom of a test tube.

Estrogen; The major sex hormone in women. Estrogen is known to play a role in regulation of bone growth. Research suggests that estrogen also may have a protective effect on cartilage.

Flare; A period of heightened disease activity. In rheumatoid arthritis, a flare may be characterized by increased fatigue; fever; and painful, swollen, and tender joints.

Glucosamine; A substance that occurs naturally in the body, providing the building blocks to make and repair cartilage.

Heberden's nodes; Small, bony knobs associated with osteoarthritis of the hand that can occur on the joints of the fingers closest to the nail.

Hyaluronic acid; A substance that gives healthy joint fluid its viscous (slippery) property and that may be reduced in people with osteoarthritis. For some people with osteoarthritis of the knee, replacing hyaluronic acid with injections of agents referred to as viscosupplements is useful for increasing lubrication, reducing pain, and improving function.

Hydroxychloroquine; An anti-inflammatory drug used in the treatment of rheumatoid arthritis, malaria, and lupus.

Immune system; A complex network of cells and tissues that work in concert to protect the body against invaders such as viruses and bacteria.

Joint capsule; A tough membrane sac that holds the bones and other joint parts together.

Joint resurfacing; A procedure in which the damaged cartilage surfaces are replaced while the rest of the joint is left intact.

Ligaments; Tough bands of connective tissue that attach bones to each other, providing stability.

Lupus; A chronic inflammatory condition in which the immune system attacks the skin, joints, heart, lungs, blood, kidneys and brain. Also called systemic lupus erythematosus.

Magnetic resonance imaging (MRI); Provides high-resolution computerized images of internal body tissues. This procedure uses a strong magnet that passes a force through the body to create these images.

Muscles; Bundles of specialized cells that contract and relax to produce movement when stimulated by nerves.

Nonsteroidal anti-inflammatory drugs (NSAIDs); A class of medications available over the counter or with a prescription that ease pain and inflammation. Commonly used NSAIDs include ibuprofen (Advil, Motrin), naproxen sodium (Aleve), and ketoprofen (Orudis, Oruvail).

Nurse educator; A nurse who specializes in helping patients understand their overall condition and implementing their treatment plans.

Occupational therapist; A health professional who teaches ways to protect joints, minimize pain, perform activities of daily living, and conserve energy.

Orthopedist; A surgeon who specializes in the treatment of, and surgery for, bone and joint diseases. Also called an orthopedic surgeon.

Osteoarthritis; The most common form of arthritis. It is characterized by the breakdown of joint cartilage, leading to pain, stiffness, and disability.

Osteophytes; Small growths of bone that can appear on the edges of a joint affected by osteoarthritis. These growths are also known as bone spurs.

Osteotomy; A procedure that involves cutting and realigning bone to shift the weight from a damaged and painful bone surface to a healthier one.

Proteoglycans; Components of cartilage. Made up of proteins and sugars, strands of proteoglycans interweave with collagens and form a mesh-like tissue. This allows cartilage to flex and absorb physical shock.

Pericarditis; Inflammation of the pericardium, the thin sac-like membrane that surrounds the heart. Pericarditis can be caused by rheumatoid arthritis.

Physical therapist; A health professional who works with patients to improve joint function.

Pleurisy. Inflammation of the pleura, the lining surrounding the lungs. Pleurisy can be caused by rheumatoid arthritis.

Psychologist; A health professional who seeks to help patients cope with difficulties in the home and workplace that may result from their medical conditions.

Rheumatoid arthritis; A form of arthritis in which the immune system attacks the tissues of the joints, leading to pain, inflammation, and eventually joint damage and malformation. It causes swelling and redness in joints and may make people feel sick, tired, and feverish. Rheumatoid arthritis also may affect skin tissue, the lungs, the eyes, or the blood vessels. It typically begins at a younger age than osteoarthritis does, causes swelling and redness in joints, and may make people feel sick, tired, and feverish. Rheumatoid arthritis also may affect skin tissue, the lungs, the eyes, or the blood vessels.

Rheumatoid factor; An antibody that is present eventually in the blood of most people with rheumatoid arthritis. Not all people with rheumatoid arthritis test positive for rheumatoid factor, and some people test positive for rheumatoid factor, yet never develop the disease. Rheumatoid factor also can be positive in persons with some other diseases.

Synovectomy; Removal of the synovium (joint lining). As a treatment for rheumatoid arthritis, a synovectomy is much less common than it once was because not all of the tissue can be removed, and it eventually grows back. Synovectomy is done as part of reconstructive surgery, especially tendon reconstruction.

Synovium; A thin membrane inside the joint capsule that secretes synovial fluid. In persons with rheumatoid arthritis, the synovium is attacked by the immune system.

Synovial fluid; A fluid secreted by the synovium that lubricates the joint and keeps the cartilage smooth and healthy.

Stem cells; Primitive cells, usually taken from bone marrow, that can transform into other kinds of cells, such as muscle or bone cells. In the future, researchers hope to be able to insert stem cells into cartilage and stimulate them to replace cartilage damaged by arthritis or injury.

Transcutaneous electrical nerve stimulation (TENS); A technique that uses a small electronic device to direct mild electric pulses to nerve endings that lie beneath the skin in a painful area. TENS may relieve some arthritis pain. It seems to work by blocking pain messages to the brain and by modifying pain perception.

Tendons. Tough, fibrous cords that connect muscles to bones.

Vasculitis; Inflammation of the blood vessels. Vasculitis can occur as a complication of rheumatoid arthritis.

X-ray; A procedure in which low-level radiation is passed through the body to produce a picture called a radiograph. X-rays of joints affected by rheumatoid arthritis are used to determine the degree of joint destruction. X-rays of joints affected by osteoarthritis can show such things as cartilage loss, bone damage, and bone spurs.

Reference

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), Information Clearinghouse, National Institutes of Health, NIH Publication No. 10-4617.

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