

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: SCORPION VENOM TREATS ARTHRITIS?
REPORT: MB #4857

BACKGROUND: Arthritis is inflammation of a joint, where two bones meet, with symptoms like pain, stiffness, and swelling in the joints and surrounding tissues. There are over 100 types of arthritis, but two that are the most common: osteoarthritis and rheumatoid arthritis. Affecting more than 32 million U.S. adults, mostly elderly, osteoarthritis is the most common type. It is the “wear and tear” form of the disease in which the protective cartilage that cushions the ends of your bones slowly wears away. The second most common type, affecting 1.3 million people in the U.S., is rheumatoid arthritis. With this, the body's immune system misfires and starts to attack the joints (autoimmune disease). It generally starts between ages 30 and 50 and affects women two to three times more often than men.

(Source: <https://www.webmd.com/arthritis/understanding-arthritis-basics>)

SYMPTOMS AND TREATMENTS: The main symptom of osteoarthritis is pain in the joints that worsens over time. It is most common in the hands, knees, hips, and spine. Symptoms tend to build up slowly over years as cartilage wears away and bone starts to rub on bone. This can change the shape and appearance of a joint over time. In serious cases, bony growths called spurs may cause painful nerve damage. Rheumatoid arthritis causes pain and swelling in the joints of the hands, especially the knuckles. You may also notice pain and swelling in the wrists, elbows, shoulders, knees, and feet.. The nature of treatment depends on which symptoms or complications you have. Changes in diet, lifestyle, and exercise may help. It's important to consult with your doctor and agree on a plan to manage the arthritis. This could include prescriptions or over-the-counter medicines along with heat, ice, physical therapy, injections, and joint supporting devices like braces.

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NEW MINI PROTEIN TO AID IN ARTHRITIS RELIEF: Scientists at Fred Hutchinson Cancer Research Center identified a tiny protein in scorpion venom that accumulates in joint cartilage. They linked these mini proteins with steroids to reverse inflammation using rats with arthritis. They found the drugs concentrated in the joints, potentially avoiding the body-wide toxicities and infection risks caused by nontargeted steroid treatment. Dr. Jim Olson, a member of the Clinical Research Division said, "Steroids like to go everywhere in the body except where they're needed most. This is a strategy to improve arthritis relief with minimal systemic side effects." He added, "We think that steroids have important potential as a candidate for clinical development and we're actively exploring other payloads that could be delivered to the joints. The long-term goal is to deliver molecules that go beyond controlling arthritis to actually reversing it."

(Source: https://www.eurekalert.org/pub_releases/2020-03/fhcr-tsp022820.php)

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com