Relief With Topical Analgesics

If you have mild to moderate osteoarthritis, over-the-counter creams and ointments may help ease the pain.

Topical analgesics are nonprescription products that are applied to the skin over an aching joint to provide temporary relief of pain. They can be useful for people with mild to moderate osteoarthritis pain who experience inadequate pain relief with acetaminophen (Tylenol) or wish to avoid the side effects of oral pain relievers.

The three main types of topical analgesics are counterirritants, salicylates, and capsaicin; combination products are also available. They are usually sold as creams, gels, or ointments that are gently rubbed into the skin, but sprays and patches are also available.

Topical nonsteroidal anti-inflammatory drugs such as ketoprofen, felbinac, ibuprofen, and piroxicam are popular in Europe and the United Kingdom but have yet to become commercially available in the United States.

Counterirritants

Counterirritants contain such ingredients as menthol, camphor, eucalyptus oil, and turpentine oil. When applied to the skin over an affected joint, they mask pain by producing a warm or cool sensation. These preparations can be applied to the skin three or four times a day. A frequent side effect is reddening of the skin, which is harmless and temporary.

Salicylates

Oral salicylates (aspirin) and topical salicylates, such as trolamine salicylate or methyl salicylate, reduce pain and inflammation by inhibiting the release of prostaglandins. An analysis in the *British Medical Journal* concluded that topical preparations relieve pain more effectively than a placebo, but it is unknown how they compare with oral pain medications.

Salicylates can be applied to the skin up to four times a day. Because some of the medication is absorbed into the body, people who are sensitive to aspirin or other salicylates or are taking medication that might interact with them—for example, warfarin (Coumadin)—should use these creams with caution. Symptoms of salicylate toxicity, including ringing in the ears, blurred vision, and shortness of breath, should be reported to a doctor.

Capsaicin

Other topical preparations contain capsaicin, the compound that gives hot peppers their "bite." This compound reduces the amount of a neurotransmitter called substance P, which is thought to release inflammation-causing enzymes and possibly trigger pain impulses to the brain. The ointment should be applied to affected joints three or four times a day. It usually takes one to two weeks for pain to diminish, although up to six weeks of treatment might be required for maximum benefit. Pain quickly returns after capsaicin is discontinued. Burning, stinging, and redness occur in 40% to 70% of people, but these side effects usually diminish after several days of use.

General Precautions

Topical treatments for joint pain are not dangerous and have few side effects, but some precautions apply. The medications are for external use only and should not come in contact with the eyes, nose, mouth, or any open skin. The products should be used no more than three or four times a day and should be discontinued immediately if severe irritation develops. If symptoms do not improve after seven days, most manufacturers recommend discontinuing the product and seeing a doctor. In addition, many of the products come with warnings not to bandage or apply heat to a treated area.

Some topical preparations also contain glucosamine or chondroitin, but there is no evidence that these compounds have any effect on osteoarthritis when applied to the skin. A recent randomized controlled study of 63 people found that one such preparation was more effective than placebo in relieving the pain of knee OA within four weeks, but this effect was most likely explained by the product's active ingredient: camphor. This study was published in March 2003 in *The Journal of Rheumatology.*

Common Brands

The following are some common brands of topical analgesics. All are available over the counter.

Counterirritants:
- Flexall 454 Maximum Strength Gel
- Therapeutic Mineral Ice

Combination products:
- ArthriCare
- BenGay
- Flexall 454 Ultra Plus Gel
- Icy Hot Chill Stick

Salicylates:
- Aspercreme
- Sportscreme

Capsaicin:
- Capzasin-HP
- Capzasin-P
- Zostrix
- Zostrix-HP

times more women than men. The disease strikes multiple joints as well as other tissues and organs throughout the body. Although symptoms begin most often between ages 20 and 40, RA may develop at any age.

RA is an autoimmune disorder. Such disorders result when the body initiates an immune response against some natural body constituent mistakenly recognized as foreign. The joint damage caused by RA begins with inflammation of the synovial membrane that lines the joint. The inflammation leads to a thickening of the synovial membrane (pannus) due to overgrowth of synovial cells and accumulation of white blood cells. Release of enzymes and growth factors by the white blood cells, along with continuing growth of the pannus, can erode cartilage as well as bones, tendons, and ligaments within the joint capsule. As RA progresses, the production of excess tissue can further limit joint motion. Inflammation of tissues surrounding the joint also contributes to joint damage.

CAUSES OF RHEUMATOID ARTHRITIS

The exact cause of RA is unknown. Genetics play some role, since certain people inherit a susceptibility to the disease. There may also be an environmental factor that triggers RA, such as a virus or bacterium. Some studies have linked RA with cigarette smoking. A 2002 study found that the rate of new cases of arthritis has decreased steadily over the last 40 years, lending support to the hypothesis that a changing environmental factor may promote or protect against RA. For example, it is possible that birth control pills or hormone replacement therapy might offer some protection against RA, although not all studies have borne out this theory.

SYMPTOMS OF RHEUMATOID ARTHRITIS

Most often the onset of RA is marked by fatigue, weakness, low-grade fever, or loss of appetite and weight. Such symptoms may or may not be accompanied by mild joint stiffness or pain. When present, stiffness is most prominent in the morning and improves during the day. The period of stiffness lengthens when the disease is more active and tends to increase after strenuous activity.

The joints that most often become inflamed (red, warm, swollen, and painful) are those of the finger, wrist, knee, ankle, or toe—typically on both sides of the body. This symmetric pattern and the signs of inflammation distinguish RA from OA. Also, unlike OA, the joints

NEW RESEARCH

Antioxidant and Zinc May Reduce Risk of RA

Eating a diet rich in the antioxidant beta-cryptoxanthin and taking zinc supplements may reduce the risk of developing rheumatoid arthritis (RA), according to preliminary research.

Previous studies have suggested that antioxidants may offer some protection against RA, but this research is the first to look specifically at beta-cryptoxanthin, a carotenoid found in foods such as oranges and grapefruit juice. It is also the first study to evaluate the role of zinc in the development of RA.

The study included nearly 30,000 women (age 55 to 69) who filled out dietary questionnaires in 1986 as part of the Iowa Women's Health Study. When the women were contacted up to eleven years later, 152 of them had been diagnosed with RA.

Women with the highest dietary intake of beta-cryptoxanthin were 41% less likely to develop RA than those with the lowest intake. Those who took at least 15 mg a day of zinc supplements were 61% less likely to develop RA than those who did not take supplemental zinc.

Antioxidants such as beta-cryptoxanthin are hypothesized to protect against tissue damage in RA, while zinc plays a role in immune function. But until more is known, doctors do not recommend any dietary measures to prevent RA.

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