



Universal Chiropractic & Rehabilitation

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ICE & HEAT USAGE IN SOFT TISSUE INJURIES

INTRODUCTION:

The term soft-tissue injury is used to differentiate between a strain or sprain (stretch or tear) of the soft tissues (muscle, ligament, joint capsule, tendon and fascia) and a hard tissue (bone) injury (fracture or bone bruise) following a trauma. Pain is usually the result of soft-tissue irritation from swelling and muscle spasm. Temperature therapy is often beneficial through all phases of recovery, however, the timing and frequency of ice, heat and contrast (combined) therapy is critical. Patients often use heat when they should use ice and this ultimately leads to a delay in healing and recovery process.

ACUTE PHASE: (Ice Therapy)

When a soccer player rolls his ankle to the outside or someone is injured at work or in a car accident, the forces on the muscles and ligaments can stretch and tear the tissues. The stretching and tearing of soft-tissues results in an immediate increase in blood flow to the traumatized area leading to swelling, pain and muscle spasms. The appropriate form of the therapy is to **"ICE"** with local application of **I**ce, **C**ompression and **E**levation of the injured limb combined with rest of the injured tissues.

SUB-ACUTE PHASE: (Contrast therapy – Heat, Mobilize, Ice)

After the soft-tissue swelling is under control and the injured tissues are in the early stages of healing, we begin to utilize "contrast" therapy consisting of alternating heat and ice. The concept of using heat with soft-tissue lengthening followed by ice is a powerful tool in facilitating a quick recovery from a soft-tissue injury. This helps increase blood flow bringing nutrients in the region, eliminating debris and waste products, and increasing joint and muscle mobility. This leads to healthier scar-tissue formation and decreased pain levels.

CHRONIC/ON-GOING PHASE:

Some patients end up with a chronic or on-going musculo-skeletal condition stemming from scar-tissue build-up or from underlying osteoarthritis in the joints. Whatever the combination, heating the tissues either with moist heat or aerobic exercise combined with stretching and mechanical therapy can help improve mobility and comfort levels in chronic musculoskeletal conditions. Low impact exercise such as swimming, walking or bicycling, help elevate tissue temperature and improve mobility without further irritation to the joints and soft-tissues.

FLARE-UP: (Ice Therapy)

In the case of a flare-up, no acute trauma may occur. The already compromised soft-tissues can become "irritated" or mildly strained in a variety of ways, including turning the wrong way, bending or lifting incorrectly, repetitive movements or staying in one position too long. Flare-ups should be treated with **ICE**, the same way a new injury is, to alleviate the swelling and irritation to the region

ICE THERAPY

The following is general advice for ice therapy in the acute or flare-up phase.

1. Ice for 15 to 20 minutes on or until the area is numb to sensation. Feeling localized cold, burning, aching then numbness is the normal response to the ice. We recommend that once the area is numb, leave the ice on for an additional 5 minutes. The thicker the tissue, the longer the process takes. So generally, your trunk region will take longer to numb than your arms, legs or neck. When applying ice, use a thin layer of clothing between your skin and the ice to prevent frostbite. T-shirt thickness or a paper towel is thick enough.
2. Apply the ice for 20 minutes followed by at least 20 minutes off and repeat that 4-5 times per day for 2-3 days (24-72 hours) depending on the severity of the injury.
3. Ice packs come in a variety of forms. Frozen peas or corn in a bag work well because of the flexibility of the pack but may be messy if they leak. Flexible re-freezable gel packs work very well, can last for years and are not messy. Ice cubes are the least desirable because they are hard to mold to the injured area and are messy. "Blue Ice" (used in ice chests) is not good because they are much too cold and there is greater potential for frostbite.

CONTRAST THERAPY

1. Start with moist heat for 10-20 minutes, then use gentle self-massage or gentle stretching of the area followed by 10-20 minutes of ice.
2. For moist heat, use a moist heating pad, a "Bed Buddy" (flax seed or rice seed bag) heated in the microwave, a damp towel heated in the microwave, a hot bath or Jacuzzi.
3. Use ice as indicated above.

AEROBIC EXERCISE FOR HEATING TISSUES

1. Non-force aerobic activities, such as walking, swimming or bicycling are very good for general overall increase in tissue temperature. The aerobic activity helps to flush waste products from the tissues, brings in nutrients to all the cells and helps with an overall sense of well-being.
2. If you are not used to doing any exercise, start slowly by walking 5 minutes at a time four times a day. Make note of how far you go in that 5 minutes. The following week see if you can speed up your pace just slightly so that you go a little further in 5 minutes. Once you feel like you're walking at a good pace, increase the amount of time that you are walking by 1 minute every 3-4 days. Continue to increase the time by one minute until you are walking 20 minutes at a time 3 times a day.