

## HEAT (THERMOTHERAPY) VS. COLD (CRYOTHERAPY)

While heat and cold have been used extensively to treat injuries and pain, there is often a great deal of confusion about which to use and when. In general, ice is used to treat acute inflammatory conditions up to approximately two weeks post-onset. Heat is typically most effective for *subacute* and *chronic* conditions from two weeks to many months post-onset. While both modalities yield similar clinical results such as the reduction of pain and muscle spasm, *cold* tends to relieve pain by slowing nerve conduction and reducing the swelling, edema, and joint effusion of an acute injury while heat tends to relieve the pain of more chronic conditions by promoting relaxation, increasing the circulation of healing substances to injuries, and increasing the extensibility of connective tissues. This is due to the basic differences in the in the physiological effects of heat and cold:

### Cold

Vasoconstriction  
Increased blood viscosity  
Decreased lymphatic drainage  
Decreased nerve conduction  
Decreased tissue metabolism

### Heat

Vasodilation  
Decreased blood viscosity  
Increased lymphatic drainage  
Increased nerve conduction  
Increased tissue metabolism

## INDICATIONS

### Cold

Edema Control  
Contusions  
Sprains and Strains  
Muscle Spasms  
Tendonitis, Bursitis  
Pain Management  
Control Hemorrhage  
Myofascial Pain

### Heat

More Chronic Sprains/Strains  
Adhesive Capsulitis  
Joint Contractures  
Muscle Spasms  
Chronic Tendonitis/Bursitis  
Pain Management  
Promote Relaxation  
Increase Tissue Pliability

## PRECAUTIONS

1. Don't use heat or cold over areas of impaired sensation to avoid burns or frostbite
2. Don't use heat or cold over areas of impaired circulation
3. Don't use cold if you have severe cardiovascular or respiratory problems
4. Don't use heat if you have deep vein thrombosis (blood clots)
5. Don't use cold over areas where you've had previous frostbite
6. Don't use heat over skin or lymphatic cancer, skin infection, or open wounds