



Modalities at home: Ice v. Heat

Ice and heat are common modalities used to help heal orthopedic injuries but how do you decide which is best to use? There are several things to take into consideration when deciding which modality will best help achieve your treatment goals.

Is the injury Acute or Chronic?

- **Acute:** Recent onset of an injury (< 48 hours). During the acute phase of an injury the body's inflammatory response is active and ice is the preferred modality to prevent swelling that can cause pain. During the first 24-48 hours following an injury, the RICE principal should be followed and is described later in this article.
- **Chronic:** Injuries that continue for a long period of time. During the chronic phase of an injury both ice and heat may be used depending on the treatment goals. Typically heat would be used prior to exercising to loosen tissues and prepare for activity. Ice is typically used after exercise to decrease inflammation following the activity.

What is RICE?

RICE is an acronym to help you remember what to do following an acute injury.

- **REST:** Immobilize to limit motion, and decrease the amount of weight you put through the injured body part.
- **ICE:** Apply the cold modality of your choice to help reduce swelling, and decrease pain.
- **COMPRESSION:** Apply a compressive bandage to reduce swelling to the area. When applying a compressive bandage it should be snug but not tight. Applying a compressive wrap too tightly can cut off blood supply and cause further damage.
- **ELEVATION:** Raise the injured body part above the level of the heart. This will help the body decrease swelling to the area.

What are the goals of treatment?

	Ice	Heat
Decrease Swelling/Inflammation	X	
Decrease Pain	X	X
Increase Tissue Extensibility		X
Decrease Stiffness		X
Decrease Muscle Spasm	X	X
Increase Joint Range of Motion		X

Are there any situations in which heat should not be applied?

- Over an open wound, Over areas of skin where there is decreased sensation, Areas where circulation is impaired, Over tumors, Acute injuries

Are there any situations in which ice should not be applied?

- Over an open wound, If you have hypersensitivity or intolerance to cold, Peripheral Vascular Disease, Over areas of skin where there is decreased sensation, Raynaud's disease

How long should heat or ice be applied to an injury?

Ice and heat can be very helpful in treating orthopedic injuries but overuse of these modalities can be too much of a good thing. Apply heat or ice for only 10-15 minutes at a time to prevent burning or frostbite. If you have any additional questions about when to use heat versus ice, feel free to contact the clinicians at ISUPTSR for additional information.