

## 5 easy steps to take to ensure proper management of Acute Injuries:

### PRRICE PRINCIPLE:

- 1. Protect** the injured area from further injury. This includes removing the player from the game and supporting the injured area with a sling, tensor, crutches, splint or tape.
- 2. Rest/Refer** Avoid using the injured area for the first 24-72 hours. This will allow the body's healing process to work more efficiently. If there is any deformity, unrelenting pain, deep ache, redness or altered sensation that develops; **Go to the emergency room for evaluation immediately.** If you are ever in doubt about the injury, **refer** your athlete to be seen by their family physician prior to returning to play or work. Athletic Therapists or Physiotherapists may be utilized for further assessment, rehabilitation and bracing.
- 3. Ice** Apply ice pack to the injury for 15-20 minutes. Repeat every hour for 48 hours. Crushed ice, ice cubes or snow will do the trick. The best method is crushed ice with water in a plastic bag. Place a thin towel between the ice & the skin to protect from irritation. Always place an **injured muscle on a comfortable stretch** to allow muscle to heal in a lengthened position.
- 4. Compression** Apply direct compression to the area in the form of a tensor, tape, or bandaging. Be sure not to wrap the bandaging too tightly or to wear it overnight.
- 5. Elevate** the injured body part above the level of the heart and ensure the limb is positioned comfortably.

Arnheim's Principles of Athletic Training 13<sup>th</sup> Ed., 2009

## 1. Why Ice?

- Reduces pain and muscle spasm
- Decreases metabolic rate in cells
- Increases vasoconstriction

Therefore, it reduces the acute inflammatory response to an injury.

## 2. Ice Sensations: COLD $\Rightarrow$ BURNING $\Rightarrow$ ACHING $\Rightarrow$ NUMBNESS

- Time it takes for the 4 sensation changes will vary for different types of tissue:
  - o Muscle is a good conductor (Fat is a good insulator)

## 3. The best type of ice is crushed ice and water in a bag.

- This solution is usually between  $+1^{\circ}\text{C}$  and  $+10^{\circ}\text{C}$  therefore it is safe to place directly on the skin
- Water is a great conductor and with the bag being moist it creates good surface contact for effective cooling

## 4. Extent to which tissue is cooled:

- Type of ice method (i.e., Crushed ice/whirlpool/ice massage)
- Length of exposure
- Conductivity of area (type of tissue, muscle vs. fat)

## 5. Amount of time (ice application) depends on:

- Method                      - Size of Area
- Type of Area                - Depth of Target Tissue

## 6. Precautions

- Using a frozen gel pack directly on skin (place a thin, moist towel down first)
- Using any type of cryotherapy for longer than 30 min.
- Male Testes (not longer than 10 min)
- Children / Elders (poor circulation) – Always place ice over a thin towel
- Ice Allergy / Intolerance Conditions - Do Not ice in these cases
- Any area with compromised circulation
  - o Diabetes, some Post-op cases, Raynaud’s Phenomenon...

**ICE 15-20 minutes on, allow area to re-warm, re-apply...**

**Always place an injured muscle on a comfortable stretch to allow muscle to heal in a lengthened position. This helps SHORTEN recovery time.  
Ask a therapist if you do not know the anatomy!!**