

SPORTS MEDICINE 15

‘CARE, PREVENTION AND REHABILITATION’

UNIT II: IMMEDIATE CARE, PREVENTION AND REHABILITATION OF ATHLETIC INJURIES

CRYOTHERAPY

Figure 2: Courtesy of Christopher M. Larson, MD

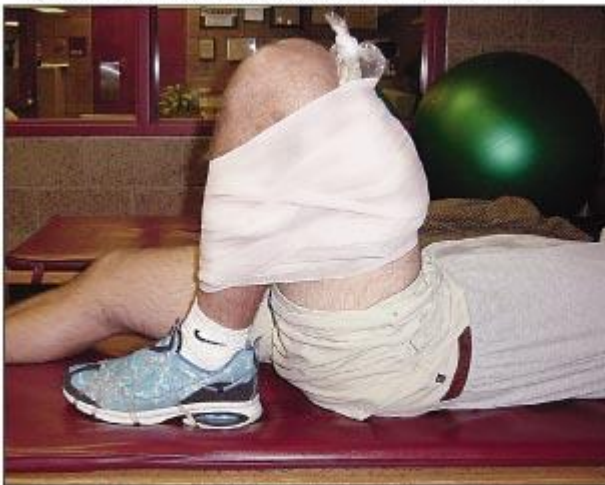


FIGURE 2. A college football player who sustained a quadriceps contusion in practice is treated with flexion and an ice wrap to lessen swelling and the likelihood of myositis ossificans. Acute treatment consisted of flexion to tolerance, compression, and cooling.



c.W.P.Wagner High School, Sports Medicine, A. Morgan, 2003

Unit II: Cryotherapy class notes

1. What does **Cryotherapy** mean?

2. Ice is the simplest, and safest immediate measure for relieving pain,
_____, _____ and
_____ (swelling)

3. What is **vasoconstriction**?

4. In terms of *cryotherapy*, what is the **most common** method of transfer?

5. In most cases, the longer the cold exposure, the _____ the cooling. At 3.5 degrees centigrade, muscle temperature can be reduced as deep as _____ cm.

6. What are the rate and the amount of cooling dependent upon?

7. **Muscle** is a _____ conductor.

8. **Fat** is a _____ conductor.

Physiological Effects of Cold:

9. When does *vasoconstriction* usually occur?

10. What happens if cold is applied for too long?

11. What is the “**Hunting Response**”?

13. Complete the table above *on Cryotherapy-Skin responses to cold (Arnheim)*

<u>Stage after initiation</u>	<u>Response</u>	<u>Estimated time</u>
1		
2		
3		

14. Complete the table below on **Physiological variables of Cryotherapy**

<i>Variable cryotherapy</i>	<i>Response to</i>
Muscle spasm	
Pain perception	
Blood flow	
Metabolic rate	
Collagen elasticity	
Joint stiffness	
Capillary permeability	
Edema* *swelling as a result of collection of Connective tissue	
<i>These findings are controversial because there is strong evidence from both sides.</i>	

15. The first _____ hours are crucial for controlling _____ and _____ injury.

16. Should you *apply ice* after the third day of treatment?

Application of Ice:

17. *In what way, how often and how long* should ice be applied?

18. What types of *cold appliances* should a person look for? (*What types of ice are best?*)

19. List **four cryotherapeutic** methods:

20. How should **ice massage** be applied? When can an athlete perform light activities?

21. When do you use **cold water immersion**? *How long* should you keep an injured body part in the ice bath?

22. What are **vapocoolant sprays**?

23. It _____ muscular spasms and _____ range of motion at a joint.

24. How do you apply the spray?

25. Why do AT's need to be careful when applying chemical cold packs or sprays?
