

## Component III: Clinical

### Module B: Specialty Procedures

#### Topic 10: Assisting with Heat and Cold Therapy

##### Statement of Purpose

To prepare the learner with basic knowledge and skills necessary to properly assist and instruct the patient with cold and heat therapy.

##### Student Learning Outcomes

Upon completion of this topic, the learner will be able to:

1. Spell and define the key vocabulary terms.
2. Discuss the benefits of heat and cold therapy.
3. Discuss the contradictions and precautions to use when providing cold and heat therapies.
4. Identify various cold and heat therapies.
5. Explain instructions to the patient on the proper procedures for self-administration of heat and cold applications at home.

##### Terminology

- |                |                              |
|----------------|------------------------------|
| 1. Cryotherapy | 5. Fluidotherapy             |
| 2. Diathermy   | 6. Hydrotherapy              |
| 3. Edema       | 7. Peripheral artery disease |
| 4. Erythema    | 8. Thermotherapy             |

##### References

1. Kronenberger, J., Southard Durham, L., Woodson, D. (2013). *Lippincott, Williams & Wilkins' Comprehensive medical assisting (4<sup>th</sup> Ed.)*. Philadelphia, PA: Lippincott, Williams & Wilkins.
2. Booth, K.A., Whicker, L.G., Wyman, T.D., & Moaney-Wright, S. (2011). *Medical Assisting: Administrative & Clinical Competencies with Anatomy and Physiology. (4<sup>th</sup> Ed.)*. New York, NY: McGraw-Hill Company, Inc.

Content Outline/Theory Objectives	Suggested Learning Activities
<p><b>Objective 1</b>  <b>Spell and define key terms.</b></p> <ul style="list-style-type: none"> <li>A. Review the terms listed in the terminology section.</li> <li>B. Spell the listed terms accurately.</li> <li>C. Pronounce the terms correctly.</li> <li>D. Use the terms in their proper context.</li> </ul>	<ul style="list-style-type: none"> <li>A. Games: word searches, crossword puzzles, Family Feud, Jeopardy, bingo, spelling bee, hangman, and concentration.</li> <li>B. Administer vocabulary pre-test and post-test.</li> <li>C. Discuss learning gaps and plan for applying vocabulary.</li> </ul>
<p><b>Objective 2</b>  <b>Discuss the benefits of heat and cold therapy.</b></p> <ul style="list-style-type: none"> <li>A. Benefits <ul style="list-style-type: none"> <li>1. Heat therapy (thermotherapy) <ul style="list-style-type: none"> <li>a. Relieves pain.</li> <li>b. Relieves congestion.</li> <li>c. Increases blood flow to an area to increase healing.</li> <li>d. Relieves muscle spasms.</li> <li>e. Relieves muscle tension.</li> <li>f. Relieves inflammation.</li> <li>g. Promotes muscle relaxation.</li> <li>h. Provide local and systemic warming.</li> </ul> </li> <li>2. Cold therapy (cryotherapy) <ul style="list-style-type: none"> <li>a. Decreases blood flow to an area to decrease edema.</li> <li>b. Decreases bleeding and/or hemorrhage by constricting blood vessels.</li> <li>c. Decreases inflammation by slowing blood flow and fluid movement in affected area.</li> <li>d. Relieves pain.</li> <li>e. Reduces pus formation by inhibiting microorganism activity.</li> <li>f. Provides local and systemic cooling.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture/Discussion</li> <li>B. Assigned Readings</li> </ul>
<p><b>Objective 3</b>  <b>Discuss the contraindications and precautions to use when providing cold and heat therapies.</b></p> <ul style="list-style-type: none"> <li>A. Contraindications <ul style="list-style-type: none"> <li>1. Heat <ul style="list-style-type: none"> <li>a. Within 24 hours after an injury.</li> <li>b. For non-inflammatory edema.</li> <li>c. In cases of acute inflammation.</li> <li>d. In presence of malignancies.</li> <li>e. Over a pregnant uterus.</li> <li>f. Over areas of erythema or vesicles.</li> <li>g. Over metallic implants.</li> </ul> </li> <li>2. Cold <ul style="list-style-type: none"> <li>a. Open wounds.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture/Discussion</li> <li>B. Assigned Readings</li> </ul>

<ul style="list-style-type: none"> <li>b. In the presence of impaired circulation, further impairment will occur.</li> </ul> <p><b>B. Precautions</b></p> <ul style="list-style-type: none"> <li>1. Heat <ul style="list-style-type: none"> <li>a. Impaired sensitivity to heat.</li> <li>b. Extreme age or youth.</li> <li>c. Pregnancy.</li> <li>d. Impaired kidney, heart or lung function.</li> <li>e. Comprised skin condition.</li> <li>f. Individuals with impaired mental states.</li> </ul> </li> <li>2. Cold <ul style="list-style-type: none"> <li>a. Impaired sensitivity to cold.</li> <li>b. Extreme age or youth.</li> <li>c. Poor circulation-peripheral artery disease.</li> <li>d. Arthritis.</li> </ul> </li> </ul>	
<p><b>Objective 4</b>  <b>Identify various cold and heat therapies.</b></p> <p><b>A. Cold therapies</b></p> <ul style="list-style-type: none"> <li>1. Dry cold applications <ul style="list-style-type: none"> <li>a. Ice bags.</li> <li>b. Ice collars.</li> <li>c. Disposable/chemical ice packs.</li> </ul> </li> <li>2. Wet cold applications <ul style="list-style-type: none"> <li>a. Cold compresses.</li> <li>b. Ice massage.</li> <li>c. Cold soaks.</li> </ul> </li> </ul> <p><b>B. Heat therapies</b></p> <ul style="list-style-type: none"> <li>1. Dry heat therapies <ul style="list-style-type: none"> <li>a. Disposable/chemical hot pack.</li> <li>b. Heating pad.</li> <li>c. Hot water bottle.</li> <li>d. Heat lamp.</li> <li>e. Fluidotherapy.</li> </ul> </li> <li>2. Moist heat therapies <ul style="list-style-type: none"> <li>a. Warm soak.</li> <li>b. Warm compress.</li> <li>c. Paraffin bath.</li> </ul> </li> <li>3. Diathermy is the use of electromagnetic energy to produce heat within the tissue, seldom used today.</li> <li>4. Ultrasound is when sound waves travel deep into tissue (e.g. muscles), creating gentle heat.</li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture/Discussion</li> <li>B. Assigned Readings</li> <li>C. Show various types of heat and cold therapy.</li> </ul>
<ul style="list-style-type: none"> <li>3) Remove every 20 to 30 minutes; assess area every 10 minutes.</li> <li>4) Do not increase heat of water as body adjusts to temperature.</li> <li>5) Report pallor, excessive redness or swelling.</li> </ul> <p><b>c. Therapeutic soaks</b></p> <ul style="list-style-type: none"> <li>1) Fill container with solution at 110 degrees.</li> <li>2) Slowly lower limb into solution; arrange</li> </ul>	<ul style="list-style-type: none"> <li>A. Lecture/Discussion</li> <li>B. Assigned Readings</li> <li>C. Have students explain procedure to each other in pairs.</li> </ul>

<p>comfortably.</p> <ol style="list-style-type: none"><li>3) Soak for prescribed time, usually 15-20 minutes.</li><li>4) Check every 5-10 minutes for proper temperature.</li><li>5) Carefully dry area.</li><li>6) Assess the area.</li></ol> <p>2. Cold applications</p> <ol style="list-style-type: none"><li>a. Cold pack<ol style="list-style-type: none"><li>1) Cover container with pad.</li><li>2) Secure with tape.</li><li>3) Apply no longer than 20 to 30 minutes.</li><li>4) Assess for mottling.</li></ol></li><li>b. Cold compress<ol style="list-style-type: none"><li>1) Protect area with waterproof barriers.</li><li>2) Wring out excess moisture.</li><li>3) Touch compress to area lightly.</li><li>4) Insulate with waterproof barriers.</li><li>5) Check frequently for moisture and temperature.</li><li>6) Discontinue after 20 to 30 minutes.</li></ol></li></ol>	
--	--