

PAIN MANAGEMENT

OBJECTIVES/RATIONALE

Understanding how pain is produced and perceived is essential to finding mechanisms for pain relief. The student will understand the types of pain and how pain is transmitted; also identify the various techniques used for pain relief.

TEKS 121.4 1A, 7D, 11C, 12B, 12C

TAKS ELA 1, 3, 4
Science 2

KEY POINTS

- I. Pain is an unpleasant sensation usually associated with disease or injury.
 - A. Transmission
 - 1. Stimulation of neuron (pain receptors)
 - 2. Neurotransmitters
 - a. Substance P
 - b. Prostaglandin
 - 3. Brain – impulse goes to the thalamus, cortex and limbic system where it is processed
 - B. Pain Perception
 - 1. Gate Control Theory
 - 2. Endogenous Opioids
- II. Types of Pain
 - A. Cutaneous Pain
 - B. Visceral Pain
 - C. Neuropathic Pain
 - D. Acute Pain
 - E. Chronic Pain
- III. Pain Management
 - A. Drug Therapy
 - 1. Opioids
 - 2. Nonopioids
 - 3. Placebos
 - B. Surgical Approaches
 - C. Nondrug / nonsurgical interventions
 - 1. Imagery
 - 2. Mediation
 - 3. Distraction/Hypnosis
 - 4. Relaxation
 - 5. Thermal Applications
 - 6. Transcutaneous Electrical Nerve Stimulation
 - 7. Acupuncture / Acupressure
 - 8. Biofeedback

- IV. Pain rating scales
- A. horizontal numerical rating
 - B. Wong-Baker faces scale

Teacher Note

The use of a TENS unit can be demonstrated to the class.

ACTIVITIES

- I. Practice **Relaxation Techniques**.
- II. Assess the Case Studies to determine the appropriate response to pain on the Scales - remember cultural and age factors are part of the report of pain.
- III. Invite a speaker on acupuncture/acupressure.

MATERIALS NEEDED

Textbook, Fundamental Skills and Concepts in Patient Care, by Barbara Timby
TENS Unit (borrow from Physical Therapy)

Relaxation tape

Key: Pain Management Test

ASSESSMENT

Pain Management Test

ACCOMMODATIONS

For reinforcement, the student will recall a personal experience involving pain. Describe the factors that intensified the pain and the measures other than medication, which relieved it. Discuss how this information can be applied to restoring comfort among patients who are in pain.

For enrichment, the student will design a brochure on pain management for a client undergoing cancer treatment.

REFLECTIONS

Relaxation Techniques

Relaxation techniques can be a useful way to help yourself feel better when you are depressed, stressed out, or angry.

**I use these relaxation techniques as a group activity for the entire class. Generally, I dim the lights, play soft relaxing music, and slowly talk them through the steps. After the initial giggling dies down, they really get into this activity!*

Mental Imagery Relaxation

- As you focus on your mental image more and more, you direct your attention away from anxiety provoking situations.
- Close your eyes.
- Breathe deeply and slowly.
- Think of a place where you feel entirely safe and comfortable. Your place should be real, such as a childhood tree fort or a waterfall you once visited. It could be imagined, like a lush deserted island or in a castle high above the clouds.
- What does that place look like? What sorts of things are in your special place?
- What does that place sound like?
- Breathe deeply.
- Does your place have a particular smell? Imagine that smell.
- What does your place feel like? What is the temperature? Is it sunny or dark?
- Humid or dry?
- Your special place will always be somewhere you can go whenever you are scared or sad. You can also go there to simply relax.

Physical Relaxation

By learning to relax your body, you can concentrate on feeling good and deal with unpleasant emotions and experiences.

- Sit or lay comfortably.
- Close your eyes.
- Breathe slowly and deeply
- Concentrate on feeling the air move in and out of your body
- Concentrate on your toes. Relax them. Feel all the tension leave your toes, one by one.
- Feel yourself breathe slowly and deeply.
- Relax your feet. Let all the tension in your feet disappear.
- Now the tension in your calves disappears.
- You are breathing deeply.
- A soothing feeling rises through your legs, through your knees to your thighs.
- You legs are completely relaxed and free of tension.

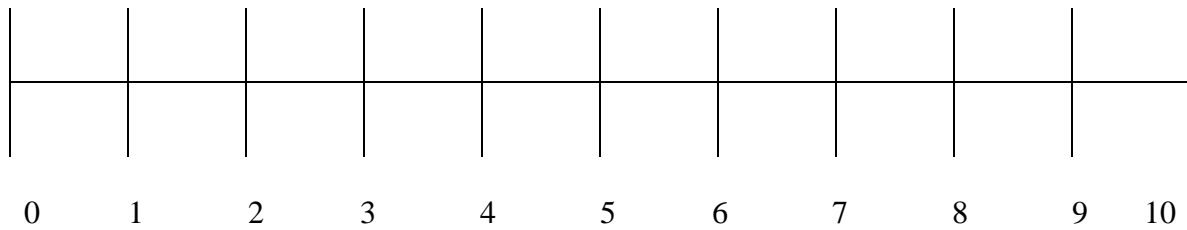
- Breathe deeply. Feel the air glide through you.
- Now your pelvis is relaxing. The muscles grow free of tension.
- The soothing feeling moves through your buttocks. Feel your buttocks relax.
- The muscles in your belly relax now.
- Feel yourself breathing deeply as the tension in the lower half of your body disappears.
- Now the tension in your back begins to disappear starting from the bottom and working upwards.
- The soothing feeling wraps around your chest and neck and extends down your arms.
- All tension leaves your arms and hands. You feel very relaxed now.
- All the while you are breathing deeply.
- All the muscles in your neck relax.
- Then the soothing feeling moves through your face.
- All of your facial muscles relax as you breathe deeply and feel the tension disappear from your body.
- You are now completely relaxed. Your body and mind feel free and without tension.
- All of the bad feelings are gone.

Examples of Pain Evaluation Scales

Wong-Baker FACES*



Numerical Pain Rating Scale



Case Studies for Evaluation

Determine how a patient might describe pain using the numerical scale or the Wong-Baker FACES charts, depending on the following descriptions of patient conditions:

A nineteen year old male has presented by ambulance in the emergency department. He was the driver of a car involved in a moving vehicle accident (MVA.) He says his chest hit the steering wheel. He is alert and complains of sharp pain when he moves and breathes. His vital signs are B/P 90/60. P 130, regular, and R 30, shallow and irregular. There are empty beer cans found in the car. How do you think he would respond to his level of pain on one of the scales? Justify your answer.

A ten year old boy was riding his bicycle, racing with his friends, when he hit a patch of gravel and lost control of his bicycle. He was thrown from the bike and slid about five feet to a stop. Because he was wearing shorts, both his knees and his palms are abraded and bleeding. His elderly neighbor lady saw the accident and called 911. When the ambulance arrived, how do you think he responded to the questions about severity of his pain? Use the scales to show your response. Justify your answer.

A twenty five year old house wife started the evening meal about 5 o'clock for her family. As she was heating the skillet of grease for frying, the telephone rang. While she was talking, she smelled the grease getting hot, so she grabbed the skillet just as it burst into flame. She ran from the kitchen to the yard, blowing hot grease and flame onto her face, arms and hands. How do you think she responded to questions about her pain? Justify your answer. How should she have managed the skillet of hot grease?

A seventy year old grandmother has been told that she has metastasized breast cancer and that there is no cure. On the advice of her doctor, she and the family called Hospice to assist with her care. The hospice nurses supplied the family with a pain scale and helped to make a plan to manage the end of life pain symptoms she would experience. The patient told her nurse that she hurt "all the time." How would she be likely to rate her pain? Justify your answer.

A twenty year old swimmer dived into shallow water and was pulled from the water by friends. They called 911. The patient was transported to the hospital, where examination showed that there was no movement or sensation below the clavicles. The patient was grimacing, alert, and responsive. What pain level might this patient report? Justify your answer.

Pain Management Test

1. _____Cutaneous
2. _____Visceral
3. _____Neuropathic
4. _____Referred
5. _____Phantom
 - a. Discomfort that originates at the skin level. Example (burns)
 - b. Deep pain in tissues that have been surgically removed. (Amputations)
 - c. Discomfort arising from internal organs
 - d. Discomfort perceived away from the site of stimulation
 - e. Pain with atypical characteristics occurring days, weeks, or months after source is treated
6. Which type of receptor transmits pain impulses to the brain?
 - a. Proprioceptors
 - b. Nociceptors
 - c. Neuroceptors
 - d. Neurotransmitter
7. Which of the following descriptions best defines the gate-control theory?
 - a. The strongest impulse is transmitted
 - b. The weakest impulse is transmitted
 - c. All stimuli are transmitted
 - d. Only one impulse is transmitted at one time
8. Mary Dolan, age 50, has gallbladder disease. She is complaining of right shoulder pain. What type of pain is she experiencing?
 - a. Somatic
 - b. Cutaneous
 - c. Referred
 - d. Neuropathic
9. Which pain management technique uses pressure to relieve pain?
 - a. Acupuncture
 - b. Acupressure
 - c. Biofeedback
 - d. TENS
10. Which of the following signs is a characteristic of chronic pain?
 - a. Hypertension
 - b. Tachycardia
 - c. Anxiety
 - d. Depression

11. Which of the following statements most accurately describes a characteristic of pain?
 - a. Pain is objective in nature
 - b. Responses to pain vary widely
 - c. Pain is always associated with bodily damage
 - d. Pain is not a demanding situation

12. Biofeedback is best described as
 - a. A training program that helps the individual by substituting for his drug therapy.
 - b. A training program that produces a subconscious condition that is used to control pain
 - c. A training program that helps the individual become aware of certain body changes
 - d. A program used to produce simple pressure on various body parts to reduce pain

13. A patient's discomfort is most likely relieved by a placebo in which of the following situations
 - a. Discomfort is only mild
 - b. Discomfort is imagined or anticipated
 - c. The patient is almost recovered
 - d. The patient is confident in his caregivers

14. The conscious experience of discomfort is called
 - a. Pain tolerance
 - b. Pain perception
 - c. Pain threshold
 - d. Suffering

List three times, in which the health care worker should assess the patient's pain

15. _____
16. _____
17. _____

18. _____ Interrupting pain transmitting chemicals at the site of injury
19. _____ Altering transmission at the spinal cord
20. _____ Using the gate control method
21. _____ Blocking brain perception
 - a. Cutaneous stimuli (massage, acupuncture heat, cold)
 - b. Local anesthetics, anti-inflammatory drugs (lidocaine, aspirin, acetaminophen)
 - c. Narcotics, nondrug technique (morphine, codeine, imagery, hypnosis)
 - d. Intraspinal anesthesia (epidural)

22. _____ Using the mind to visualize an experience
 23. _____ Concentrating on a word or idea that promotes tranquility
 24. _____ Intentional diversion of attention
 25. _____ Technique for releasing muscle tension and quieting the mind
 26. _____ Thermal therapy
 27. _____ Medically prescribed pain management that delivers bursts of electricity to the skin and nerves
 28. _____ Needles are inserted into the skin
 29. _____ Person enters into a trancelike state
- a. Hypnosis
 - b. Biofeedback
 - c. TENS
 - d. Distraction
 - e. Meditation
 - f. Heat and cold
 - g. Relaxation
 - h. Imagery
 - i. Acupuncture

True or False

30. _____ The point at which the sensation of pain becomes noticeable appears to be about the same among healthy persons.
31. _____ When the patient is allowed to help select methods to relieve pain, he usually finds better results.
32. _____ The TENS unit is contraindicated in pregnancy because its effect is unknown.
33. _____ Pain is “whatever the patient says it is and exists when the patient says it does.”
34. _____ Picture and number scales are often used to measure the patient’s pain perception.
35. _____ Patients should first be administered pain relieving medication when the pain becomes unbearable.

Pain Management Test Key

1. A
2. C
3. E
4. D
5. B

6. B
7. D
8. C
9. B
10. D
11. B
12. C
13. D
14. B

15-17. Patient is admitted, once per shift, patient is at rest, after painful procedure or treatment, before administering analgesic and 30 minutes after

18. B
19. D
20. A
21. C

22. H
23. E
24. D
25. G
26. F
27. C
28. I
29. A

30. F
31. T
32. T
33. T
34. T
35. F