A Note from the Authors

This document includes answers to the review and discussion questions found in the text. Note that answers for case study questions have not been provided due to the nature of their content. The cases were written knowing that different answers and lines of thought may emerge. Course instructors, who are clinicians themselves, will be capable of guiding the students through the case studies in the manner they see fit, or they will be able to understand a student's answer without needing guidance.

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ANSWERS TO QUESTIONS FROM THE TEXT

Chapter 1

Evidence-Based Practice with Physical Agents

Review Questions

1. Which of the following is not typically used in Evidence-based practice (EBP)?

a. Best current research evidence

b. Clinical expertise

c. Patient goals and values

d. What your coworkers do

2. The use of EBP in clinical decision-making skills benefits whom?

a. The patient

b. The clinician

c. The profession

d. All of the above

3. Which of the following is the first step in implementing EBP?

a. Asking a clinical question

b. Acquiring data

c. Appraising the data

d. Applying the data

ANSWERS TO QUESTIONS FROM THE TEXT

4. Which of the following research designs has at least two groups, with one of them being a control group?

a. Case study

b. Experimental

c. Quasi-experimental

d. Nonexperimental

Discussion Questions

1. How would you explain the importance of EBP to a clinical instructor who has limited clinical experience with this concept?

EBP is an approach to clinical decision making that integrates best research evidence, clinical expertise, and patient values. By keeping current with professional literature and using what we know and have experienced, we can maximize outcomes with our patients.

2. Imagine that your family doctor prescribed a blood pressure medication for a female family member in her late 20s. When asked what the current literature states regarding the use of this medication in young women, the doctor cannot answer the question. The family decides to get a second opinion and when asked the same question, the second doctor is able to reference two articles regarding the effectiveness of the medication versus other nonmedicinal interventions as well as the side effects in women during their childbearing years. How has the use of EBP influenced your confidence in the doctor and the treatment intervention?

The incorporation of EBP improves confidence for both the patients and the practicing clinician. When a clinician is able to clearly state why an intervention has been chosen or not chosen, the patients are more likely to adhere to the recommendations and trust their health care provider.

ANSWERS TO QUESTIONS FROM THE TEXT

3. Might knowing the funding source of a research trial affect your interpretation of the results?

Yes. The funding source of a research trial may affect the amount of bias inherent in the study.

4. Two randomized controlled trials are identical in setup except for the number of subjects. The first trial tested 20 subjects and the second trial tested 500 subjects. Which trial is stronger? Why?

The trial with 500 subjects is stronger than the one with 20 because the chances of the results being due to "chance" instead of a true pattern are smaller.

5. If a research article uses only male subjects, can you conclude that the results would be the same for women? Would it depend on what is being tested?

You cannot conclude that the results will be the same for women. The more limited the inclusion criteria for participants in a study, the less the results can be generalized to the general population. However, this conclusion would not preclude a clinician from attempting to use the new knowledge on a woman because the clinician is likely to incorporate the patient's goals and his or her clinical expertise in decision making. For example, a study that included only men may show that to truly lengthen muscle tissue, a stretch must be held for 60 seconds in duration and completed four times a day for 5 weeks. A clinician may decide to use the same parameters on a female patient because use of these parameters would not harm the woman and a basic understanding of muscle tissue might determine that the role of gender is minimal.

ANSWERS TO QUESTIONS FROM THE TEXT

Chapter 2

Tissue Response to Injury

Review Questions

1. Which of the following terms is defined as “an unpleasant sensory and emotional experience”?

a. Analgesia

b. Pain

c. Anesthesia

d. Inflammation

2. Pain, heat, erythema, edema, and loss of function are signs of which of the following?

a. Inflammation

b. Chronic pain

c. Wound healing

d. Ischemia

3. Chronic pain is pain that lasts longer than which of the following?

a. 1 month

b. 2 months

c. 3 months

d. 4 months

ANSWERS TO QUESTIONS FROM THE TEXT

4. Which of the following best describes the two main categories that an analgesic drug may fall into?

a. Legal and illegal

b. Narcotics and non-narcotics

c. Aspirin and NSAIDs

d. Toxic and non-toxic

5. Melzack and Wall proposed the gate control theory of pain perception. Which of the following is a psychological factor that they feel may influence pain response and perception?

a. Culture

b. Past experience

c. Gender

d. Age

Discussion Questions

1. If a patient asked you to explain the nature of pain, how would you explain why some people seem to feel more discomfort than others? What terminology would you use to ensure that your explanation is easily understood by the patient?

Pain is an individual experience that is also a learned response with associated cultural components. Our ability to cope with pain is dependent upon a number of factors that have important physical and psychological facets to them. Just as no two individuals have the same appreciation for "art," no two individuals have the same experience of "pain." This simple

explanation tends to be useful for patients when conceptualizing pain as an individual experience.

2. How would the psychological implications of pain perception influence your approach to a patient with chronic pain? Would this approach change in any way if this were an acute pain syndrome rather than a chronic pain syndrome?

There can be a tendency for acute problems that are not dealt with to develop into chronic problems. Unfortunately, the syndrome then seems to "become the patient" rather than the patient being "an individual with a syndrome." For this reason, it is important to consider the vocabulary that is utilized and refrain from using the word "pain" and instead use "discomfort." It is also important to be respectful of the patient's time and stay on schedule. If the appointments for the day are running late, have someone contact patients to let them know and possibly reschedule those patients who would be most adversely affected rather than have patients wait too long for treatment. The waiting room in a physical therapy department is not conducive to productive activities for patients with chronic pain.

3. If the patient asked you why he or she is feeling pain in an amputated limb or pain that travels down an arm or leg, how would you explain it? Be careful to use terminology that a patient would understand.

Phantom limb pain is not uncommon in an amputated limb. However, your patient may be feeling very uncomfortable about the sensation, not only because of the discomfort (which is real) but because of confusion surrounding how such a sensation could be there at all. Remember, your patient has had trauma significant enough to warrant the amputation and now is feeling pain in a limb that is no longer present. The brain is essentially still "looking" for sensation from the extremity that had been present. The phenomenon is similar in concept to the

sound engineers at a concert setting the level for the microphones before the performers appear on stage. If you are in the auditorium, you might hear feedback that is painful to your ears because the system is too sensitive. In essence, this is what is happening within your brain. The brain is attempting to locate the sensation from parts that are no longer providing input, so it is setting the sensitivity extremely high and then perceiving everything as "painful," even those things that do not resemble sensation from the extremity anymore.

4. How would you explain the inflammation and tissue repair process to a patient? Be careful to use terminology that a patient would understand. Your explanation should address the significance and necessity of the process.

Without the inflammatory response to help localize and seal off an area so that the area could be immobilized and the circulation increased, healing would be disorganized. The inflammatory process is a series of events that ensures healing occurs within a finite time period. If we interrupt the process, we delay it. For example, if we take away pain then we will cause more injury because pain is a protective mechanism that lets us know that injury has occurred. One of the disservices that we have done to ourselves is relieving pain so that we can "continue with our lives." Just ask a professional athlete how it feels the day after he or she has played in a championship game following the anesthetizing of a joint injury. There are exceptions, but professional sports serve as excellent examples of where we have removed part of the inflammatory process because it was inconvenient, and then paid the price.

5. Prepare an explanation for a patient that would discuss the importance of proper nutrition and wound care to promote tissue healing. Your explanation should include the rationale for keeping the wound moist as opposed to the patient's expressed desire to "let the wound dry."

ANSWERS TO QUESTIONS FROM THE TEXT

One of the basic nutrients that is necessary for wound closure it protein. It is the primary component of collagen, which makes up virtually all of our connective tissue. A well-balanced diet is important for all patients, but perhaps more so for those who need tissue healing. A moist wound bed is required for cell migration to close the wound. Initially the layer of granulation tissue is one cell layer thick. The cell is an aqueous environment and cell migration cannot occur without moisture. Once a cell dries, it dies. Once the cell dies, cell migration ceases and so does wound closure. What was once granulation tissue becomes necrotic tissue and now must be debrided.