Chapter e10: Pain and Headache

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KEY CONCEPTS

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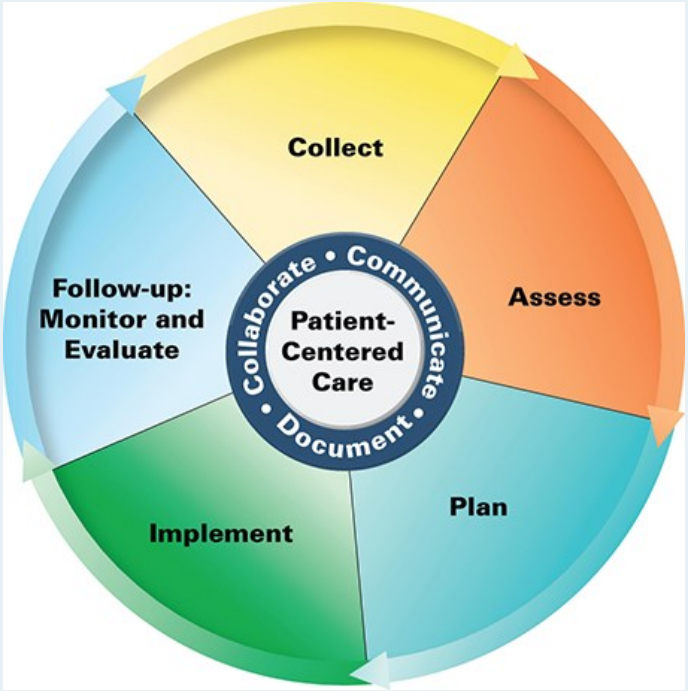
1. A comprehensive pain symptom analysis should be performed on each individual reporting pain to determine the type of pain condition.
2. A patient's self-report of pain impact, across a variety of biopsychosocial domains, is important to tailor and monitor treatment.
3. Appropriateness of self-care options to treat pain must be determined after careful review of red flag indicators.
4. The topical route of administration is preferred to oral analgesics whenever feasible.
5. Goals focused on quality of life and function in addition to traditional pain scores are preferred.

PATIENT CARE PROCESS

Patient Care Process for Pain Self-Care



Collect

- Pain Symptom Analysis (ie, PQRSTU, see Table e10-3)
- Patient characteristics (eg, age, allergies, pregnancy status)
- Medical history including cardiopulmonary, renal or hepatic disease, psychiatric and sleep disorders
- Social history (eg, tobacco/ethanol/illicit drug use), dietary habits, occupation
- Current medications including over-the-counter (OTC) aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs), acetaminophen, herbal products, and dietary supplements
- Objective data
    - Physical examination: Temperature, blood pressure (BP), heart rate (HR), respiratory rate (RR), oxygen saturation, height, weight, diaphoresis, pallor, and visual inspection of the area of pain if possible (Note: Changes in vital signs are NOT diagnostic for pain and may not be present in patients with chronic pain. Changes may also be due to pathology other than pain (eg, tachycardia due to hemorrhagic shock).
    - There are no labs specific for pain assessment. Lab result abnormalities should be evaluated in light of a patient's chronic conditions (ie, elevated uric acid as an indicator of gout) or in evaluation of other suspected pathology.
- Pain can be categorized based on patient description and medical history

Assess

- Presence of risk factors that require medical referral (See Table e10-2)
- Classifications of pain
    - Nociceptive (visceral vs somatic)
    - Neuropathic (peripheral vs central)
- Duration of pain (acute vs chronic)
- Accessibility, ability, and motivation to adopt lifestyle modifications (eg, sleep hygiene, exercise) and mind-body techniques (eg, biofeedback, relaxation) as part of a comprehensive approach to pain
- Access to treatment options including medications, physical therapy, transcutaneous electrical nerve stimulation, and injectable epidurals
- Coexisting psychological disorders/issues/stresses (eg, presence of anxiety, depression, sleep disorder)
- Contextual factors that affect pain experience, engagement in treatment plan, and patient-provider relationship (eg, discrimination, structural racism, transportation, and work schedule)

Plan*

- For many pain conditions, use a multimodal approach incorporating nonpharmacologic therapy if appropriate (Chapter 77, "Pain Management," section on Nonpharmacologic Therapy)
- Drug therapy regimen including dose, route, frequency, and duration (see Chapter 77, Table 77-5)
- Referrals to other providers when appropriate (eg, primary care, rheumatology, orthopedics, behavioral health, gynecology, gastroenterology, dentistry)
- Follow-up plan (eg, primary care provider, specialist)

- Provide strict return precautions (ie, red flags, worsening or new symptoms)
    - Ensure updated list of referrals, including providers who take a variety of types of insurance or provide services on a sliding fee scale for individuals without insurance or who are unable to afford copayments.

Implement*

- Engage in a dynamic discussion with the patient, including patient education regarding all elements of the treatment plan (eg, purpose of multimodal treatment including lifestyle and dietary modification, medication administration, adherence), barrier mitigation, and functional treatment goals
- Use motivational interviewing and coaching strategies if the patient's confidence to engage in the treatment plan could reduce engagement
- Engage in collaborative problem-solving that acknowledges and adjusts for immovable structural, financial, occupational, and other barriers
- Schedule follow-up (eg, improved mobility, pain score, prevention of long-term use of OTC pain medications)

Follow-up: Monitor and Evaluate

- Self-monitoring for progress toward functional goal, meaningful reduction of pain symptoms, frequency and duration of pain, ability to cope with pain, and when to seek emergency medical attention
- Monitoring parameters related to efficacy (eg, mobility, pain score, missed days of activity such as work, or social events)
- Presence of adverse effects (eg, gastrointestinal issues such as ulcers or bleeding, rash)
- Patient adherence to treatment plan using multiple sources of information
- Frequency of reassessment should be dictated by the type and duration of pain

*_Collaborate with patient, caregivers, and other healthcare professionals._

BEYOND THE BOOK

BEYOND THE BOOK

Ask a friend or colleague to recall a painful experience from their past. Perform a pain symptom analysis with them using the PQRSTU method described in the chapter. Be sure to analyze each pain report if the pain experience involved multiple sources of pain. The goal of the interview should be to COLLECT information about their painful experience, ASSESS the pain, and classify it appropriately (eg, nociceptive somatic, nociceptive visceral, neuropathic). Ask yourself, could this patient be managed through self-care or is a referral required? This activity is intended to build pain symptom assessment skills and ability to identify pain etiology and pathogenesis.

INTRODUCTION

The International Association for the Study of Pain (IASP) defines pain as: "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage."[1] Despite being a top reason patients access the medical system, many patients will attempt to manage their pain with nonprescription medications.[2,3] This gives unique opportunities for health professionals to improve the health, wellness, and medication use among patients experiencing pain.

EPIDEMIOLOGY AND ETIOLOGY

In 2016, approximately one in five people experienced chronic pain, with an estimated 8% of the US population experiencing high-impact chronic pain.[4] While the true incidence and prevalence is difficult to determine, painful disorders have a significant burden on our society. Chronic pain alone is estimated to cost the United States more than US$600 billion each year in medical treatment and lost productivity.[5] Unfortunately, our healthcare system has historically struggled to provide medical professionals with adequate education and training to sufficiently diagnose and treat people with pain.[6,7]

Headache and musculoskeletal disorders are two common etiologies of pain for which there are over-the-counter (OTC) treatment options available for patients. Globally, almost half of people with headache self-treat without a formal diagnosis.[8] This is concerning, as many of the medications commonly used to treat painful conditions carry serious side effects (ie, bleeding with nonsteriodal anti-inflammatory drugs [NSAIDs]). Furthermore, one study demonstrated approximately half of patients may not be aware of the potential side effects of their medication. Many patients are under the impression that OTC medications are safer or carry less risk than their equivalent prescription product.[9]

All healthcare professionals have a role to play in educating and assisting with the care of patients with painful disorders by screening for red flag symptoms (see Table e10-1) and referring patients to a primary care physician or specialist when appropriate. If a patient's presentation is appropriate to self-treat, health professionals can provide guidance on the most appropriate drug based on the patient's symptoms and encourage safe use (eg, dosing, duration of use, and monitoring parameters).

TABLE e10-1

Universal Red Flag Symptoms with Report of Pain

Red Flag Symptoms[a]
New onset numbness, weakness, vision changes, dizziness, or syncope
Sudden severe onset of pain
Persistent pain >3 days
Pain worsening despite treatment
Chest pain
Shortness of breath
Worsening pain with exertion
Bleeding disorder
Severe pain that diminishes ability to perform activity of daily living
Fever, nausea, vomiting, unintentional weight loss, or unexplained signs of systemic disorder
Suspected fracture
Pregnant

[a]Red flags are not a substitute for clinical judgment.

ANATOMY AND MECHANISM OF DISEASE

While pain can create much patient discomfort and disability, it also serves as an essential protective mechanism used to maintain homeostasis in the body. For a detailed review of the pathogenesis of pain, see Chapter 79, Pain Management. For the purposes of self-care, it is helpful to classify pain into subcategories to align treatment modalities.

Pain is often classified as nociceptive, neuropathic, or mixed (see Table e10-2). Nociceptive pain occurs in response to harmful or potentially harmful stimuli when signals are sent to the brain through the process of transduction, conduction, transmission, perception, and modulation. It is typically characterized as either somatic or visceral in nature. Somatic and visceral pain often respond to primary analgesics available OTC (eg, acetaminophen or NSAIDs), whereas neuropathic pain will often require a referral and evaluation for prescription analgesics. However, OTC products containing capsaicin or lidocaine are available and may be beneficial in the initial treatment of patients experiencing neuropathic pain (see Table e10-2).

TABLE e10-2

Classifications of Pain

Types of Pain	Patient Descriptions	Anatomy and Mechanism	Common Etiologies	Analgesics
Nociceptive somatic pain	• Sharp, dull, aching, worse with movement • Well-localized patients can often point directly to the location of pain.	• Occurs in response to harmful or potentially harmful stimuli. Signals are sent to the brain through the process of transduction, conduction, transmission, perception, and modulation. • Involves the skin, bone, joint, or soft tissue.	• Traumatic pain (cuts, scrapes, strains) • Arthritis pain • Musculoskeletal pain • Hemorrhoids	• Typically responds well to OTC analgesics such as acetaminophen or NSAIDs. • May require prescription analgesics
Nociceptive visceral pain	• Diffuse, gnawing, cramping, squeezing, pressure • Difficult for patients to localize the pain.	• Occurs in response to harmful or potentially harmful stimuli. Signals are sent to the brain through the process of transduction, conduction, transmission, perception, and modulation. • Can occur as a result of direct stimulation of afferent nerves due to tumor infiltration, distension of hollow viscus, infarct, or damage to soft tissue or viscera (ie, cardiac, gastrointestinal tract, genitourinary tract, lung).	• Menstrual cramps • Constipation • Gallstones • Kidney stones • Gastritis • Appendicitis • Cardiac conditions (ie, ischemia)	• May respond to OTC analgesics such as acetaminophen, or NSAIDs. • May require prescription analgesics
Neuropathic pain	• Burning, numbness, pins and needles, tingling, stabbing, shooting, electrical • Pain often starts in one area and radiates to another	Characterized by dysfunction or damage to the peripheral or central nervous system.	• Diabetic neuropathy • Postherpetic neuralgia	• Referral for medical evaluation. • May respond to OTC medications such as topical capsaicin or lidocaine. • Prescription medications including antidepressants and anticonvulsants are first-line treatment.

PATIENT CARE PROCESS

Collect Information

The clinician must collect information to characterize the pain, attempt to determine the etiology, and develop a treatment plan. If a patient has multiple sources of pain (ie, oral pain and headache), a pain symptom analysis should be conducted on each source of pain. A comprehensive symptom analysis utilizing the PQRSTU method is outlined in Table e10-3. Given that pain is subjective, information gathered from the patient will serve as the foundation for developing an appropriate treatment plan.[10]

TABLE e10-3

PQRSTU Pain Assessment

Letters	Descriptions	Assessment Questions	Examples
P	Precipitating factors	What brings on the pain or makes it worse?	– Position changes (standing, lying down, rolling over) – Activities (walking, playing with children) – Change in the weather – Stress
	Palliative factors	What helps relieve the pain?	– Heat, cold application – Position change (standing, lying down, rolling over) – Coping strategies (yoga, meditation, social activities) – Rest
	Previous treatment(s)	What have you tried in the past or present to manage the pain?	– History: Is it the same type of pain you have had before but more severe or totally new? – Medications (nonprescription, prescription, herbal, natural products)
Q	Quality	What does the pain feel like?	– See Table e10-2
R	Region	Where is the pain?	– Lower back – Jaw – Head
	Radiation	To where does the pain move?	– Moves from lower back down the leg – Moves from tooth to jaw
S	Severity	How much does the pain hurt?	– Ask the patient to rate their pain intensity on a scale of 0 to 10 with 0 equaling no pain and 10 equaling the worst pain imaginable
T	Temporal	When does the pain occur? Has it changed over time?	– Onset: Immediate or delayed? – Time of day: Morning or afternoon? – Frequency: Intermittent or persistent?
U	You	How is the pain affecting you?	– Impact on patient's mood, work, relationships – Activities of daily living

Data from Reference 11.

While a comprehensive symptom analysis collects most of the necessary information to assess a report of pain, other patient-related variables should be collected including current medications, vitamins, minerals, and herbal supplements. Information such as age and medical conditions (eg, renal or hepatic insufficiency, diabetes, immunosuppression, and pregnancy status) are essential to avoid potential medication-related issues in patients at elevated risk for adverse events.

Assess the Patient

The information gathered from the patient's self-report is considered the most reliable indicator of the presence, intensity, and impact of pain. General inspection of the pain site may be useful in determining the etiology (eg, swelling may indicate an inflammatory process) and appropriate treatment. Always keep in mind *the absence of physical signs of pain does not exclude* the possibility that the patient is experiencing pain. Other objective data such as physiologic or laboratory tests are unlikely to be available in the self-care setting and may not be useful in guiding treatment.

An attempt to determine the type of pain and its duration (acute vs chronic) should begin by assessing the patient's description of their painful condition. For the purposes of self-care, the clinician often needs to efficiently classify the pain, determine self-care eligibility, and consider what self-care treatments are available, accessible, and through discussion with the patient, a good fit (see Table 79-6 in Chapter 79, "Pain Management"; note that some products are available in both OTC and prescription formulations).

Three common examples of pain conditions that are frequently evaluated for self-care are headache, musculoskeletal disorders, and abdominal pain (eg, dysmenorrhea). Nonpharmacologic and pharmacologic treatment options are available for most painful conditions including headache (see Chapter 80, "Headache Disorders"), musculoskeletal disorders, and menstruation-related disorders (see Chapter 100, "Menstrual-Related Disorders"). A thorough discussion of the classification and management of pain is in Chapter 79.

Headache

When assessing a patient with a headache, the clinician must assess the information collected to determine if there are any red flag symptoms that may suggest a serious underlying disorder that would necessitate a medical referral (see Table e10-3). Headache disorders are discussed in-depth in Chapter 80.

Musculoskeletal Pain

The musculoskeletal system encompasses muscles, tendons, ligaments, cartilage, and bone. If possible, clinicians should assess the location (eg, lower back), signs, symptoms, and onset of the pain because these factors can allow further differentiation and classification of musculoskeletal disorders such as myalgias, tendonitis, bursitis, sprain, strains, or osteoarthritis (which is covered in detail in Chapter 110, "Osteoarthritis"). Recognizing that pain often serves as a protective mechanism within the body, the most important characteristic to assess with musculoskeletal injuries is whether the pain is acute or chronic in nature. A majority of minor acute musculoskeletal pain disorders will resolve with nonpharmacologic interventions and OTC analgesics. However, patients with musculoskeletal pain that persists for several days or worsens despite treatment should be referred to their primary care provider for further workup along with any patients experiencing red flag symptoms (see Table e10-1). Low back pain and osteoarthritis are common disorders that can be chronic in nature. These disorders are often complex and often require multiple treatment modalities including pharmacologic, physical, and/or interventional therapy.

Chest Pain

Although chest pain can be related to either a gastrointestinal or musculoskeletal etiology, it is also a symptom of serious and potentially fatal medical issues including cardiac conditions (eg, acute coronary syndrome) (see Chapter 34, "Acute Coronary Syndromes") or pulmonary disorders (eg, pulmonary embolism) (see Chapter 38, "Venous Thromboembolism"). Concern for cardiac, pulmonary, or other life-threatening issues should prompt immediate referral to the emergency department for full evaluation.

Abdominal Pain

Abdominal pain can be attributed to relatively benign causes such as gastroesophageal reflux disease (GERD) (see Chapter 50, "Gastroesophageal Reflux Disease") or constipation (see Chapter 54, "Diarrhea, Constipation, and Irritable Bowel Syndrome"). However, due to the difficulty of differentiating between these conditions in the community or ambulatory setting, these reports will often require referral for a full evaluation. However, abdominal pain related to dysmenorrhea can often be appropriately treated through self-care in the absence of red flags (see Table e10-1). Patients who are pregnant should consult with their obstetrician or primary care provider for evaluation and treatment of their pain. Dysmenorrhea amenable to self-care will often present as a cyclical pattern following the onset of menstruation and typically lasts several days. Menstruation-related disorders are discussed in-depth in Chapter 100.

Plan for Treatment or Referral

For most pain amenable to self-care, an attempt to maximize nonpharmacologic treatment prior to considering pharmacologic therapies should be made. An important tenet of medication decision-making for pain management is matching the mechanism of the medication to the type of pain (see Table e10-2). Often, this may require multimodal approaches to achieve optimal therapeutic benefit.

When considering drug therapy, clinicians should attempt to minimize the systemic exposure to medications by using topical agents containing ingredients such as methyl salicylate, menthol, lidocaine, or capsaicin when appropriate. The greatest opportunity to use these agents for self-care would be in the treatment of acute pain related to musculoskeletal disorders. If referrals are made, the clinician should attempt to follow-up with the patient and their provider to support the continuity of care.

Implement by Working With the Patient

Self-care encounters provide as an opportunity to engage in important discussions with the patient about the management of their pain. The practitioner should give the patient clear information about self-care strategies and instructions for the selected strategies in a format they can easily understand. Avoid using medical or advanced terminology. It can help to have templated infographics as well as worksheets that can be completed collaboratively with the patient during the encounter. Writing down the treatment plan and asking the patient to repeat back the information are two ways to ensure patients have the information needed to apply the plan. Be sure to address any administration, engagement, or cost barriers and discuss common adverse effects with the patient. Set clear and realistic “SMART” goals (eg, Specific, Measurable, Achievable, Realistic, and anchored within a Time Frame) to ensure that the patient has appropriate expectations about when to expect improvement.

One key aspect of education is how long a patient should be advised to self-treat for pain. In general, medications to treat pain should be used at the lowest effective dose for the shortest duration possible to minimize the risk of adverse reactions. While many patients believe the risks with medications such as NSAIDs only occur with long-term use, some studies have demonstrated that the cardiovascular and gastrointestinal risks associated with these agents may be elevated even within the first days to weeks of use.[11,12] If possible, pharmacists providing self-care recommendations should document these interventions in a patient’s profile and follow-up as appropriate.

Patient education should include the discussion of realistic functional pain goals and any potential activity and behavioral modifications. Several meta-analyses have indicated that exercise-based programs (eg, walking, strength training) could reduce pain and improve function for individuals with hip osteoarthritis,[13] general musculoskeletal pain,[14] and chronic back pain.[15,16] One study found that for every pound (0.45 kg) of body weight lost, the load on the knee is reduced fourfold.[17] Furthermore, adequate sleep and maintaining a consistent exercise routine decrease the frequency of headaches.

Follow-up by Monitoring and Evaluating Outcomes

Follow-up with a patient self-treating for pain should focus on the improvement of pain symptoms, functional outcomes, mobility, and participation in daily activities that are important to the patient. Patient self-monitoring and treatment can be enhanced by encouraging the patient to keep a pain diary to track symptoms, frequency, duration of pain, activities that reduced pain, and if and how the pain is affecting their daily life. Patients should be advised to seek emergency medical attention if symptoms progress or persist despite self-care. A key role of the pharmacist would also include monitoring for any adverse reactions if pharmacologic therapy was involved in the treatment plan.

It is important to recognize that historically, pain management has largely focused on resolving the intensity of pain (ie, What is your pain on a scale of 0-10?). While this has proved to be a simple and straightforward way to measure and track pain, it has the tendency to oversimplify a patient’s pain experience. Rather than focusing solely on a pain score, the best practice would be to also incorporate validated functional scales and the patient’s personal goals. Monitoring parameters for painful conditions should include function, mobility, pain score, missed days of activities such as work or social events, and impact of pain on physical function and mood. For example, behavioral goals evaluating a patient’s social engagement, such as attending family events or engaging in activities with friends, indicate how a patient may be coping with their disease. By focusing on functional and behavioral outcomes along with pain intensity, pharmacists and other primary-care professionals can better care for patients experiencing pain and make referral decisions based on solid evidence.

In most self-care situations, the frequency of reassessment will be dictated by the type and duration of pain. Ideally a patient’s pain should improve

after treatment and resolve over several days. If a patient's pain does not improve despite treatment the patient should be referred to an appropriate clinician to have their condition fully evaluated.

CONCLUSION

Many patients experiencing pain seek to self-treat their condition. Clinicians can provide valuable care to these patients by performing a comprehensive pain symptom analysis. In the absence of red flags, an appropriate self-care plan can be developed, implemented, and monitored.

ABBREVIATIONS

GERD	gastroesophageal reflux disease
IASP	International Association for the Study of Pain
NSAIDs	nonsteroidal anti-inflammatory drugs
OTC	over-the-counter

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SELF-ASSESSMENT QUESTIONS

1. A clinician should COLLECT which of the following *before* assessing a patient's report of pain?
   A. Pain symptom analysis (ie, PQRSTU)
   B. The patient's past medical history
   C. Physical examination findings
   D. All of the above
2. What is considered to be the most reliable indicator of the presence and intensity of pain?
   A. Vital signs
   B. Functional ability
   C. Patient's self-report of pain
   D. Caregiver assessment/report of pain
3. A patient's pain severity rating, such as "current pain is 4/10," should be placed in which of the following sections of a medical note?
   A. Subjective
   B. Objective
   C. Assessment

D. Plan

4. Asking a patient, “Describe what your pain feels like?” addresses which aspect of a PQRSTU Pain Assessment?

A. Q—Quantitative

B. Q—Quality

C. S—Severity

D. Y—You (Associated Symptoms)

5. Asking a patient, “What brings on your pain or makes it worse?” addresses which aspect of a PQRSTU Pain Assessment?

A. P—Precipitating

B. P—Palliative factors

C. P—Previous treatment(s)

D. None of the above

6. Which of the following statements is *incorrect* for the parameter of “PQRSTU” with which it is matched?

A. Temporal: “The pain comes and goes, lasts about 15 minutes, and occurs about four times a day.”

B. Severity: “My pain is currently a 5 on a 0 to 10 scale.”

C. Precipitating events: “Whenever I sit down, my pain skyrockets.”

D. You (Associated Symptoms): “My pain has taken over my life and ruined all my relationships!”

E. Quality: “The pain started in my lower back, but now it hurt all over.”

7. Which of the following is *not* a universal “red flag” symptom with a report of pain?

A. Shortness of breath

B. Pain improving with treatment

C. Fever with nausea

D. Headache for 4 days

8. A 30-year-old man reports pain in his back that moves down their leg and states, “It feels like it’s on fire!” is *most likely* experiencing which type of pain?

A. Nociceptive somatic pain

B. Nociceptive visceral pain

C. Neuropathic pain

D. Conductive pain

9. A 52-year-old woman reporting aching pain in both her knees that is worse when she walks is *most likely* experiencing which type of pain?

A. Nociceptive somatic pain

B. Nociceptive visceral pain

C. Neuropathic pain

D. Conductive pain

10. A 23-year-old woman reporting cramping that typically occurs the same time every month following the onset of menstruation is *most likely* experiencing which type of pain?

A. Nociceptive somatic pain

B. Nociceptive visceral pain

C. Neuropathic pain

D. Conductive pain

11. A person is reporting severe, diffuse right flank pain that you suspect could be appendicitis. If true, he/she is *most likely* experiencing which type of pain?

A. Nociceptive somatic pain

B. Nociceptive Visceral pain

C. Neuropathic pain

D. Conductive pain

12. Which of the following OTC medications may benefit a patient experiencing mild, localized neuropathic pain related to postherpetic neuralgia treated over a year ago?

A. Ibuprofen

B. Acetaminophen

C. Aspirin

D. Lidocaine

13. LS is a 56-year-old man who presents to your pharmacy today asking what medication he can take to relieve his new-onset chest pain. What would be the best plan for LS?

A. Educate the patient that the pain is likely self-limiting and will resolve in a few hours.

B. Refer the patient to the nearest emergency department for further evaluation.

C. Recommend ibuprofen 200 mg every 4 to 6 hours as needed for pain.

D. Advise the patient to call his primary care provider.

14. A 19-year-old woman presents to your pharmacy reporting mild cramping in her abdomen that typically occurs following the onset of menstruation. She asks the pharmacist what medication she can take to help with the pain. She reports no known drug allergies, and the only medication she takes regularly is an estrogen and progestin combination oral contraceptive pill (ethinyl estradiol and norgestimate). What would be the best plan for treatment or referral for her?

A. Refer the patient to her primary care physician for treatment

B. Recommend she apply a thin film of capsaicin 0.1% cream to the affected areas three to four times daily

C. Recommend ibuprofen 200 mg every 4 to 6 hours as needed for pain

D. Refer the patient to the nearest emergency department for immediate evaluation

15. US is a 62-year-old woman experiencing stiffness in her hips and knees over the past several months. She plans to exercise and hopes to lose weight but calls your pharmacy asking if there is medication available over-the-counter that may improve her pain. She reports having an anaphylactic reaction to aspirin. What would be the best plan for treatment or referral for US?

A. Refer the patient to the nearest emergency department for further evaluation

B. Recommend ibuprofen 200 mg every 4 to 6 hours as needed for pain

C. Recommend acetaminophen 1,000 mg every 4 hours as needed for pain

D. Recommend acetaminophen 1,000 mg every 6 hours as needed for pain

SELF-ASSESSMENT QUESTION-ANSWERS

1. **D.** It is necessary to gather patient information from a pain symptom analysis, medical history, and physical examination to properly assess a report of pain. See the "Collect Information" section for more information.

2. **C.** The information gathered from the patient's self-report is considered the most reliable indicator of the presence and intensity of pain. See the "Assess the Patient" section for more information.

3. **A.** Given that pain is always subjective, the most appropriate place in a medical note would be the subjective section. See the "Collect Information" section for more information.

4. **B.** Asking the patient what their pain feels like is describing the quality of their pain. See Table e10-3 for more information.

5. **A.** Asking the patient what brings on their pain or makes it worse is identifying precipitating factors related to their pain. See Table e10-3 for more information.

6. **E.** The patient's statement that their pain started in their back but is now all over best describes the region and radiation of their pain. Therefore, matching quality to this statement would be incorrect. See Table e10-3 for more information.

7. **B.** Pain improving with treatment is not a universal "red flag" listed in Table e10-1. All of the other options are correct "red flag" symptoms.

8. **C.** The patient is describing a burning sensation, which is likely indicative of neuropathic pain. See Table e10-2 for more information.

9. **A.** The patient is describing aching in both knees, which likely involves the bone, joint, or soft tissue. This pain would be best classified as nociceptive somatic pain. See Table e10-2 for more information.

10. **B.** The patient is describing pain that is likely related to menstrual cramps given that it occurs at the same time every month following the onset of menstruation. This pain is best classified as nociceptive visceral pain. See Table e10-2 for more information.

11. **B.** The patient is describing pain that is highly suspicious for appendicitis and likely nociceptive visceral pain. See Table e10-2 for more information.

12. **D.** Neuropathic pain may respond to medications such as topical capsaicin or lidocaine, which are available over-the-counter. See Table e10-2 for more information.

13. **B.** New-onset chest pain is a "red flag" symptom with report of pain. The concern for cardiac issues requires referral to the emergency department for evaluation. See the "Assess the Patient" section for more information.

14. **C.** Pain caused by menstrual cramps may respond to OTC analgesics such as acetaminophen or NSAIDs such as ibuprofen. Choices A and D are not the best plan as the patient does not have any "red flag" symptoms that would preclude self-care. Choice B is not correct as capsaicin is not the most efficacious medication for this type of pain and often takes days to weeks to provide pain relief when used appropriately. See Table e10-2 for more information.

15. **D.** The patient is likely describing pain caused by osteoarthritis. This pain typically responds well to OTC analgesics such as acetaminophen. Choice A is not the best plan as the patient does not have any "red flag" symptoms that would preclude you from providing care. Choice B is incorrect as the patient reported an anaphylactic reaction to aspirin. Patients with a history of aspirin intolerance should be advised to avoid all aspirin- and NSAID-containing products. Choice C is incorrect given that the dose exceeds 4 g/d of acetaminophen and is, therefore, potentially hepatotoxic. See the "Collect Information and Plan" section of the Patient Care Process box for more information.