

Assessing Pain

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ASSESSING PAIN

Goal:

Health care providers will be able to complete a pain assessment and create a working diagnosis using a standardized approach.

After completing this module, participants will be able to:

Take a systematic approach to pain history, assessment, and diagnosis

Implement use of an acronym (PQRSTU) to remember all the factors for a comprehensive pain assessment

Interview patients regarding pain using a patient-centered approach

Categorize pain for acute or chronic and nociceptive or neurogenic pain conditions

Establish a working diagnosis for pain

Professional Practice Gaps

Chronic pain is a very common problem encountered in clinical practice. Current research shows that 25.3 million (11.2%) adults in the United States experience chronic pain. 40 million (17.6%) of adults in the United States experience severe levels of pain¹. In a study involving 111 providers (attending physicians, nurse practitioners, physician assistants, and family practice residents), a mean of 37.5% of adult patients seen in a targeted week by any of the participating providers reported having current chronic pain². Guidelines produced by the American Pain Society (APS) and the American Association of Pain Medicine (AAPM), Clinical Guidelines for the Use of Chronic Opioid Therapy in Chronic Noncancer Pain³, and CDC guidelines for opioid prescribing⁴ recommended multidisciplinary care for pain and that when opioids are prescribed for a patient with chronic pain, a single clinician should be identified who is primarily responsible for the patient's overall medical care³. However, multidisciplinary pain centers have decreased in number and are not an option for most patients in chronic pain⁵.

Individual pain providers need to coordinate care among themselves to provide the same multidisciplinary care in multiple settings. A survey of physicians found that they do not feel they have time to consult with other providers regarding their patients being treated for chronic pain⁶. Training in coordinating pain care and improved communications among pain providers is likely to lead to more efficient consulting, which will help address the barrier of not enough time. A survey of health care facilities regarding pain management practice standards and education revealed gaps in knowledge of pain management and attitudes that hinder proper acute and chronic pain treatment⁷. In a needs analysis survey for developing this training program, 18 physicians and nurse practitioners surveyed rated strong agreement (mean=4.4/5) that they would be interested in CME on the topic: "Patient co-management by primary care and specialists"⁸.

INTRODUCTION

Foundation Section Overview

The Foundation training section, consisting of a module on Assessment and another module on Treatment, will review a comprehensive approach to assessment, diagnosis, and treatment of pain so that you have all the information you need to provide the most effective and safe pain management. Emphasis is on



using first-line treatments if possible, and using opioid therapy only as needed and with precautions to reduce risk.

Assessment Module Overview

Pain should be evaluated thoroughly with complete history, physical, and diagnostic tests before prescribing medications or other treatments. A standard approach to elicit pain information from a patient will assure that critical information is not omitted, including:

Pain: Include nature, severity, duration, triggers, past and current treatment, subjective experience
Functioning: Impact of the pain on the patient's life including physical and psychosocial functioning. Pain is a perception, a subjective experience, so explore emotional and cognitive components in addition to objective findings.
Underlying condition responsible for the pain: With chronic pain, finding the pain diagnosis may not always be possible, but an effort to find and treat the underlying cause and assessing its current status is important

Assess pain at each appointment. Pain should be assessed at every appointment during chronic pain treatment, as it may change over time.

PRACTICE TIP

Let your patients know that you care about their pain and how it affects them and that you will do everything you can to help them.

ASSESSMENT AND DIAGNOSIS OF PAIN CASE: MS. WARD

The following case will be used in this module to illustrate concepts:



Patient: Ms. Elizabeth Ward, 38 y/o

Brief History: Ms. Ward is a new female patient complaining of pain in her left heel that began several months ago and became excruciating after a long run last week. She describes the pain as throbbing and sharp. It bothers her daily, especially after work, where she is on her feet a lot. She is frustrated because she wanted to run a half marathon but had to stop running because of the pain.

- How would you classify her pain?*
- What would you ask to obtain a complete pain history?*
- How would you help her take an active role in her treatment?*
- What first-line pharmacological therapies would you recommend?*
- What non-pharmacological therapies would you recommend?*
- Are opioids an evidence-based option for her?*

This module will show you how to:

- Assess and develop a working diagnosis for Ms. Ward's heel pain.
- Develop a treatment plan for common pain conditions, illustrated through two additional cases.

Apply what you have learned about pain assessment, diagnosis, and treatment with an unknown, fourth case.

At the end of the module, there will be an unknown case to apply what you learn.

CONFIDENTIALITY

Confidentiality is the agreement between patient and provider that information discussed during or after the encounter will not be shared with others without the explicit permission of the patient⁹. Confidentiality and its related laws are designed to protect patient privacy by limiting the communication of intrusive information regarding the patient¹⁰. Confidentiality is crucial to fostering candid communication and essential to gaining a patient's trust in the health care system.



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In primary care, the provider-patient relationship is particularly important. PCPs generally have long-term relationships with their patients and often treat multiple family members. Additionally, it is common for family members to accompany a patient to an office visit. All of these situations make the preservation of doctor-patient confidentiality more complicated¹¹.

PAIN HISTORY: A STANDARDIZED APPROACH

Evaluating Pain: PQRSTU Overview

Pain assessment tools allow the patient a medium in which to express critical facts about how intense the pain is, what part of the body it originates, the type of pain, and how it impacts quality of life. Several are offered in the Related Resources section at the end of the module.

The acronym PQRSTU can help clinicians remember all the factors to assess regarding pain:

Provocation/ Palliation/Past.	Provocation: What elicits pain or aggravates it/makes it worse? Palliation Past	
Quality of Pain.	For example, is the pain sharp or dull, throbbing?	
Region of Pain/Radiation.	Region/Location of pain Radiation of pain,	
Severity of Pain.	Numeric pain intensity scale: Asks 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 possible Visual analog rating scales	
Timing.	Questions about time and pain including the following: Onset: When did the pain start? Is the pain immediate or delayed? How long after precipitating factors does it start? Time of day: When does the pain occur? Pattern: Is it intermittent or constant pain? Duration: How long does the pain last?	
U (How Pain Affects You), ie.	Assessment of functioning is critical in determining the extent of treatment needed.	

Functioning. Patients' mood, work/activities, relationships, etc, may be affected by pain
 Start with Activities of Daily Living assessment
 Supplement with open-ended questions regarding pain effects on functioning, for example: "Please tell me how the pain is affecting your daily life?"

PRACTICE TIP

The patient self-report is the most reliable indicator of pain.

EVALUATING PAIN USING PQRSTU: STEPS P, Q, R, S T, AND U

This table again reviews the Steps P, Q, R, S, T and U, but with more detail:

Provocation/ Palliation/Past.	<p>Provocation: What elicits pain or aggravates it/makes it worse? Palliation: What makes it better? What has been tried? Include both pharmacological (over the counter and prescription) and non-pharmacological (e.g., ice/heat, massage, acupuncture, guided imagery, physical therapy, meditation)? Response to treatment: How well did each treatment work? Any adverse effects? What dosages of medications have been tried? Past: The same questions applied to the past. Also, what is the past history of this problem?</p>
Quality of Pain.	<p>For example, is the pain sharp or dull, throbbing? The McGill Pain Questionnaire, as found in the Related Resources link at the end of the module, includes a comprehensive list of pain descriptions¹².</p>
Region of Pain/ Radiation.	<p>Region/Location of pain Radiation of pain, whether it moves to other areas, for example, visceral pain of a myocardial infarction may radiate to an arm or the jaw; sciatic nerve pain may radiate down the leg. Draw both "Rs", on a diagram, such as the one on the McGill Pain Questionnaire, linked in Resources at the end of the module.</p>
Severity of Pain.	<p>Patients may have difficulty expressing the nature and intensity of their pain. Because pain is subjective, there is no completely objective way to detect it. Scales can help patients rate their pain severity, for example. Numeric pain intensity scale: Asks 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 possible Visual analog rating scales: Example - the Pain Thermometer, in which higher temperatures correspond to higher pain intensity. For children and those with cognitive impairment, the Faces Pain Rating Scale is a valid measurement that depicts a range from a very happy face to a very sad face¹³. (See Resources at end of module.)</p>
Timing	<p>Questions about time and pain including the following: Onset: When did the pain start? Is the pain immediate or delayed? How long after precipitating factors does it start? Time of day: When does the pain occur?</p>

Pattern: Is it intermittent or constant pain?

Duration: How long does the pain last?

Assessment of **functioning** is critical in determining the extent of treatment needed.

U (how pain affects you), i.e., Patients' mood, work/activities, relationships, etc., may be affected by pain
Start with Activities of Daily Living assessment

Functioning Supplement with open-ended questions regarding pain effects on functioning, for example: "Please tell me how the pain is affecting your daily life?"

PRACTICE TIP

The patient self-report is the most reliable indicator of pain.

MS. WARD'S PAIN HISTORY (P, Q, R, S, T, U)

Examples Patient Interview With PQRSTU Questions

1. P: Questions on Provocation, Palliation, Past

Provider: Ms. Ward, I'd like to ask you a few questions about your heel pain so I can better assess the type of pain you are experiencing. First off, what makes the pain worse? [Provocation]

Ms. Ward: The worst is when running on pavement; I think that is what caused it. But working on the floor at the store all day makes it hard to walk, too.

Provider: Ok. What treatments, medications and other treatments, such as physical therapy, exercise, or massage, have you tried for the pain and how has it worked for you? [Palliation]

Ms. Ward: I take ibuprofen all the time and sometimes extra strength acetaminophen, which helps. And I've cut down on my running and changed my running shoes, which kept it from getting worse. But on the days I work the floor all day, my heel really hurts.

Provider: Has your heel been treated before, and if so, what was the outcome? [Past]

Ms. Ward: I've never had pain like this before in my heels.

2. Q: Questions on Quality of Pain

Provider: Some pain is dull or achy, while other pain is sharp, stabbing, pinching, or tight. Can you describe what your pain feels like? (Note: the list from the McGill Pain Inventory could be used for this purpose)

Ms. Ward: I would say it's a sharp, throbbing pain.

Provider: Do you feel any burning or tingling sensations, or is your heel sore or tender to touch?

Ms. Ward: Just tender to touch.

3. R: Questions on Region/Radiation

Provider: Ms. Ward, you have mentioned that the pain is in your left heel. Do you feel pain anywhere else?

Ms. Ward: It's just in the heel, especially near the front of it.



4. S: Questions on Severity

Provider: On a scale of 1 to 10, with 1 being "no pain" and 10 being "the worst pain imaginable", how would you describe the pain in your heel right now?

Ms. Ward: I would say it's about a 3-4 with extra strength acetaminophen.

Provider: On the days when the pain is at its worst, how would you describe your pain, on a scale of 1 to 10?

Ms. Ward: At first, it's almost a 10 when running. After long days on the retail floor, I would say it is a 6. Same thing in the morning or if I don't take acetaminophen.

5. T: Timing

Provider: When did this start? [Onset]

Ms. Ward: It started about 3 months ago, the worst pain started this week. It got warm and a little swollen after a long run.

Provider: Did it start immediately?

Ms. Ward: Yes immediately after the run and also after being on my feet at work.

Provider: When do you most feel the pain? [Time of day]

Ms. Ward: Aside from being really bad after running and work, it's basically there at a lower level all day. It is pretty bad first thing in the morning, and it is painful to walk at first.

Provider: How long does the pain last, once it is triggered? [Duration]

Ms. Ward: The pain really never goes away - there's a little throbbing all the time and a sharp pain when I walk or run.

6. U (You)

Provider: How has this pain affected you? [Open-ended Question on Functioning]

Ms. Ward: The main reason I'm here is that it has interfered with my running goals.

Provider: I appreciate you let me know how important running is for you. Are there other ways that your heel pain affects your daily life? [Effect on Daily Activities]

Ms. Ward: I've had to leave work early a few times because of the pain. By the end of the day, there is a sharp pain in my heel, and it throbs all night. I had to stop running and walk carefully to avoid putting pressure on my heel.

Provider: Has it had any effect on your relationships? [Effect on Relationships]

Ms. Ward: Yes! My 8-year-old daughter loves to play soccer, and now I can't help her practice.

Provider: Has it affected your mood? [Effect on Mood]

Ms. Ward: Not so far, but if it continues like this, I don't know...

More on Functioning: After listening and providing empathy for this significant part of the chronic pain experience, ask for any further information you need about the following areas of functioning:

Psychological Functioning/Mood: Does the pain affect your mood?

Daily Activities: Does your pain keep you from doing anything, such as daily activities? (e.g., sleeping, walking, cleaning, shopping, work, play, or hobbies).

Social Functioning: Does the pain affect your relationships?

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The Brief Pain Inventory, linked in the Related Resources at the end of this module is an example of a pain assessment questionnaire that is reliable and valid and may detect the origin of pain¹⁵.

VIDEO: ASSESSING PAIN SYSTEMATICALLY WITH PQRTSTU ACRONYM

A video that illustrates a provider assessing a patient's pain using an acronym, PQRTSTU, can be viewed here: https://youtu.be/cKR27q9g-_o.

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BARRIERS TO PAIN CARE BASED ON RACE, ETHNICITY, AND OTHER SOCIOECONOMIC FACTORS

Many potential barriers contribute to differences in pain care received by different groups on the average. For example, ethnic minorities in the United States have been relatively under-treated with analgesics¹⁷. Common social barriers to treatment include education, financial stability, location, lack of public transportation, and language¹⁸

Primary barriers: The result of social determinants, primary barriers are more difficult for providers to address. These barriers are common in certain racial, ethnic, or socioeconomic groups:

Compromised access to adequate pain care due to:

limited pain care facilities

pharmacies not stocking pain medications, e.g., inadequate supplies of opioids in communities of color¹⁹

limited transportation in a particular neighborhood

Lack of health insurance or the ability to pay for health care

Secondary barriers: Originate from providers and can, therefore, be addressed more readily by them, including providers' own problems with:

prejudices

cultural sensitivity

cultural competency

It is important for providers to:

Become aware of their biases and not allow them to get in the way of providing equal pain care for all groups.

Become familiar with and respect differences in race/ethnicity, gender, sexual orientation, religious beliefs, and disability that may affect pain treatment.

Integrate the response to these differences into the pain treatment plan.

Address language and other communication barriers.

Genetic Differences in Pain:

Racial and ethnic differences in response to pain medications have been observed²⁰. Differences in metabolism, clinical effectiveness, and side-effect profiles have been described, but further research is needed. Treatment outcomes can vary among ethnic groups.

MS. WARD – PATIENT-CENTERED INTERVIEWING

Importance of "Patient-Centered" Approach in Treating Pain

Important aspects of patient-centered care for pain that actively involve patients in decision making and treatment include:

- Informing and involving patients in medical decision making and self pain-management
- Providing physical comfort and emotional support
- Understanding the patients' concept of illness and cultural beliefs



Institute of Medicine (IOM). Crossing the Quality Chasm: A New Health System for the 21st Century. National Academy Press, Washington, DC. 2001. Available at:

<http://iom.nationalacademies.org/Reports/2001/Crossing-the-Quality-Chasm...> Accessed on: 2013-09-12.

Patient-centered care helps motivate and engage the patient and thus may improve their response to pain treatment. Good communication skills help develop a trusting relationship. Sensitive, non-judgmental interviewing techniques can result in more accurate and candid self-reports. For example, patients who trust their provider are more likely to share a history of substance abuse.

Empathy. Showing empathy for a patient's suffering is an important part of emotional support. This includes being able to recognize and acknowledge strong emotions or suffering and to express compassion or concern for their pain and emotional discomfort. Example: "I see it has been pretty painful. I'm sorry to hear you have had this much pain. I want to help you so that you get some relief."

Patient-Centered Interviewing About Pain

A series of rapid-fire, targeted questions may seem efficient, but it does not foster an open, equal relationship or patient engagement. Using open-ended questions rather than "yes" or "no" questions facilitates active patient participation and gives you an idea what aspects of the pain are most important to the patient.

Example of an Open-Ended Question in the Patient-Centered Approach

[Notice that Ms. Ward volunteers a lot of information in response.]

Patient: Ms. Elizabeth Ward, 38 y/o

Brief History: Ms. Ward is a new patient complaining of pain in her left heel that began several months ago and became excruciating after a long run last week. She describes the pain as throbbing and sharp. It bothers her daily, especially after work where she is on her feet a lot. She is frustrated because she wanted to run a half marathon but had to stop running because of the pain.



Interview:

Provider: *Tell me what's been going on with your heel? [Open-ended Question on the Chief Complaint]*

Ms. Ward: *The worst pain is when my heel strikes the pavement when running; I think that increasing my training caused it. [Provocation] The morning after a work out it is hard to walk at first, it*

is so painful. [Time – onset] I'm on my feet at work all day which makes it worse [Provocation]. I tried icing it and taking ibuprofen and acetaminophen, but that's not enough anymore! [Palliation]

Question: What can this provider say to Ms. Ward next that would be consistent with the patient-centered care principles described above?

Choose all that apply:

It sounds like you are suffering from this pain in several important areas of your life.

Feedback: Correct!

This response from the provider achieves the goal of showing he/she is listening. Adding the word "important" shows an understanding of the value to Ms. Ward of these changes in functioning.

It sounds like you need more relief from your pain.

Feedback: Correct!

This response from the provider uses accurate summarizing to show that the provider is listening carefully.

I am going to try you on an opioid and see if that helps with your pain.

Feedback: Partially Correct

While this response from the provider does show an interest in relieving the patient's pain, it does not include the patient in the treatment plan process. In patient-centered care, the patient is included in decisions about treatment. A better response at this point might be to show interest and dedication to trying to find more pain relief for Ms. Ward, for example, "I want to work with you to look for treatments that provide better pain relief."

What is your goal in terms of running?

Feedback: Correct!

This response from the doctor explores Ms. Ward's definition of illness. Some people might be happy just to be able to walk without pain. But the doctor is exploring whether Ms. Ward's idea of wellness is to resume her training for a marathon.

ACUTE VS CHRONIC PAIN SYMPTOMS

A complete diagnosis of all possible underlying pain conditions is beyond the scope of this training activity, but we will briefly review pain categorization, which helps lead to a diagnosis.

First, pain can be divided into acute vs. chronic and nociceptive vs. neuropathic categories.

<i>Pain History Characteristic</i>	<i>Acute Pain</i>	<i>Chronic Pain</i>
Provocation: Eliciting Pain Response	More clear mechanism of provocation. Elicited through movement or palpation	Less clear mechanism of provocation May be difficult to elicit the pain through movement or palpation
Past History of Pain	Less history to obtain	Past history of chronic pain is important, including what has been tried for palliation and how well each treatment has worked.
Quality of Pain	Feels sharp or throbbing	Often described as a dull ache

Pain History Characteristic	Acute Pain	Chronic Pain
	Often described in terms of the pain itself: <i>"I have this stabbing pain in my back!"</i>	More likely to be described in terms of the emotional strain or worry: <i>"I have this pain in my back that is really getting to me."</i>
Severity of Pain	May be severe	May become less severe than acute pain; however, many cases are severe.
T (timing): Duration	Short in duration (but may last up to several weeks)	Present over 6 weeks or for longer than the anticipated healing time. ²¹ May persist even in the absence of injury or after healing
T (timing): Onset	Sudden onset	Onset often gradual Effects on physical functioning and quality of life can be devastating
U (U=You - how pain affects the patient): Emotional effects	Emotional response often subsides when healing is expected	Potential emotional effects include depression, anger, anxiety, and fear (of additional pain or re-injury) Meaning of the pain to the patient is relevant to behavioral treatment.

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COMMON PAIN CONDITIONS

Common Acute Pain Conditions

Acute pain often has a readily diagnosable source. The pain is often protective or guarding of some underlying condition. Acute pain is often a result of trauma or infection (nociceptive pain). Common examples include:

- a broken bone (somatic pain)
- organ pain (visceral pain)
- herniated disc (neuropathic pain)

Common Chronic Pain Conditions

Chronic pain may not have an obvious explanation. The pain is often not useful or protective. Some chronic pain conditions are common:

- Osteoarthritis
- Lower back pain
- Myofascial pain
- Fibromyalgia
- Chronic headaches
- Central pain (e.g., spinal cord injury, stroke, Multiple sclerosis)
- Complex Regional Pain Syndrome
- Peripheral neuropathy



- Neuralgia
- Intermittent pain conditions, e.g., sickle cell disease and migraines, might also be included under chronic pain

BIOLOGICAL MECHANISM PAIN CATEGORIES

Review Nociceptive vs. Neuropathic Pain

Nociceptive pain

Normal sensory reaction to stimuli that damage tissue, such as an injury.

Symptoms: ache, a sharp sensation, or a throbbing sensation^{24,25}.

Examples (Sub-categories of nociceptive pain by biological mechanism):

Muscle pain - example: Myofascial pain syndrome

Inflammatory pain - example: Rheumatoid arthritis, infection

Mechanical/compression pain - example: Musculoskeletal pain in back or shoulders

Visceral pain - example: Gall duct obstruction (Visceral pain involves body organs, as opposed to somatic pain, which involves the rest of the body)



Neuropathic pain

Related to lesions or disease with the nervous system rather than external stimuli²⁶

Symptoms: sharp pain, burning, tingling, or increased sensitivity to temperature or touch

Example: Phantom limb pain.

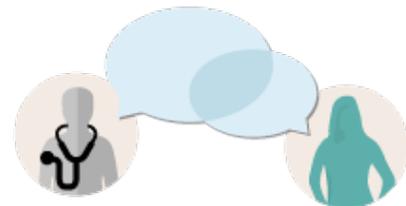
Cancer vs. Non-Cancer Pain

Chronic pain can also be classified as either cancer or noncancer pain, sometimes abbreviated CNCP. Unfortunately, pain is often a part of cancer, cancer treatments, and end of life. Life-threatening issues that affect treatment planning are beyond the scope of this training, so this training activity focuses on CNCP. Much of what applies to CNCP applies to cancer pain in its earlier stages and post-treatment pain in a cancer survivor.

SCREEN FOR MENTAL HEALTH PROBLEMS

Why Screen?

It is important to screen patients with mental health problems for pain and substance use disorders and vice versa. Patients with both psychiatric disorders and chronic pain are at a higher risk for developing a substance abuse disorder²⁷. Co-occurring mood disorder, anxiety disorder, or other drug use disorder are each found in over a third of patients who seek treatment for substance abuse²⁸.



Co-occurring psychiatric problems in patients with substance use problems often go undetected²⁸. The USPSTF has indicated that all adults should be screened for depression. This recommendation has been expanded from past suggestions to now include pregnant and postpartum women, as well as those who do not indicate prior evidence of depression²⁹.

Opioid prescribing guidelines say that if psychiatric conditions are identified, opioids should only be prescribed if frequent and stringent patient monitoring can be implemented³. Referral for treatment of the psychiatric condition or substance use problem and coordination of care with mental health providers is important.

Which Psychiatric Disorders?

Comorbid psychiatric disorders, often called "dual diagnoses," are common in patients with chronic pain, especially:

- depression
- anxiety
- personality disorders

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Social problems. Social problems, such as an inadequate support system, may also be an integral part of some chronic pain syndromes³². Social support system should be evaluated carefully. Co-occurring psychiatric problems in patients with substance use problems are often left untreated when they are detected²⁸.

Assessing for Psychiatric Comorbidity

Psychiatric screening tools that can be used in primary care are provided in the Related Resources at the end of the module. Diagnosis of a psychiatric condition is based on the presence of multiple symptoms in sufficient severity as described in the latest version of the Diagnostic and Statistical Manual of Mental Disorders. When assessment results indicate an untreated comorbid mental disorder, the patient should be treated or referred.

Pain Coping and Management Skills

Even without a psychiatric diagnosis, patients with chronic pain are likely to benefit from mental health services. Patient use of pain self-management strategies should also be assessed³². Referral for counseling to improve pain self-management strategies may be indicated.

FYI

Chronic pain is common¹, 25.3 million (11.2%) adults in the United States experience chronic pain. 40 million (17.6%) of adults in the United States experience severe levels of pain)

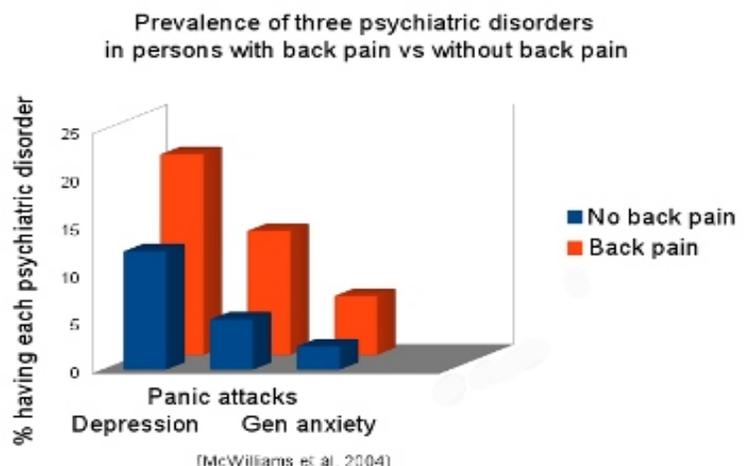
COMORBID MENTAL HEALTH PROBLEMS

It is essential to complete a mental status evaluation in patients with pain. Chronic pain conditions are significantly associated with certain mental health conditions, especially:

- depression
- anxiety

Depression, panic attacks, and generalized anxiety disorder were positively associated with back pain (see

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bar graph)³³. Depression and chronic pain interact due to some shared neurological pathways³⁴. The relationship between depression and chronic pain is cyclical, with one reinforcing the other, both neurologically and behaviorally. For example, depression can interfere with motivation to participate in treatment. Cognitive behavioral therapy (CBT), described later in this module as a treatment for coping with pain, is also effective for reducing depression and anxiety.

MS. WARD - PAIN CATEGORIES

Ms. Ward

Ms. Ward's Pain History and Clinical Examination Results are repeated here to assist you in answering this question.

Review Ms. Ward's Pain History

Provocation/Palliation/Past

Provocation: Pain after running, standing, and walking

Palliation:

- Ibuprofen 400 to 800 mg orally every 6 to 8 hours reduces pain a little, but it is still "unbearable" at its worst (at night) and first thing in the morning
- Ice is very effective at reducing the sharpest pain, swelling, and heat
- Not running or walking on it for a few days makes pain manageable
- Guided imagery recording helped her sleep despite the pain
- Occasional marijuana dulls the pain, but she does not want to use it

Past: Never had this pain before

Quality of Pain: Sharp on impact, throbbing at rest

Region of Pain/Radiation: Right heel, no radiation

Severity of Pain:

- 8 out of 10 after running or being on her feet at work
- 6 out of 10 at rest without medication
- 2 to 4 out of 10 with OTC ibuprofen and acetaminophen

Timing: Pain started 3 months ago. Sharp, intense pain with heel strike when running, immediately after running and working on her feet, and upon first standing and walking in the morning. Moderate to severe throbbing constant pain at night and a low level of pain at other times.

U (How Pain Affects You): Difficulty working a job that involves standing and walking; walks on ball of foot to avoid heel; stopped running for exercise and cannot achieve her goal of a half marathon, and limits ability to play with her daughter.

Review Ms. Ward's Clinical Exam Results

The physical examination of Ms. Ward's left heel:

Negative for erythema, heat, and edema of the left heel.

Palpation produces tenderness at the insertion of the plantar fascia into the calcaneus.

Moderate pain with standing while bearing weight on the heel.



Mild pain with dorsiflexion of the foot.

Question: Is Ms. Ward's pain acute or chronic? Neuropathic or nociceptive?

Choose one

Nociceptive, acute

Feedback: Partially correct

While there may be some acute exacerbation due to the running, the 3-month duration of Ms. Ward's pain and its dull quality suggest chronic pain. The external stimuli of being on her feet a lot for work and taking up running suggest a nociceptive etiology, in this case, mechanical trauma.

Nociceptive, chronic

Feedback: Correct!

The 3-month duration of Ms. Ward's pain and its dull quality suggest chronic pain. The external stimuli of being on her feet a lot for work and taking up running suggest a nociceptive etiology, in this case, mechanical trauma.

Neuropathic, acute

Feedback: Incorrect

The 3-month duration of Ms. Ward's pain and its dull quality suggest chronic pain. The external stimuli of being on her feet a lot for work and taking up running suggest a nociceptive etiology, in this case, mechanical trauma.

Neuropathic, chronic

Feedback: Partially correct

The 3-month duration of Ms. Ward's pain and its dull quality suggest chronic pain. The external stimuli of being on her feet a lot for work and taking up running suggest a nociceptive etiology, in this case, mechanical trauma.

CLINICAL EXAMINATION

Overview of Physical Examination and Diagnostic Tests

Key elements of the physical examination and diagnostic tests involved in the clinical examination of pain include:

A focused physical examination to include a functional assessment of the part of the body or region where the pain is located

Eliciting pain gently and minimally, guided by your knowledge of the affected area and what the patient has told you about aggravating and relieving factors

Observing the patient's responses to pain, such as guarding, abnormal movements while sitting down or walking, facial expressions, etc.

Observing alterations in vital signs; pulse, respiratory rate, and blood pressure in response to pain

A full description of the clinical examination for pain is beyond the scope of this training activity and is covered in other clinical training.



Ms. Ward's Clinical Examination

Ms. Ward

Ms. Ward's physical examination is negative for erythema, heat, and edema of the left heel. Palpation produces tenderness at the insertion of the plantar fascia into the calcaneus, but no tenderness with simultaneous pressure to medial and lateral aspects of the posterior calcaneus. Moderate pain with standing while bearing weight on the heel. Mild pain with dorsiflexion of the foot. A test for gastrocnemius equinus contracture is negative.



WORKING DIAGNOSIS

Pain treatment should be based on the diagnosis of the underlying pain condition, if possible. Evidence often supports different treatments for different conditions. A working diagnosis based on available information determines immediate treatment or need for further diagnostic tests and is modified as needed.

Ms. Ward's Working Diagnosis

Plantar fasciitis (most common cause of heel pain; pain first thing in the morning in the heel is a symptom)
 Heel spur

CASE VIGNETTE - MRS. BISCHOFF



New Patient

Name: Mrs. Heidi Bischoff

Age: 36 years old

Reason for visit: Frozen shoulder

History of Present Illness: 3 month history of severe right shoulder pain when moved behind her or laterally and mild to moderate pain at other times while taking prescription NSAIDs. Severe pain after inadvertent use of her shoulder lingers around an hour, and sometimes she triggers it in her sleep. She is interested in whether opioids might help.

Vital Signs					
Height:	Weight:	Pulse:	Blood Pressure:	Respiration Rate:	Temperature:
5'7"	142 lbs	74	112/65	12	98.2° F

Past Medical History

Medical Illnesses: Onset of frozen shoulder after mild injury in martial arts class - treated with prescription diclofenac.

Alcohol/Tobacco/Recreational Drug Use: None

Family/Social History

Relatives: Mother, age 72 -- Hypertension; Father, age 75 -- Hypertension, early Alzheimer's 62

Occupation: Graduate student in microbiology

Marital/Family Status: married; no children

Current Medications

-Diclofenac bid, used intermittently, but she does not notice much effect.

Ice: used after initial injury

Allergies: NKDA. Acetaminophen causes nausea

Labs

Slightly elevated ESR and C-Reactive Protein (CRP) thought to be due to the shoulder inflammation. Lab values otherwise within normal limits.

Imaging

Initial diagnostic radiograph of right shoulder showed no evidence of fracture, tumor, arthritis, or calcifications.

An MRI of the right shoulder two weeks ago revealed a thickened coracohumeral ligament and soft tissue thickening in the rotator interval confirming the diagnosis of adhesive capsulitis ("frozen shoulder"); no additional intra-articular pathology was noted.

Physical Exam

10 to 50% loss of shoulder range of motion in all planes, loss of both active and passive range of motion, some tenderness at rotator cuff and biceps head upon palpation, some radiation into deltoid muscle.

Interviewing Mrs. Bischoff

The goal of Mrs. Bischoff's case is to allow students the opportunity to:

Practice making a diagnosis based on the evidence gathered in the pain interview, physical exam and diagnostic testing

Develop a comprehensive, multi-modality treatment plan

Think about how their care of a patient is part of an overall medical team.

After reviewing the available pain history and other information, you will complete the pain interview, categorize her pain, review her diagnosis, choose pain treatment options, and receive feedback.

MRS. BISCHOFF - OTHER PAIN HISTORY NEEDED

Ms. Bischoff

You now have most of Mrs. Bischoff's pain history:

3 months of mild to moderate pain, severe pain after movements in specific directions. Treated with diclofenac with little relief. She does not take acetaminophen because it "bothers my stomach." The pain is "hot," piercing, constant, and intense in a small localized area in the center of the joint with some radiation to her deltoid muscle. On a scale of 1 to 10, it reaches a 10 for a second with certain motions, lingers at a 7 to 9, and then "calms down" to a 4 to 5 within an hour or two. She states that it is not tender to the touch, because the pain feels like it is inside the joint where it cannot be touched.



In the past month, she has noticed decreased range of motion in lifting her arm over her head and reaching behind her.

Question: What other key information do you need before proceeding with a treatment plan? Recall the PQRSTU acronym presented earlier in this module:

P=Provocation/Palliation/Past

Q=Quality

R=Region/Radiation

S=Severity

T=Timing

U=You (how does it affect your life?) acronym used to remember what information to obtain in a pain history.)

Choose all that apply:

What have you tried to relieve the pain?

Feedback: Correct!

It is appropriate to discover all medications and other attempts at treatment that have been tried and to learn her response to them. One of the three 'Ps' in the PQRSTU acronyms stands for "Past attempts at treatment and the response". Notice how the question does not just focus on medications, but instead, is inclusive of all possible pain treatments.

Mrs Bischoff's Response: *I tried ibuprofen but it didn't help.*

Did you have an MRI or any x-rays?

Feedback: Partially correct (because we already have this information)

Her electronic health record already answered this question so it did not need to be asked. The following report was available under the imaging tab: "An MRI of the right shoulder two weeks ago revealed a thickened coracohumeral ligament and soft tissue thickening in the rotator interval confirming the diagnosis of adhesive capsulitis ("frozen shoulder"); no additional intra-articular pathology was noted." Otherwise, this would have been an important question to ask in order to complete the past part of the pain history.

Mrs Bischoff's Response: *Don't you have all that information already?*

What do you know about opioids?

Feedback: Partially Correct (Because asked too soon)

This is an excellent question to ask of Mrs. Bischoff, especially since she specifically requested a prescription for opioids, but not part of the pain history. This question could be part of the discussion about possible treatments, which would come later.

Mrs Bischoff's Response: *I just know I want something to help with the pain.*

Has having this pain affected your life in any way?

Feedback: Partially Correct (because we already have some of this information already)

This is an excellent question to ask as part of the pain history. It basically is an open-ended question covering the U part of the PQRSTU acronym. U stands for You, that is, how is the pain affecting "you." However, she already revealed that the pain is affecting her sleep, and so if you ask the question without acknowledging this piece of information, it sounds like you were not listening.

Mrs Bischoff's Response: When asked, Mrs. Bischoff reports that her sleep problem is decreased sleep because of limited positions in which she is comfortable and awakening when the pain is triggered inadvertently by moving in her sleep. In the past month, she has noticed decreased range of

motion in lifting her arm over her head and reaching behind her. She also misses being able to do her favorite activities (martial arts and yoga classes) and needs some help getting dressed.

MRS. BISCHOFF - DIAGNOSIS CATEGORY

Ms. Bischoff

Repeat of Mrs. Bischoff's pain history, for your convenience: 3 months of mild to moderate pain, severe pain after movements in specific directions. Treated with NSAID, diclofenac, with little relief. She does not take acetaminophen, because it "bothers my stomach." The pain is "hot," piercing, constant, intense in a small localized area in the center of the joint with some radiation to her deltoid muscle. On a scale of 1 to 10, it reaches a 10 for a second with certain motions, lingers at a 7 to 9, and then "calms down" to a 4 to 5 within an hour or two. She states that it is not tender to the touch, because the pain feels like it is inside the joint where it cannot be touched. She has tried ibuprofen which didn't help much. The condition affects her sleep, range of motion, and ability to dress herself.



Question: Which pain categories is Mrs. Bischoff's pain diagnosis likely to belong?

Response: Her pain has features of both acute and chronic pain. It also appears to be nociceptive, both musculoskeletal and inflammatory:

The three-month constant dull characteristics suggests chronic pain. The intense, severe, short term episodes suggests acute exacerbations of the pain. The severely intense pain immediately after specific motions suggests acute musculoskeletal pain. However, the constant dull pain is likely due to a chronic inflammatory reaction.

SUMMARY AND KEY POINTS

Pain Assessment

Pain assessment involves obtaining a detailed history including both biological and psychosocial information that can be remembered using the PQRSTU acronym:

- P Provocation/Palliation/Past
- Q Quality of pain
- R Region of pain/Radiation
- S Severity of pain
- T Timing of pain
- U You - how pain affects you

Diagnosis

Thinking in terms of pain categories can help narrow down the diagnosis of the underlying condition and the treatment needed: Acute vs. chronic pain; neurogenic vs. nociceptive
Combine the pain history with the results of the physical examination, laboratory, and other diagnostic testing to make a working diagnosis of the underlying pain condition.

RESOURCES AVAILABLE THROUGH THIS MODULE:

- [American Pain Society: Pain - Current Understanding of Assessment, Management, and Treatments](#)
The American Pain Society in 2006 published this guideline "Pain: Current Understanding of Assessment, Management, and Treatments". The guideline provides common assessment tools used to assess types of pain.
- [BDI: Beck Depression Inventory](#)
The Beck Depression Inventory; purpose, use, administration and scoring. Also includes psychometric characteristics and evaluation.
- [BPI: Brief Pain Inventory](#)
Patients to rate their pain and ability to complete daily living activities in nine sections. Created by University of Texas MD Anderson Cancer Center.
- [Buprenorphine Maintenance Treatment Information for Family Members](#)
Family members of patients who have been prescribed buprenorphine for treatment of addiction often have questions about this treatment. This handout will provide answers to their questions.
- [Clinical Guidelines for the Use of Chronic Opioid Therapy in Chronic Noncancer Pain \(APS/AAPM\)](#)
Recommendations published in 2009 for chronic opioid therapy based on a review of the evidence. Provide guidance on patient selection, risk stratification, informed consent, opioid management plans, and more. Authors: Chou R, Fanciullo GJ, Fine PG, et al.
- [Faces Pain Scale – Revised](#)
A visual analog pain scale using pictures of faces that can be used with children and those who have difficulty with numerical scales.
- [Iowa Pain Thermometer Scale](#)
This pain assessment tool is excellent for patients whose cognitive deficits are moderate to severe, or who have difficulty communicating verbally. The patient checks the circle next to the thermometer to indicate the intensity of current pain. Used with permission of Keela Herr, PhD, RN, The University of Iowa, College of Nursing.
- [McGill Pain Questionnaire](#)
Printable verbal pain assessment questionnaire.
- [NIH Pain Consortium](#)
This group "was established to enhance pain research and promote collaboration among researchers across the many NIH Institutes and Centers that have programs and activities addressing pain." The website offers information on Clinical Trials, the NIH-wide Pain Interest Group Seminar Series, Pain Intensity Scales, an interactive textbook of pain and symptom research, and a feature to search the literature.
- [NINDS Chronic Pain Information Page](#)
Defines chronic pain, giving treatment suggestions and prognosis. Lists relevant organizations and relevant publications.
- [Pain Evaluation Form](#)
A clinical pain evaluation form for the use of physicians or other healthcare providers. The form will help to better understand the type of pain a patient is experiencing and how to best treat the pain.

- [Registered Nurses Association of Ontario: Assessment and Management of Pain](#)
The Registered Nurses Association of Ontario offered an updated version of their “Assessment and Management of Pain” guidelines in 2007. The RNAO guidelines offer recommendations for patient practice related to pain assessment and management.

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