CHAPTER

3

Pain Types and Viscerogenic Pain Patterns

The International Association for the Study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage" (p. 2). This definition is expanded with the addition of six key notes (see Box 3.1) to provide further context. This update in the definition was due to advances in the understanding of pain.

A thorough assessment of pain is critical in optimal physical therapy patient management. Pain is often the primary symptom in patients and clients who access physical therapy services. A thorough examination and evaluation of pain are key features of the physical therapy interview, and serve as a foundation for a multidisciplinary pain management approach. This is crucial in helping solve our current opioid crisis.[1,2] Pain is recognized as the "fifth vital sign,"[3] along with blood pressure, temperature, pulse, and respiration. The physical therapist has the responsibility of investigating the possible sources of the pain complaint, and in understanding the types of pain presented by the patient.

Recognizing pain patterns that are characteristic of systemic disease is a necessary step in the screening process. Understanding how and when diseased organs can refer pain helps the therapist identify suspicious pain patterns.

This chapter includes a detailed overview of pain patterns that can be used as a foundation for the organ systems presented in this text. Information will include a discussion of pain types in general, and viscerogenic pain patterns in particular.

Each section discusses specific pain patterns characteristic of disease entities that can mimic pain that arise from musculoskeletal or neuromuscular conditions. In the clinical decision-making process, the therapist will evaluate information regarding the location, referral pattern, description, frequency, intensity, and duration of systemic pain in combination with knowledge of associated symptoms and aggravating and easing factors. This information is then compared with presenting features of primary musculoskeletal disorders that have similar presentation patterns. Pain patterns of the chest, back, shoulder, scapula, pelvis, hip, groin, and sacroiliac (SI) joint are the most common sites of referred pain from a systemic disease process. These patterns are discussed in greater detail later in this text (see Chapters 15 to 19).

A large component of the screening process is being able to recognize the client demonstrating a significant emotional or psychosocial overlay. Pain patterns from cancer can be very similar to what may be traditionally identified as psychogenic or emotional sources of pain, so it is important to know how to differentiate between these two sources of painful symptoms. To help identify psychogenic sources of pain, discussions of conversion symptoms, symptom magnification, and illness behavior are also included in this chapter.

MECHANISMS OF REFERRED VISCERAL PAIN

The neuroanatomical bases of visceral pain are not well understood, as compared with somatic pain.[4] Current literature provides an understanding of visceral nociceptive mechanisms based on what is known about the somatic (nonvisceral) system.[5] Scientists have not found actual nerve fibers and specific nociceptors in organs, and peripheral visceral neurotransmission is via visceral innervation by afferent fibers projecting to the central nervous system (CNS) via autonomic sympathetic and parasympathetic nerves.[5,6] Afferent supply to internal organs is in close proximity to blood vessels along a path similar to the sympathetic nervous system.[7,8]

Literature continues to identify the sites and mechanisms of visceral nociception. During inflammation, increased nociceptive input from an inflamed organ can sensitize neurons that receive convergent input from an unaffected organ, but the site of visceral cross-sensitivity is unknown.[9]

Viscerosensory fibers ascend the anterolateral system to the thalamus, with fibers projecting to several regions of the brain. These regions encode the site of origin of visceral pain, although they do it poorly because of low receptor density, large overlapping receptive fields, and extensive convergence in the ascending pathway. Thus the cortex cannot very well distinguish where the pain messages originate from in the gut.[10,11]

There are a wide number of gastrointestinal (GI) sensations that are conveyed by the afferent nerves to the CNS ranging from hunger, satiety, fullness, discomfort to pain, urgency, and the need to defecate. The afferent pathway has multiple specialized endings at different levels of the gut that signal these specific sensations to the brain.[12] Studies show there may be multiple mechanisms operating at different

BOX 3.1 ACCOMPANYING NOTES, INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN UPDATED DEFINITION OF PAIN

- Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.
- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- A person's report of an experience as pain should be respected.*
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

Etymology

Middle English, from Anglo-French peine (pain, suffering), from Latin poena (penalty, punishment), in turn from Greek poine (payment, penalty, recompense).

*The Declaration of Montreal, a document developed during the First International Pain Summit on September 3, 2010, states that "Access to pain management is a fundamental human right."

(From Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain 2020;161(9):1976–1982.)

sites to produce the sensation we refer to as "pain." The same symptom can be produced by different mechanisms and a single mechanism may cause different symptoms.[13]

In the case of referred pain patterns of viscera, there are three separate phenomena to consider from a traditional Western medicine approach. These are:

- Embryologic development
- Multisegmental innervation
- Direct pressure and shared pathways

Embryologic Development

Each system has a bit of its own uniqueness in how pain is referred. For example, the viscera in the abdomen comprise a large percentage of all the organs we have to consider. When a person gives a history of abdominal pain, the location of the pain may not be directly over the involved organ (Fig. 3.1).

Functional magnetic resonance imaging (fMRI) and other neuroimaging methods have shown activation of the inferolateral postcentral gyrus by visceral pain so the brain has a role in visceral pain patterns.[14,15] However, it is likely that embryologic development has a primary role in referred pain patterns for the viscera.

Pain is referred to a site where the organ was located in fetal development. Although the organ migrates during fetal development, its nerves persist in referring sensations from the former location. Organs, such as the kidneys, liver, and intestines, begin forming by 3 weeks when the fetus is still less than the size of a raisin. By day 19, the notochord forming the spinal column has closed and by day 21, the heart begins to beat.

Embryologically, the chest is part of the gut; they are formed from the same tissue in utero. This explains symptoms of intrathoracic organ pathology frequently being referred to the abdomen as a viscero-visceral reflex. For example, it is not unusual for disorders of thoracic viscera, such as pneumonia or pleuritis, to refer pain that is perceived in the abdomen instead of the chest.[7,16]

Although the heart muscle starts out embryologically as a cranial structure, the pericardium around the heart is formed from gut tissue. This explains why myocardial infarction or pericarditis can also refer pain to the abdomen.[7,17,18]

For another example of how embryologic development affects the viscera and the soma, consider the ear and the kidney. These two structures have the same shape, come from the same embryologic tissue (otorenal axis of the mesenchyme), and are also formed at the same time (Fig. 3.2). When a child is born with any anomaly of the ear(s), or even a missing ear, the medical staff knows to look for possible similar changes or absence of the kidney on the same side.

A thorough understanding of fetal embryology is not really necessary in order to recognize red flag signs and symptoms of visceral origin, but knowing that it is one of several mechanisms by which the visceral referred pain patterns occur is a helpful start. The more you know about embryologic development of the viscera, the faster you will recognize somatic pain patterns caused by visceral dysfunction. Likewise, the more you know about anatomy, the origins of anatomy, its innervations, and the underlying neurophysiology, the better able you will be to identify the potential structures involved.

Multisegmental Innervation

Multisegmental innervation is the second mechanism used to explain pain patterns of a viscerogenic source (Fig. 3.3). The autonomic nervous system (ANS) is part of the peripheral nervous system and is divided up into sympathetic and parasympathetic divisions (Fig. 3.3 A and B). As shown in this diagram, the viscera have multisegmental innervations.

There is evidence to support referred visceral pain to somatic tissues based on overlapping or same segmental projections of spinal afferent neurons to the spinal dorsal horn. This concept is referred to as ***visceral-organ cross-sensitization***. The mechanism is likely to be sensitization of viscera-somatic convergent neurons.[19,20] Individuals diagnosed with multiple visceral problems obtained relief from pain in all organ systems with overlapping segmental projections when only one visceral area was treated. Therefore, nontreated visceral

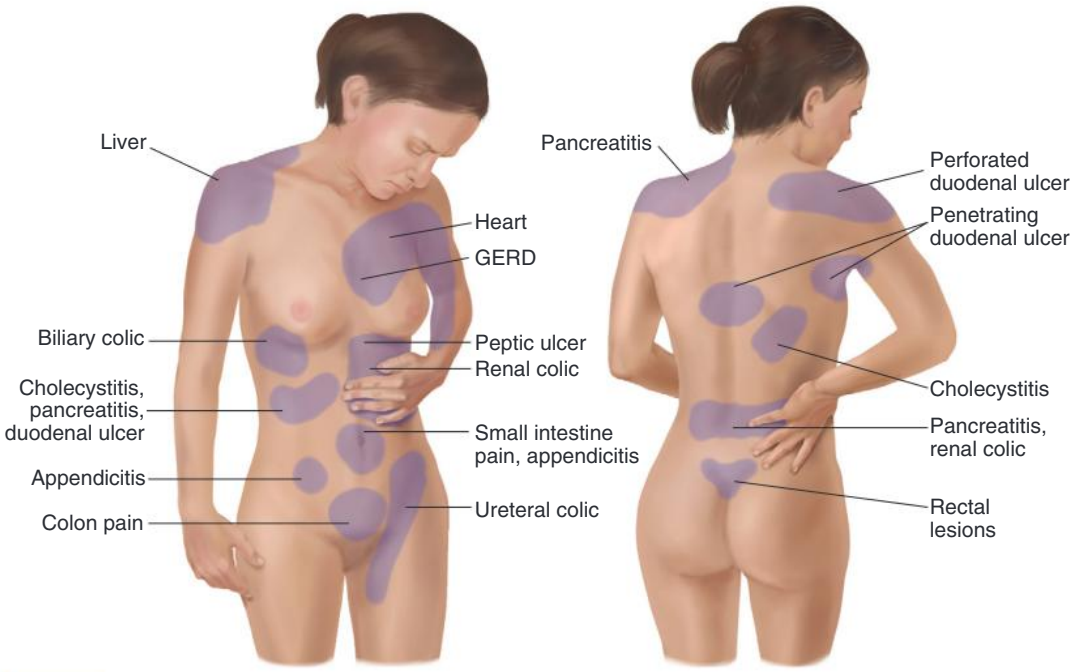


Fig. 3.1 Common sites of referred pain from the abdominal viscera. When a client gives a history of referred pain from the viscera, the pain's location may not be directly over the impaired organ. Visceral embryologic development is the mechanism of the referred pain pattern. Pain is referred to the site where the organ was located in fetal development. (From Jarvis C. Physical Examination and Health Assessment. 5th ed. Philadelphia: WB Saunders; 2008.)

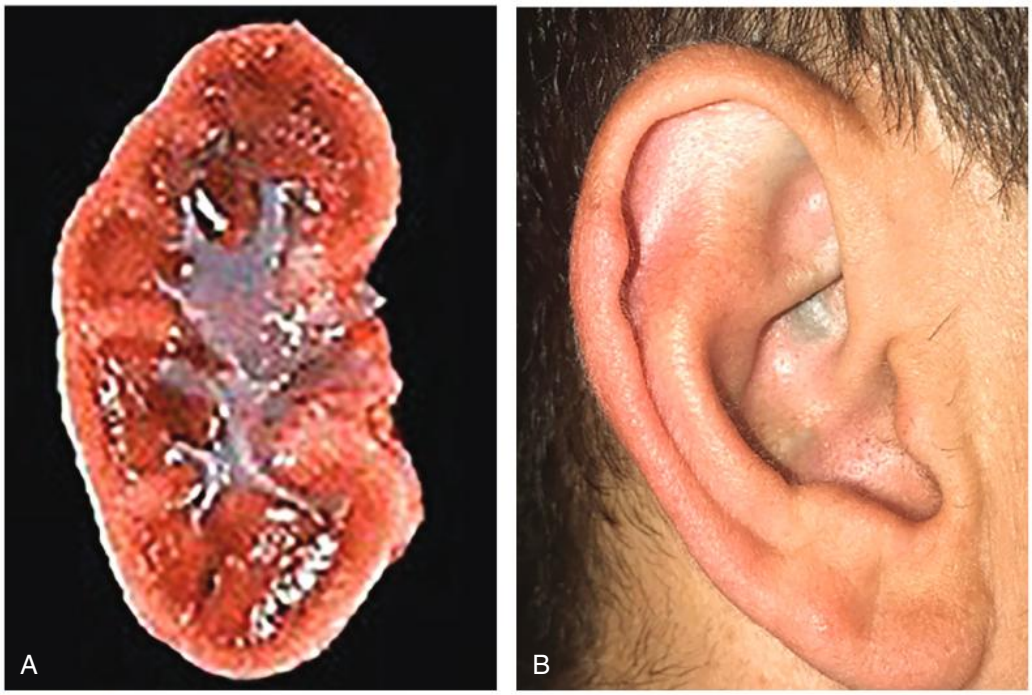


Fig. 3.2 The kidney (A) and the ear (B) have the same shape because they are formed at the same time and from the same embryologic tissue (otorenal axis of the mesenchyme). This is just one example of how fetal development influences form and function. When a child is born with a deformed or missing ear, the medical staff looks for a similarly deformed or missing kidney on the same side. (From (A) Klatt E. The kidneys. Robbins and Cotran Atlas of Pathology. New York: Elsevier; 2021:261-298. (B) From Stetson W and Morgan S. Knee. Arthroscopy: A diagnostic and therapeutic tool for management of ochronotic arthropathy. Arthrosc Tech. 2018;7(11): e1097–e1101.)

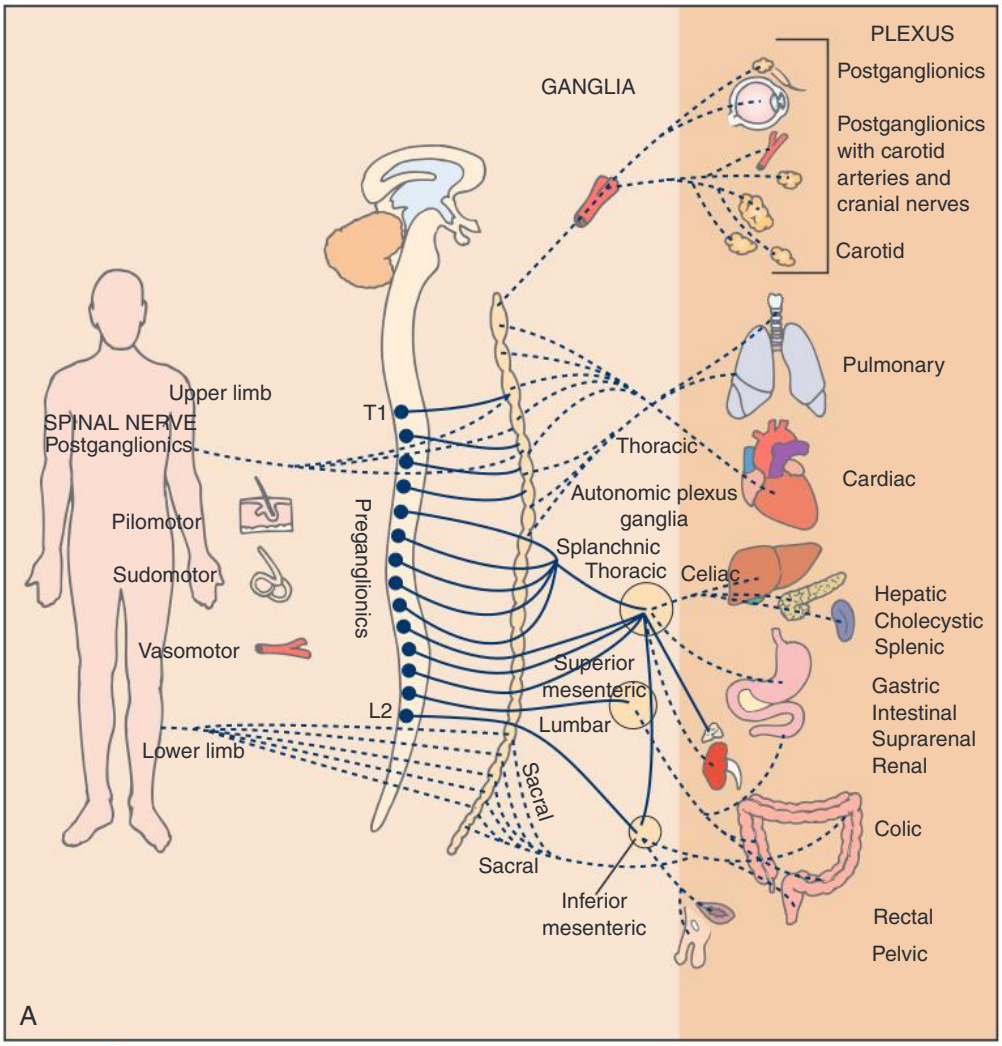


Fig. 3.3 Sympathetic (A) and parasympathetic (B) divisions of the autonomic nervous system. The visceral afferent fibers mediating pain travel with the sympathetic nerves, except for those from the pelvic organs, which follow the parasympathetics of the pelvic nerve. Major visceral organs have multisegmental innervations overlapping innervations of somatic structures. Visceral pain can be referred to the corresponding somatic area because sensory fibers for the viscera and somatic structures enter the spinal cord at the same levels converging on the same neurons. (From Levy MN, Koeppen BM. Berne and Levy Principles of Physiology. 4th ed. St. Louis: Mosby; 2006.)

disease significantly decreased when one viscera of the overlapping segments was addressed. For groups of people with no overlapping segments, spontaneous relief of referred pain was not obtained until and unless all involved visceral systems were treated.[19]

Pain of a visceral origin can be referred to the corresponding somatic areas. The example of cardiac pain is a good model for understanding this concept. Cardiac pain is not felt in the heart, but is referred to areas supplied by the corresponding spinal nerves. Instead of actual physical heart pain, cardiac pain can occur in any structure innervated by C3 to T4 such as the jaw, neck, upper trapezius, shoulder, and arm. Pain of cardiac and diaphragmatic origin is often experienced in the shoulder, in particular, because the C5 spinal segment supplies the heart, respiratory diaphragm, and shoulder.

Direct Pressure and Shared Pathways

A third mechanism by which the viscera refer pain to the soma is the concept of direct pressure and shared pathways (Fig. 3.4). As shown in this illustration, many of the viscera are near the respiratory diaphragm. Any pathologic process that can inflame, infect, or obstruct the organs can bring them in contact with the respiratory diaphragm.

Anything that impinges the ***central diaphragm*** can refer pain to the ***shoulder*** and anything that impinges the ***peripheral diaphragm*** can refer pain to the ***ipsilateral costal margins*** and/or ***lumbar region*** (Fig. 3.5).

This mechanism of referred pain through shared pathways occurs as a result of ganglions from each neural system gathering and sharing information through the cord to the plexuses. The visceral organs are innervated through

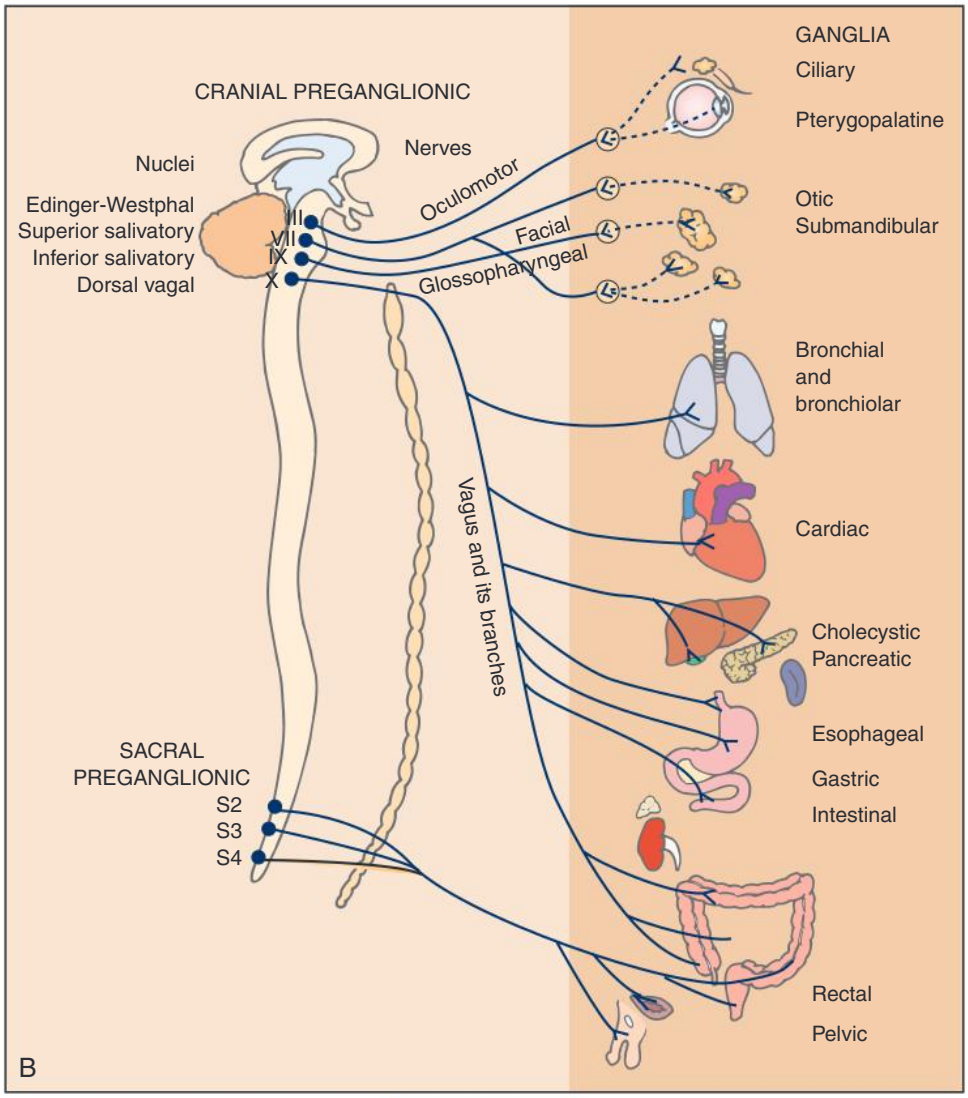


Fig. 3.3, Cont'd

the ANS. The ganglions bring in information from around the body. The nerve plexuses decide how to respond to this information and give the body finely tuned, local control over responses.

Plexuses originate in the neck, thorax, diaphragm, and abdomen, terminating in the pelvis. The brachial plexus supplies the upper neck and shoulder, whereas the phrenic nerve innervates the respiratory diaphragm. More distally, the celiac plexus supplies the stomach and intestines. The neurologic supply of the plexuses is from parasympathetic fibers from the vagus and pelvic splanchnic nerves.[7]

The plexuses work independently of each other but not independently of the ganglia. The ganglia collect information derived from both the parasympathetic and the sympathetic fibers. The ganglia deliver this information to the plexuses; it is the plexuses that provide fine, local control in each of the organ systems.[7]

For example, the lower portion of the heart is in contact with the center of the diaphragm. The spleen on the left side of the body is tucked up under the dome of the diaphragm. The kidneys (on either side) and the pancreas in the center are in easy reach of some portion of the diaphragm.

The body of the pancreas is in the center of the human body. The tail rests on the left side of the body. If an infection, inflammation, or tumor or other obstruction distends the pancreas, it can put pressure on the central part of the diaphragm.

Because the phrenic nerve (C3-C5) innervates the central zone of the diaphragm, as well as part of the pericardium, gallbladder, and pancreas, the client with impairment of these viscera can present with signs and symptoms in any of the somatic areas supplied by C3-C5 (e.g., shoulder).

In other words, the person can experience symptoms in the areas innervated by the same nerve pathways. So a problem affecting the pancreas can look like a heart problem, a gallbladder problem, or a midback/scapular or shoulder problem.

Most often, clients with pancreatic disease present with the primary pain pattern associated with the pancreas (i.e., left epigastric pain or pain just below the xiphoid process).

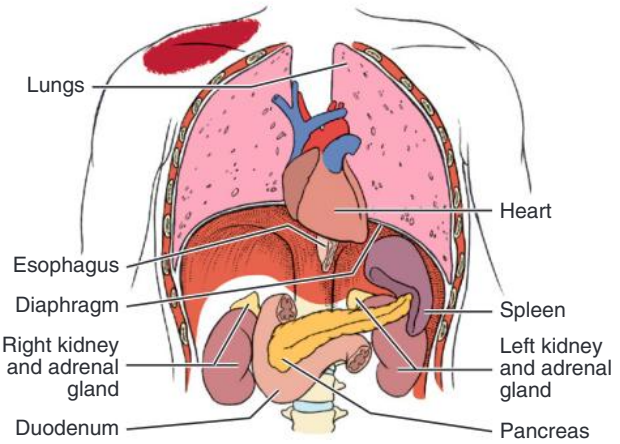


Fig. 3.4 Direct pressure from any inflamed, infected, or obstructed organ in contact with the respiratory diaphragm can refer pain to the ipsilateral shoulder. Note the location of each of the viscera. The spleen is tucked up under the diaphragm on the left side so any impairment of the spleen can cause left shoulder pain. The tail of the pancreas can come in contact with the diaphragm on the left side potentially causing referred pain to the left shoulder. The head of the pancreas can impinge the right side of the diaphragm causing referred pain to the right side. The gallbladder (not shown) is located up under the liver on the right side with corresponding right referred shoulder pain possible. Other organs that can come in contact with the diaphragm in this way include the heart and the kidneys.

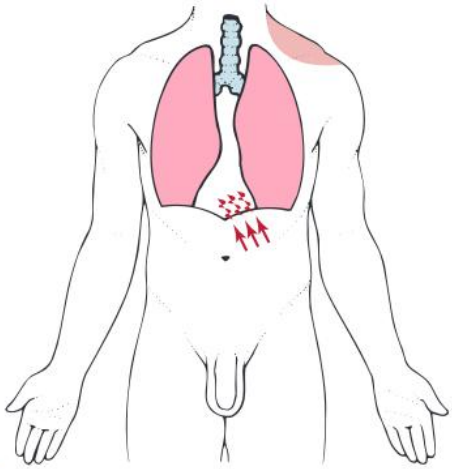


Fig. 3.5 Irritation of the peritoneal (outside) or pleural (inside) surface of the central area of the respiratory diaphragm can refer sharp pain to the upper trapezius muscle, neck, and supraclavicular fossa. The pain pattern is ipsilateral to the area of irritation. Irritation of the peripheral portion of the diaphragm can refer sharp pain to the costal margins and lumbar region (not shown).

The somatic presentation of referred pancreatic pain to the shoulder or back is uncommon, but it is the unexpected, referred pain patterns that we see in a physical or occupational therapy practice.

Another example of this same phenomenon occurs with peritonitis or gallbladder inflammation. These conditions can irritate the phrenic endings in the central part of the diaphragmatic peritoneum. The client can experience referred shoulder pain as a result of the root origin shared in common by the phrenic and supraclavicular nerves.

Not only is it true that any structure that touches the diaphragm can refer pain to the shoulder, but even structures adjacent to or in contact with the diaphragm in utero can do the same. Keep in mind there has to be some impairment of that structure (e.g., obstruction, distention, inflammation) for this to occur (Case Example 3.1).

CASE EXAMPLE 3.1

Mechanism of Referred Pain

A 72-year-old woman has come to physical therapy for rehabilitation after cutting her hand and having a flexor tendon repair. She uses a walker to ambulate, reports being short of breath "her whole life," and takes the following prescription and over-the-counter (OTC) medications:

- Feldene
- Vioxx*
- Ativan
- Glucosamine
- Ibuprofen "on bad days"
- Furosemide
- And one other big pill once a week on Sunday "for my bones"

During the course of evaluating and treating her hand, she reports constant, aching pain in her right shoulder and a sharp, tingling, burning sensation behind her armpit (also on the right side). She does not have any associated bowel or bladder signs and symptoms, but reports excessive fatigue "since the day I was born."

You suspect the combination of Feldene and ibuprofen along with long-term use of Vioxx may be a problem.

What Is the Most Likely Mechanism of Pain: Embryologic Development, Multisegmental Innervation of the Stomach and Duodenum, or Direct Pressure on the Diaphragm? Even though Vioxx is a cyclooxygenase-2 (COX-2) inhibitor and less likely to cause problems, gastritis and gastrointestinal (GI) bleeding are still possible, especially with chronic long-term use of multiple nonsteroidal antiinflammatory drugs (NSAIDs).

Retroperitoneal bleeding from peptic ulcer can cause referred pain to the back at the level of the lesion (T6–T10) or right shoulder and/or upper trapezius pain. Shoulder pain may be accompanied by sudomotor changes such as burning, gnawing, or cramping pain along the lateral border of the scapula. The scapular pain can occur alone as the only symptom.

Side effects of NSAIDs can also include fatigue, anxiety, depression, paresthesia, fluid retention, tinnitus, nausea, vomiting, dry mouth, and bleeding from the nose, mouth, or under the skin. If peritoneal bleeding is the cause of her symptoms, *the mechanism of pain* is blood in the posterior abdominal cavity irritating the diaphragm through direct pressure.

Be sure to take the client's vital signs and observe for significant changes in blood pressure and pulse. Poor wound healing and edema (sacral, pedal, hands) may be present. Ask if the same doctor prescribed each medication and if her physician (or physicians) knows which medications she is taking. It is possible that her medications have not been checked or coordinated from before her hospitalization to the present time.

*Removed from the market in 2004 by Merck & Co., Inc., due to reports of increased risk of cardiovascular events.

ASSESSMENT OF PAIN AND SYMPTOMS

The interviewing techniques and specific questions for pain assessment are outlined in this section. The information gathered during the interview and examination provides a description of the client that is clear, accurate, and comprehensive. The therapist should keep in mind cultural rules and differences in pain perception, intensity, and responses to pain found among various ethnic groups.[21]

Measuring pain and assessing pain are two separate issues. A measurement assigns a number or value to give dimension to pain intensity.[22] A comprehensive pain assessment includes a detailed health history, physical examination, medication history (including nonprescription drug use and complementary and alternative therapies), assessment of functional status, and consideration of psychosocial-spiritual factors.[23]

The portion of the core interview regarding a client's perception of pain is a critical factor in the evaluation of signs and symptoms. Questions about pain must be understood by the client and should be presented in a nonjudgmental manner. A detailed record of pain may be helpful to standardize pain assessment with each client (Fig. 3.6).

To elicit a complete description of symptoms from the client, the physical therapist may wish to use a term other than ***pain***. It is better to use terms such as "symptoms" and then have the patient use descriptors such as burning, tightness, heaviness, discomfort, and aching may be a better approach because patients could personalize and therefore communicate their pain experience better. However, it is important to remember that this could also lead to increased sensitivity of the cortical pain processing areas that may result in increased pain.[24]If the client has completed the McGill Pain Questionnaire (MPQ) (see discussion of **McGill Pain Questionnaire** in this chapter),[25] the physical therapist may choose the most appropriate alternative word selected by the client from the list to refer to the symptoms (Table 3.1).

Pain Assessment in the Older Adult

Physical therapists must be careful to take reports of pain from older persons as serious and very real, and not discount their symptoms as a part of aging, or affected by cognitive disturbances.[26] Joint pain is one of the most prevalent health problems in older adults. The incidence of pain in community dwelling older adults has been reported to be 50%.[27] About one in four adults diagnosed with arthritis report severe joint pain (defined as pain rating of 7 or higher on a scale of 0 being no pain and 10 as worst pain), and nearly half with arthritis report pan of any severity in post or all days within the past 3 months.[28]

As therapists, we are likely to see pain more often as a key feature among older adults as our population continues to age. Older adults may avoid giving an accurate assessment of their pain. [29] For reasons that include concerns of how the pain may be perceived by others, embarrassment and perceptions of exaggerating the symptoms, fear or avoidance, avoidance of medical settings, medications or treatments, and cost, among others.[30]

Sensory and cognitive impairment in older, frail adults makes communication and pain assessment more difficult. The client may still be able to report pain levels reliably using the visual analog scales (VASs) in the early stages of dementia. Improving an older adult's ability to report pain may be as simple as making sure the client has his or her glasses and hearing aid.

The Verbal Descriptor Scale (VDS) could be used to assess pain in older adults, including those with mild-to-moderate cognitive impairment.[31] This scale and other pain scales rely on the client's ability to understand the scale and communicate a response. As dementia progresses, these abilities are lost as well. The Revised Iowa Pain Thermometer is an adaptation of the VDS and has also been shown to be a valid and reliable tool in assessing pain in older adults[32] (Fig. 3.7).

Facial grimacing; nonverbal vocalization such as moans, sighs, or gasps; and verbal comments (e.g., ouch, stop) are the most frequent behaviors among cognitively impaired older adults during painful movement (Box 3.2). Bracing, holding on to furniture, or clutching the painful area are other behavioral indicators of pain. Alternately, the client may resist care by others or stay very still to guard against pain caused by movement.[33]

Pain Assessment in the Young Child

Many infants and children are unable to report pain. Even so the therapist should not underestimate or prematurely conclude that a young client is unable to answer any questions about pain. Even some clients (both children and adults) with substantial cognitive impairment may be able to use pain-rating scales when explained carefully.[34]

The Faces Pain Scale (FACES or FPS) for children (see Fig. 3.6) has been revised from the original version to FPS-R[35] and is used with similar assessment measures.[36]

Most of the pilot work for the FPS was done informally with children from preschool through young school age. Researchers have used the FPS scale with adults, especially the elderly, and have had successful results. Advantages of the cartoon-type FPS scale are that it avoids gender, age, and racial biases.[37] Research shows that use of the word "hurt" rather than "pain" is understood by children as young as 3 years old.[38,39] Use of words such as "owie" or "ouchie" by a child to describe pain is an acceptable substitute.[37] Assessing pain intensity with the FPS scale is fast and easy. The child looks at the faces, the therapist or parent uses the simple words to describe the expression, and the corresponding number is used to record the score.

Fig. 3.8 lists tools that can be used to assess pediatric pain. When using a rating scale is not possible, the therapist may have to rely on the parent's or caregiver's report and/or other measures of pain in children with cognitive or communication impairments and physical disabilities. Look for telltale behavior such as lack of cooperation, withdrawal, acting out, distractibility, or seeking comfort. Altered sleep patterns, vocalizations, and eating patterns provide additional clues.

Pain Assessment Record Form

Client's name: **Date:**

Physician's diagnosis: **Physical therapist's diagnosis:**

Medications: _____ _____

_____ _____

_____ _____

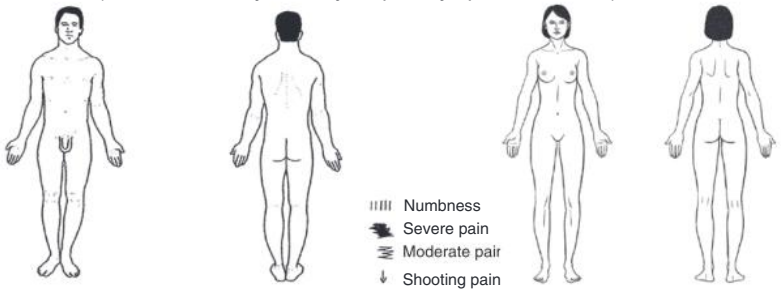
Onset of pain (circle one): Was there an:

Accident Injury Trauma (violence) Specific activity

If yes, describe:

Characteristics of pain/symptoms:

Location (Show me exactly where your pain/symptom is located):



Do you have any pain or symptoms anywhere else? Yes No

Description (If yes, what does it feel like):

Circle any other words that describe the client's symptoms:

Knifelike	Dull	Aching	Other (describe):
Boring	Burning	Throbbing	
Heaviness	Discomfort	Sharp	
Stinging	Tingling	Stabbing	

Frequency (circle one): Constant Intermittent (comes and goes)

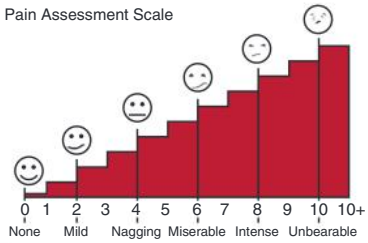
If constant: Do you have this pain right now? Yes No

If intermittent: How often is the pain present (circle all that apply):

Hourly Once/daily Twice/daily Unpredictable Other (please describe):_____

Intensity: *Numeric Rating Scale* and the *Faces Pain Scale*

Instructions: On a scale from 0 to 10 with zero meaning 'No pain' and 10 for 'Unbearable pain,' how would you rate your pain right now?



Alternately: Point to the face that best shows how much pain you are having right now.

Intensity: *Visual Analog Scale*

Instructions: On the line below, put a mark (or point to) the place on the line between 'Pain-free' and 'Worst possible pain' that best describes/shows how much pain you are having right now.

A **Pain-Free**_____ **Worst Possible Pain**

Fig. 3.6 Pain Assessment Record Form. Use this form to complete the pain history and obtain a description of the pain pattern. The form is printed in the Appendix on for your use. This form may be copied and used without permission. (From Carlsson AM. Assessment of chronic pain. I. Aspects of the reliability and validity of the visual analogue scale. Pain 1983;16(1):87–101.)

Duration:
How long does your pain (name the symptom) last?

Aggravating factors (What makes it worse?)	**Relieving factors** (What makes it better?)

Pattern
Has the pain changed since it first began? Yes No
If yes, please explain:

What is your pain/symptom like from morning (am) to evening (pm)?

Circle one: Worse in the morning Worse midday/afternoon Worse at night
Circle one: Gradually getting better Gradually getting worse Staying the same
Circle all that apply:
Present upon waking up Keeps me from falling asleep Wakes me up at night

Therapist: Record any details or description about night pain. See also Appendix on ℮ for *Screening Questions for Night Pain* when appropriate.

Associated symptoms (What other symptoms have you had with this problem?)

Circle any words the client uses to describe his/her symptoms. If the client says there are no other symptoms ask about the presence of any of the following:

Burning	Difficulty breathing	Shortness of breath	Cough
Skin rash (or other lesions)	Change in bowel/bladder	Difficulty swallowing	Painful swallowing
Dizziness	Heart palpitations	Hoarseness	Nausea/vomiting
Diarrhea	Constipation	Bleeding of any kind	Sweats
Numbness	Problems with vision	Tingling	Weakness
Joint pain	Weight loss/gain	Other:_____	

Final question: Are there any other pain or symptoms of any kind anywhere else in your body that we have not talked about yet?

For the therapist:
Follow-up questions can include:
Are there any positions that make it feel better? Worse?
How does rest affect the pain/symptoms?
How does activity affect the pain/symptoms?
How has this problem affected your daily life at work or at home?
Has this problem affected your ability to care for yourself without assistance (e.g., dress, bathe, cook, drive)?
Has this problem affected your sexual function or activity?
Therapist's evaluation:
Can you reproduce the pain by squeezing or palpating the symptomatic area?
Does resisted motion reproduce the pain/symptoms?
Is the client taking NSAIDs? Experiencing increased symptoms after taking NSAIDs?
If taking NSAIDs, is the client at risk for peptic ulcer? Check all that apply:

- ☐ Age 65 years
- ☐ History of peptic ulcer disease or GI disease
- ☐ Smoking, alcohol use
- ☐ Oral corticosteroid use
- ☐ Anticoagulation or use of other anticoagulants (even when used for heart patients at a lower dose, e.g., 81 to 325 mg aspirin/day)
- ☐ Renal complications in clients with hypertension or congestive heart failure (CHF) or who use diuretics or ACE inhibitors
- ☐ NSAIDs combined with selective serotonin reuptake inhibitors (SSRIs; antidepressants such as Prozac, Zoloft, Celexa, Paxil)
- ☐ Use of acid suppressants (e.g., H_2-receptor antagonists, antacids)

Other areas to consider:

- Sleep quality
- Bowel/bladder habits
- Depression or anxiety screening score
- Correlation of symptoms with peak effect of medications (dosage, time of day)
- For women: correlation of symptoms with menstrual cycle
- Evaluation of joint pain (see Appendix B-18 on ℮: *Screening Questions for Joint Pain*)

B

Fig. 3.6, Cont'd

TABLE 3.1 Recognizing Pain Patterns

Vascular	Neurogenic	Musculoskeletal	Emotional
Throbbing	Sharp	Aching	Tiring
Pounding	Crushing	Sore	Miserable
Pulsing	Pinching	Heavy	Vicious
Beating	Burning	Hurting	Agonizing
	Hot	Deep	Nauseating
	Searing	Cramping	Frightful
	Itchy	Dull	Piercing
	Stinging		Dreadful
	Pulling		Punishing
	Jumping		Exhausting
	Shooting		Killing
	Electrical		Unbearable
	Gnawing		Annoying
	Pricking		Cruel
			Sickening
			Torturing

(From Melzack R. The McGill pain questionnaire: Major properties and scoring methods. Pain 1975;1:277.)

BOX 3.2 SYMPTOMS OF PAIN IN CLIENTS WITH COGNITIVE IMPAIRMENT

- Verbal comments such as "ouch" or "stop"
- Nonverbal vocalizations (e.g., moans, sighs, gasps)
- Facial grimacing or frowning
- Audible breathing independent of vocalization (labored, short or long periods of hyperventilation)
- Agitation or increased confusion
- Unable to be consoled or distracted
- Bracing or holding on to furniture
- Decreased mobility
- Lying very still, refusing to move
- Clutching the painful area
- Resisting care provided by others, striking out, pushing others away
- Sleep disturbance
- Weight loss
- Depression

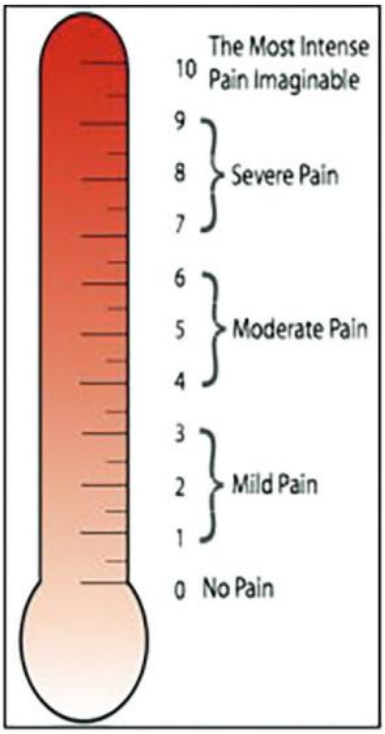


Fig 3.7 Revised Iowa Pain Thermometer. (From Ware L, Herr K, Booker SS, et al. Psychometric evaluation of the revised Iowa Pain Thermometer (IPT-R) in a sample of diverse cognitively intact and impaired older adults: A pilot study. Pain Manage Nurs. 2015;16(4):475–482.)

Vital signs should be documented but not relied upon as the sole determinant of pain (or absence of pain) in infants and young children. The pediatric therapist may want to use several pain measures that correspond to the age of the neonate, infant, or child.

Characteristics of Pain

It is very important to identify how the client's description of pain as a symptom relates to sources and types of pain discussed in this chapter. Many characteristics of pain can be elicited from the client during the Core Interview to help define the source or type of pain in question. These characteristics include:

- Location
- Description of sensation
- Intensity
- Duration
- Frequency and duration
- Pattern

Other additional components are related to factors that aggravate the pain, factors that relieve the pain, and other symptoms that may occur in association with the pain. Specific questions are included in this section for each descriptive component. Keep in mind that an increase in frequency, intensity, or duration of symptoms over time can indicate systemic disease.

Location of Pain

Questions related to the location of pain focus the client's description as precisely as possible. An opening statement might be as follows:

FOLLOW-UP QUESTIONS

- Show me exactly where your symptom/s is/are located.
  Follow-up questions may include:
- Do you have any other symptoms anywhere else?
- If yes, what causes the symptoms to occur in this other area?