

UNIT 7

PAIN MANAGEMENT

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SECTION 7.1

INTRODUCTION

LEARNING OUTCOMES

On completion of this section you will be able to:

- 1 Define the key terms related to pain management.
- 2 Describe the various types of pain.
- 3 Outline the factors that affect the pain experience.
- 4 Outline how age and cultural background can impact a person's pain experience.
- 5 Outline common misconceptions about pain.
- 6 Discuss the impact of person-centred care on pain management.
- 7 Outline the World Health Organization (WHO) three-step analgesic ladder.

'Pain is defined as a distressing experience associated with actual or potential tissue damage with sensory, emotional, cognitive, and social components' (Williams & Craig, 2016). Pain may be acute, caused by injury to tissues or nerves, or chronic, which is acute pain that does not resolve. The mechanisms behind why acute pain transitions to chronic pain is not fully understood. Pain is a complex, individual, multifactorial experience influenced by a person's culture, previous pain experiences, beliefs, age, gender, mood and coping ability. Responses to pain treatment are similarly characterised by high levels of individual variability. As Fillingim (2017) notes, understanding the factors influencing the experience and response of individuals to pain is essential to providing optimal pain treatment.

Effective pain management is essential to promote healing, prevent complications, reduce suffering and prevent the development of persistent pain. Pain is more than a symptom of a problem; it is a high-priority nursing problem in itself. Pain presents both physiological and psychological dangers to health and recovery. Severe pain is viewed as an emergency situation deserving attention and professional treatment. In addition to the underlying mechanisms, nurses attuned to holistic nursing care need to consider how pain can affect the mind, body, spirit and social interactions.

Given that some people are reluctant to report pain unless prompted, nurses will not know of the person's pain unless they conduct a comprehensive pain assessment. Importantly, people who are nonverbal (e.g. young

children and babies, intubated or unconscious persons, and those who are unable to verbalise their pain due to the impact of illness or disease process) still experience pain. This means that nurses must be able to conduct an appropriate pain assessment and initiate treatment even for people who are unable to verbally report their pain.

KEY TERMS

acute pain, 321
chronic pain, 321
multimodal analgesia, 326
neuropathic pain, 321
nociceptive pain, 321
pain, 320
pain threshold, 321
pain tolerance, 321
persistent pain, 321
World Health Organization's (WHO)
three-step analgesic ladder, 326

CLINICAL SAFETY ALERT

For many years, pain was accepted as inevitable, and indifference to its seriousness was common. Contemporary approaches now recognise that access to pain management is a fundamental human right and integral to ethical, professional and cost-effective clinical practice (Schug et al., 2015).

TYPES OF PAIN

Pain occurs across the lifespan and is a universal human experience. Our knowledge of the mechanism of pain, how it affects the body, types of pain (see Box 7-1) and how to prevent and manage it has developed greatly in the past 20 years. We now understand that pain, no matter what type, is produced in the brain. Acute pain is usually associated with acute tissue damage or injury. After three months, tissue injury has usually healed and therefore pain that persists beyond this point is less about tissue or structural damage and more about sensitivity in the nervous system. Persistent or chronic pain is therefore

BOX 7–1 Types of pain

Acute pain: Pain that is directly related to tissue injury and resolves when tissue heals.

Cancer pain: Pain associated with the disease, treatment or some other factor in individuals with cancer.

Persistent or chronic pain: Pain that persists beyond 3 to 6 months secondary to chronic disorders or nerve malfunctions that produce ongoing pain after healing is complete.

Neuropathic pain: Pain that is related to damaged or malfunctioning nervous tissue in the peripheral and/or central nervous system. Neuropathic pain arises from a direct consequence of a lesion or disease affecting the somatosensory system.

Nociceptive pain: Pain that is directly related to tissue damage. May be somatic (e.g. damage to skin, muscle, bone) or visceral (e.g. damage to organs).

Pain threshold: The least amount of stimuli that are needed for a person to label a sensation as pain.

Pain tolerance: The most pain an individual is willing or able to tolerate before taking evasive actions.

more complex to treat and requires a different management approach from that of acute pain.

Acute pain is defined as pain that has a recent onset and limited duration (usually less than 3 months) associated with tissue damage. Acute pain often has an obvious cause. Although the majority of people in the acute hospital setting report pain, their pain is not always managed effectively or in a timely manner (van Boekel et al., 2017).

CLINICAL SAFETY ALERT

Recent research has identified a link between high levels of acute pain, especially when not managed appropriately, and persistent pain which lasts for months or years (Shipton, 2014). High levels of acute pain are associated with the release of stress hormones – cortisol and adrenaline – which can slow the healing process, leading to longer hospital admissions.

Persistent pain or **chronic pain** persists beyond the time of healing of the original injury (Schug et al., 2015). Some 3.24 million Australians are estimated to be living with chronic pain, and the prevalence is expected to increase in coming years due to greater longevity and number of people living with multiple comorbid conditions (Deloitte Access Economics, 2019). According to Deloitte, the total cost of chronic pain in Australia, taking into account productivity and healthcare costs, was estimated to be 73.2 billion dollars in 2018.

Persistent pain interferes with functional abilities and quality of life. It can affect all body systems, compounding frailty and, by impeding function, can increase the risk of complications and exaggerate the progression of chronic and fatal disease states (Tabloski, 2010). Persistent pain also

contributes to insomnia, weight gain or loss, constipation, deconditioning, chronic stress, social isolation and depression. These effects interfere with quality of life, including work, recreation and activities of daily living.

Pain generated from damage of the tissues, skin, ligaments and visceral organs is referred to as **nociceptive pain**. This type of pain generally responds well to simple analgesics and opioids. Pain generated from damage to the nervous system is referred to as **neuropathic pain** and can be much more difficult to treat, often requiring adjuvant medications – that is, medications whose initial purpose was for another condition; for example, antidepressants and anticonvulsants.

CONCEPTS ASSOCIATED WITH PAIN

It is useful for nurses to differentiate pain threshold from pain tolerance. **Pain threshold** is the least number of stimuli needed for a person to label a sensation as pain. Pain threshold may vary slightly from person to person, and may be related to age, gender or race, but it changes little in the same individual over time. **Pain tolerance** is the maximum amount of painful stimuli that a person is willing to withstand without seeking avoidance of the pain or relief. Pain tolerance varies considerably from person to person, even within the same person at different times and in different circumstances.

Hyperalgesia and allodynia are conditions of abnormal pain processing that may signal the development of neuropathic pain processes. Early recognition and management of such conditions are important to ensure effective management strategies are implemented. The term ‘hyperalgesia’ denotes heightened responses to a painful stimuli (e.g. severe pain response to removal of a peripheral IV cannula). This is differentiated from allodynia, in which nonpainful stimuli (e.g. contact with linen or water) produce pain, and from dysesthesia, which is an unpleasant abnormal sensation. See Box 7–2 for a review of concepts associated with pain.

BOX 7–2 Concepts associated with pain

The following states indicate abnormal nerve functioning, and the associated cause needs to be identified and treated (as soon as possible) before irreversible damage occurs:

Allodynia: Sensation of pain from a stimulus that normally does not produce pain (e.g. light touch).

Hyperalgesia: Increased sensation of pain in response to a normally painful stimulus.

The following concepts are important reasons to prevent pain or treat it as soon as possible to prevent the amplification, spread and persistence of pain:

Sensitisation: An increased sensitivity of a receptor after repeated activation by noxious stimuli.

Central sensitisation: Increased responsiveness of nociceptive neurons in the central nervous system to their normal or subthreshold afferent input.

FACTORS AFFECTING THE PAIN EXPERIENCE

Numerous factors can affect a person's perception of and reaction to pain. These include the person's ethnic and cultural values, developmental stage, environment and support people, previous pain experiences, the meaning of the pain, anxiety and stress.

Age and developmental stage

A person's age and developmental stage influence both their reaction to and the expression of pain. Age variations and related nursing interventions are presented in Table 7–1. Of note is that, at all ages, nursing interventions should include considering the presence of carers or significant others during painful procedures. Nursing interventions listed are in addition to use of analgesia.

The field of pain management for infants and children has grown significantly. It is now accepted that anatomic, physiological and biochemical elements necessary for pain transmission are present in newborns, regardless of their gestational age. For too many years the myth of infants and children not 'feeling' pain has prevailed. Now, it is universally accepted that environmental, non-pharmacological *and* pharmacological interventions should be used to prevent, reduce or eliminate pain in neonates. Physiological indicators may vary in infants so behavioural observation is also recommended during paediatric pain assessment.

Children may be less able than an adult to articulate their experience or needs related to pain, which may result in their pain being under-assessed. However, children as young as 5 years can accurately report the location and intensity of their pain if evaluated properly.

Table 7–1 Age variations in the pain experience

AGE GROUP	PAIN PERCEPTION AND BEHAVIOUR	SELECTED NURSING INTERVENTIONS
Infant	Perceives pain.	Give a glucose dummy (pacifier dipped in liquid glucose).
	Responds to pain with increased sensitivity.	Use tactile stimulation. Play music or tapes of a heartbeat.
	Older infant tries to avoid pain; for example, turns away and physically resists.	Find a distraction.
Toddler and preschooler	Develops the ability to describe pain and its intensity and location.	Distract the child with toys, books, pictures. Involve the child in blowing bubbles as a way of 'blowing away' the pain. Correct positioning.
	Often responds with crying and anger because the child perceives pain as a threat to security.	Appeal to the child's belief in magic by using a 'magic' blanket or glove to take away pain.
	Reasoning with child at this stage is not always successful.	Hold the child to provide comfort.
	May consider pain a punishment.	Explore misconceptions about pain.
	Feels sad.	
	May learn there are gender differences in pain expression.	
	Tends to hold someone accountable for the pain.	
School-age child	Tries to be brave when facing pain.	Use imagery to turn off 'pain switches'.
	Rationalises in an attempt to explain the pain.	Provide a behavioural rehearsal of what to expect and how it will look and feel. Be honest about pain expectations.
	Responsive to explanations.	Provide support and nurturing. Provide information to child and family about pain and treatment options.
	Can identify the location and describe the pain.	
	With persistent pain, may regress to an earlier stage of development.	
Adolescent	May be slow to acknowledge pain.	Provide opportunities to discuss pain.
	Recognising pain or 'giving in' may be considered weakness.	Provide privacy. Provide information to the adolescent about pain expectations and treatment choice. Keep adolescent informed.
	May want to appear brave in front of peers and not report pain.	Present choices for dealing with pain. Encourage music or TV for distraction.

AGE GROUP	PAIN PERCEPTION AND BEHAVIOUR	SELECTED NURSING INTERVENTIONS
Adult	Behaviours exhibited when experiencing pain may be gender-based behaviours learned as a child.	Deal with any misconceptions about pain.
	May ignore pain because to admit it is perceived as a sign of weakness or failure.	Focus on the individual's control in dealing with the pain. Stoicism is more common in males and certain socioeconomic or ethnic groups.
	Fear of what pain means may prevent some adults from taking action.	Allay fears and anxiety where possible. Inform individuals at all times about pain expectations and treatment options.
Older adults	May have multiple conditions presenting with vague symptoms.	Thorough history and assessment are essential.
	May perceive pain as part of the ageing process.	Spend time with the person and listen carefully. Keep them informed.
	May have decreased sensations or perceptions of pain. But will also have decreased pain tolerance.	
	Lethargy, anorexia and fatigue may be indicators of pain.	
	May withhold complaints of pain because of fear of the treatment, of any lifestyle changes that may be involved or of becoming dependent.	Clarify misconceptions. Encourage independence whenever possible. Keep person informed.
	May describe pain differently, that is, as 'ache', 'hurt' or 'discomfort'.	
	May consider it unacceptable to admit or show pain.	

The prevalence of pain in older people ranges from 25% to 60%, with 80% of people living in residential aged care facilities reporting persistent pain (Gibson & Lussier, 2012). Pain threshold does not appear to change with ageing but pain tolerance does change, although the effect of analgesics may increase due to physiological changes related to drug metabolism and excretion.

differently, which must be taken into consideration in their nursing assessment.

Providing culturally competent care to people in pain may require the use of qualified interpreters, respecting social and intimate space issues, and consideration of the caregiver. The meaning of the pain experience, and the acceptability of and preference for various pain management approaches, must also be explored with each person. The best approach is to conduct a language and cultural assessment, ask questions (with the use of a qualified interpreter when needed) and never make assumptions. See Box 7-3.

Pain assessment is a personal assessment. The person who is in pain will report their pain as it is perceived by them. This will be influenced by their pain history, their family background, their cultural and ethnic background and who they are as a person. The nurse will then interpret that information according to their own cultural and ethnic background and their knowledge.

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Nurses need to implement strategies to reduce newborn babies' pain when undergoing painful events. Researchers have found that giving oral glucose solution or providing non-nutritive sucking can reduce pain scores in neonates (Liang et al., 2018).

Ethnic and cultural values

Ethnic background and cultural values influence both a person's reaction to pain and the expression of that pain. For example, individuals in one culture may have learned to be expressive about pain, whereas individuals from another culture may have learned to keep those feelings to themselves and to be stoic. Cultural background can also affect the level of pain that an individual is willing to tolerate and there are significant variations in the expression of pain. People from particular ethnic groups are also genetically predisposed to either under- or over-metabolise analgesics

Previous pain experiences

Previous pain experiences may alter a person's sensitivity to pain. People who have personally experienced pain or who have been exposed to the suffering of someone close are often more threatened by anticipated pain than people without a pain previous experience. In addition, the success or lack of success of pain relief measures influences a person's expectations for relief and future response to interventions. For example, someone who has undergone multiple painful procedures, such as dressing changes, may be anxious about future dressing changes, and may experience higher levels of pain in anticipation of the dressing change.

BOX 7-3 Pain assessment and cultural safety

The recipients of care, the patients, can deem nurses to be either culturally safe or unsafe ... Cultural safety is acquired when the recipient of care acknowledges that the provider of care is trustworthy to deliver culturally safe care. For example, an Indigenous person experiencing post-operative pain is the only person who can truly determine the level of pain they are experiencing. Subsequently, the Indigenous person is the only one able to determine if the nurse has accurately assessed the pain experienced. As the recipient of the pain assessment, the Indigenous patient becomes the only person able to determine if the nurse is culturally safe.

Source: Fenwick (2006). Assessing pain across the cultural gap: Central Australian Indigenous peoples' pain assessment. *Contemporary Nurse*, 22(2), 220.

Review these examples

When a Cambodian hospice patient was asked if he had pain, he pointed to his heart. The nurse assumed that the person was having cardiac pain and initiated appropriate assessment and treatment. Upon further discussions with the family it was revealed that the man's 'heart pain' was in fact the distress he felt by causing his family to worry and the burden his illness placed on them (Coolen, 2014). For this man, the heart symbolised love, kindness, willingness to help others and health (National Heart, Lung, and Blood Institute, 2010).

Another example of miscommunication is that of an elderly Chinese woman who, when asked if she had any pain, pointed to her head. The nurse then focused on treating the person's 'headache' without success. When an interpreter was contacted it was finally understood that the woman's reference to the pain in her head was not due to a headache, but to her anxiety and stress about her illness (Coolen, 2014).

The use of a qualified interpreter improves communication between health care professionals, individuals and their families, with a greater likelihood of more timely, effective and accurate pain assessment, treatment and support.

CLINICAL SAFETY ALERT

Nurses' cultural beliefs, perceptions, attitudes and expectations serve as perspectives that condition the ways in which they judge and ultimately care for individuals experiencing pain, and significantly influence the quality of their pain assessment and management (McCaffery et al., 2000).

Meaning of pain

Some people may accept pain more readily than others, depending on the circumstances and their interpretation of its significance. For example, a woman giving birth or an athlete undergoing knee surgery to prolong his career may tolerate pain better because of the benefits associated with it. These people may view the pain as a temporary inconvenience rather than a potential threat or disruption to daily life.

By contrast, people with persistent pain may suffer more intensely. Persistent pain affects the body, mind, spirit and social relationships in an undesirable way. Physically, the pain limits functioning and impacts on ability to carry out activities of daily living. Mentally, individuals with persistent pain may change their outlook, becoming more pessimistic, often to the point of helplessness and hopelessness. Mood often becomes impaired when pain persists, because the sadness of being unable to do important or enjoyable activities combines with self-doubts and learned helplessness to produce depression. Anxiety, worry and uncertainty about the cause of the pain may escalate emotionally, to the point of panic. Socially, pain often strains valued relationships, in part because of the impaired ability to fulfil role expectations. Spiritually, pain may be viewed in a variety of ways. It may be perceived as a punishment for wrongdoing, a betrayal by the higher power, a test of fortitude or a threat to the essence of who the person is. Pain may be a source of spiritual distress or it may be a source of strength and enlightenment.

Emotional responses to pain

Anxiety often accompanies persistent or prolonged episodes of pain. Prolonged anxiety associated with pain can lead to other emotional disturbances, such as depression or difficulty coping. Fear of the unknown and the inability to control the pain or the events surrounding it can also influence pain perception. When individuals are experiencing pain, they often become fatigued. Fatigue reduces a person's ability to cope with what might be considered reasonable life stressors, thereby increasing pain perception. Pain can lead to anxiety, depression and sleep disturbances. When pain interferes with sleep, fatigue and muscle tension often result and increase the pain; thus, a cycle of pain, fatigue and increased pain develops. People in pain who believe they have control of their pain have decreased fear and anxiety that decreases their pain perception. A perception of lacking control or a sense of helplessness tends to increase pain interference.

BARRIERS TO PAIN MANAGEMENT

Both health professionals and individuals may have misconceptions and biases about pain management. People respond to pain experiences based on their culture, personal experiences and the meaning the pain has for them. For many persons, pain is expected and accepted as a normal aspect of illness. People and families may lack knowledge of the adverse effects of pain and may have been provided incorrect information regarding the use of analgesics. People may not report pain because they expect nothing can be done, they think it is not severe enough or they feel their nurse or doctor may not believe their report of pain. Other common misconceptions are shown in Table 7-2.

Another barrier to effective pain management is the exaggerated fear of becoming addicted, especially when opioids are prescribed. Although tolerance may occur with long-term use of opioids, seminal studies have shown that addiction occurs in less than 0.004% of hospitalised people treated with opioids who have acute pain (Porter & Pick, 1980). It is

Table 7-2 Common misconceptions about pain

MISCONCEPTION	CORRECTION
People experience severe pain only when they have had major surgery.	Even after minor surgery, people can experience intense pain.
The nurse or other healthcare professionals are the authorities about a person's pain.	The person who experiences the pain is the only authority about its existence and nature.
Administering analgesics regularly for pain will lead to addiction.	People are unlikely to become addicted to an analgesic provided to treat pain.
The amount of tissue damage is directly related to the amount of pain.	Pain is a subjective experience, and the intensity and duration of pain vary considerably among individuals.
Visible physiological or behavioural signs accompany pain and can be used to verify its existence.	Even with severe pain, periods of physiological and behavioural adaptation can occur.
Pain medication can be toxic. It is safer to take less than the prescribed dose.	While there is a risk with all medications, strict guidelines surround the prescription of analgesics, minimising the risk of 'toxicity'.

important to understand the difference between tolerance and addiction. Tolerance occurs when the body no longer responds as well to the opiate's pain-relieving properties at the current dose. For example, a person with cancer who is experiencing severe pain may need increasing amounts of morphine to maintain an adequate level of pain relief. Addiction, on the other hand, is an overwhelming compulsion to continue use of the drug even when pain relief is no longer needed.

PREVENTING AND MANAGING PAIN

Strategies to manage pain include acknowledging and accepting the person's report of their pain, reducing misconceptions about pain, reducing fear and anxiety, and preventing pain.

Acknowledging and accepting the person's pain

Nurses have an ethical and professional duty to ask people about their pain and to believe their reports of discomfort. Challenging the person's report of pain undermines the therapeutic relationship and the trust that are essential to person-centred care (see Box 7-4). Consider the following ways of communicating this belief:

- 1 Acknowledge the possibility of the pain: 'Many people with your condition are bothered by leg pain. Are you experiencing any leg discomfort? What does it feel like? How concerned/upset are you about it?'
- 2 Listen attentively to what the person says about the pain, restating your understanding of the reported discomfort. Adding an empathic statement lets the person know you believe the pain is real and that you intend to help; for example: 'I'm sorry you are hurting, it must be very upsetting'.
- 3 Convey that you need to ask about the pain because, despite some similarities, everybody's experience is unique; for example: 'Many people with your condition report having some discomfort. Do you have any pain or other discomfort now?'

BOX 7-4 Person-centred approach to pain management

A person-centred approach to pain management requires the nurse to:

- believe the person's report of their pain
- recognise that people hold different beliefs about pain and that they have the right to respond to pain in the way they learned is appropriate
- inquire about the person's beliefs and ways of coping with pain
- acknowledge that expressions of pain vary between and within cultures
- use language that is familiar to the person; for example, 'Are you comfortable?', 'Does it hurt?' and 'Are you sore?'

- 4 Attend to the person's needs promptly. It is unconscionable to believe the person's report of pain and then do nothing. After determining the person has pain, discuss options and plan actions for providing relief.
- 5 Assess the functional ability of the person and try to get a picture of pain interference.

Reducing fear and anxiety

There is a strong connection between experiencing pain and experiencing fear and anxiety and it is important to help relieve strong emotions capable of amplifying pain (e.g. anxiety, anger and fear) (Elman & Borsook, 2018). When people have no opportunity to talk about their pain and associated fears, their perceptions and reactions to the pain can be intensified. However, listening to a person explain their situation and describe their pain decreases pain. By providing accurate information, the nurse can also reduce many of the person's fears or anxiety; and clarifying expectations can minimise frustration and anger. Indeed, one study identified that post-operative morphine requirements were significantly reduced following an empathic pre-operative consultation (Egbert et al., 1994).

Preventing pain

A preventative approach to pain management involves the provision of measures to treat the pain before it occurs or before it becomes severe. Examples of pre-emptive analgesia include the administration of analgesics *before* surgery to decrease or relieve pain *after* surgery (e.g. the use of gabapentoids preoperatively can reduce total opioid dose postoperatively in some procedures); and the provision of analgesics around the clock and supplementing with as-needed (prn) doses after surgery or prior to painful procedures (e.g. dressing changes, physical therapy).

Providing multimodal analgesia

The provision of **multimodal analgesia** includes the use of different classes of analgesics with the intention to provide better pain relief with reduced analgesic-related side effects. This method of pain management interrupts the pain transmission pathway at numerous points, from the peripheral to the central nervous system (Macintyre et al., 2010).

Pharmacological pain management can involve the use of opioids, simple analgesics, nonopioids/nonsteroidal anti-inflammatory drugs (NSAIDs) and adjuvant analgesic drugs. The principles of modern analgesic use are built on a foundation established by the **World Health Organization's (WHO) three-step analgesic ladder** approach to treating pain (see Figure 7–1). This approach focuses on aligning the proper analgesic with the intensity of pain. This multimodal approach, combined with the use of non-pharmacological drug approaches, including relaxation or massage helps to reduce the need for opioids (Applegarth, 2021).

The WHO's three-step approach includes simple analgesics as the appropriate starting point for people with mild pain

(WHO, 1996). This is step 1 of the analgesic ladder. Step 2, for a person who has mild pain that persists or increases despite using full doses of step 1 medications, or if the pain is moderate (4–6 on a 0–10 scale), a weak opioid (e.g. codeine, tramadol) or a combination of opioid and simple analgesic (e.g. paracetamol and codeine) is provided. If the person has moderate pain that persists or increases despite using full doses of step 2 medications, or if the pain is severe (7–10 on a 0–10 scale), then a step 3 regimen is indicated. This includes opioid analgesics (e.g. oxycodone, morphine) titrated to effect until the pain is relieved. Simple analgesics and non-steroidal anti-inflammatory medications should be continued in some situations as part of the multimodal approach, as they have been shown to decrease the total daily dose of opioids.

Section 7.1 Critical Thinking Questions



- 1 You are caring for Mr Tien, an 80-year-old man from Vietnam who does not speak English (Hunter & Dumont, 2021). He was admitted the previous evening following a fall at home. In handover the nurses report that Mr Tien's pain score is satisfactory. When you meet Mr Tien he is alone and seems quiet and withdrawn. He grimaces when he moves in bed but politely answers 'OK' to your questions about his pain. What actions will you take in this situation?
- 2 You are working with a practice nurse and Joel Andrews, an 18-month-old child, has presented with his mother for his dressing change. He sustained a burn to his leg from hot coffee the previous week. What strategies might you use to distract Joel while the nurse changes his dressing?
- 3 Research indicates that more than half of all hospitalised individuals report unacceptable levels of acute pain. Given the advances in knowledge about medications and health care technologies over the past two decades, why is pain management still unacceptable for so many people?
- 4 A person has a morphine patient controlled analgesia (PCA) and is ordered paracetamol. Which of the following is a true statement about this multimodal approach?
 - a Paracetamol increases the need for opioids by 20–30%.
 - b Giving paracetamol and morphine together is an uncommon postoperative pain management strategy.
 - c Paracetamol and morphine given together increases the risk of complications, such as constipation, pruritis and postoperative nausea and vomiting.
 - d Paracetamol reduces the need for opioids, such as morphine, by 20–30%.
- 5 Which of the following statements is true in regard to persistent pain?
 - a The cause of persistent pain can always be identified.
 - b The duration of persistent pain is 3 months or less.
 - c Persistent pain is usually described as sharp and stabbing.
 - d The symptoms of persistent pain can include insomnia and depression.

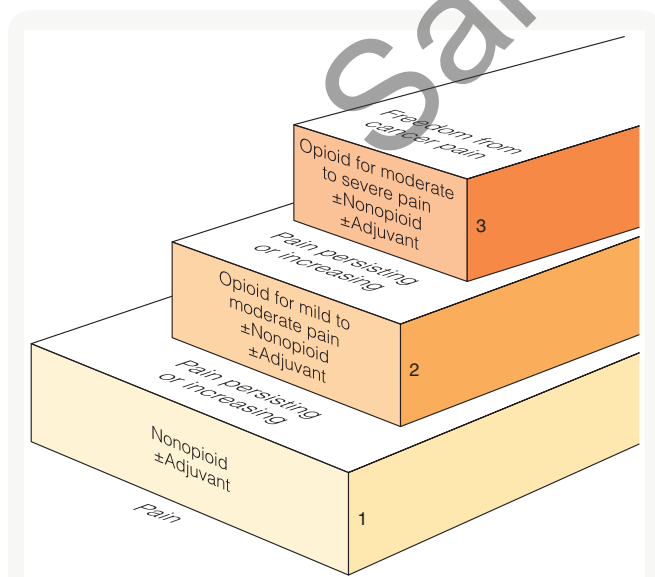


Figure 7–1 The WHO three-step analgesic ladder

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SECTION 7.2

PAIN ASSESSMENT

LEARNING OUTCOMES

On completion of this section you will be able to:

- 1 Demonstrate the ability to undertake a pain assessment taking into account each person's specific needs and condition as well as their:
 - a age
 - b cognitive function
 - c culture.
- 2 Describe how to undertake a pain assessment for acute and persistent pain.
- 3 Demonstrate person-centred approaches to pain assessment.
- 4 Accurately document pain assessment.
- 5 Demonstrate critical thinking when undertaking a pain assessment.
- 6 Complete the critical thinking questions associated with the clinical scenario.

ASSESSING PAIN

Pain assessment is complex and multifaceted. Healthcare professionals must utilise effective communication and clinical reasoning skills when undertaking pain assessments as well as have in-depth knowledge about relevant pathophysiology, legal, ethical and professional issues. Person-centred pain assessment takes into account each person's age and developmental stage, culture, level of cognitive function, physical needs and psychosocial needs.

Appropriate pain management is dependent upon systematic and accurate assessment of pain. Self-report measures provide the 'gold standard' for assessing pain outcomes because they reflect the subjective nature of pain, but they can also be supplemented by overt expressions of pain and distress ('pain behaviours') as well as other forms of patient assessment. It is also important to note that studies have shown a poor correlation between a patient's reports of pain and the clinician's assessment of their pain (Bucknall et al., 2001).

There are many pain assessment tools available. Pain intensity is one of the most clinically relevant dimensions of the pain and is best assessed using a uni-dimensional pain scale. Multidimensional scales are designed to measure cognitive, behavioural, and affective responses to pain intensity (Hjermstad et al., 2011).

The assessment of acute and persistent pain requires very different types of assessments and must be tailored to the person's specific needs, context and presenting symptoms.

KEY TERMS

aetiology, 333
duration, 327
intensity, 330
location, 327
Modified Brief Pain Inventory, 333
neuropathic pain, 333
visual analogue scale, 330

Similarly, pain assessment of a young child will require a very different approach from that of an older person or someone who does not speak English. See Table 7–3.

CLINICAL SAFETY ALERT

Pain assessment requires person-centredness and creation of a therapeutic relationship that provides the person with the opportunity to express and describe their pain experience openly. Pain assessment that is person-centred includes the knowledge and skill to perform the task of assessment, together with a reflexive stance whereby nurses examine their own values, attitudes and experiences of pain. Despite education in the area of pain assessment and management it is recognised that attitudes or judgements made by healthcare professionals can lead to poor or incorrect pain assessment (Schreiber et al., 2014).

When assessing a person's pain, the location, **duration**, intensity and aetiology of the pain must be ascertained.

Location

The **location** of the person's pain (e.g. headache, backache, chest pain) helps to determine the underlying physiological problems. For example, if, after knee surgery, a person reports chest pain, the nurse must act immediately to assess and treat this discomfort.

Table 7-3 Examples of pain assessment tools

CONSIDERATION	EXAMPLES OF TOOLS
Infants and children	Wong-Baker FACES pain scale (Hockenberry et al., 2005) (see Figure 7-2) The FLACC behavioural observation pain assessment scale for scoring pain in children aged 2 months to 7 years. Each of the five categories (faces, legs, activity, cry and consolability) are scored 0-2 and the scores are added to give a score out of 10 (see Table 7-4)
Non-verbal people	Electronic support devices or communication boards (see Figure 7-3)
People with a cognitive impairment	Abbey Pain Scale (Abbey et al., 2004) (see Figure 7-4) PAINAD – Pain in Advanced Dementia Modified FLACC for cognitively impaired children
People with chronic pain	Brief Pain Inventory (see Figure 7-7)

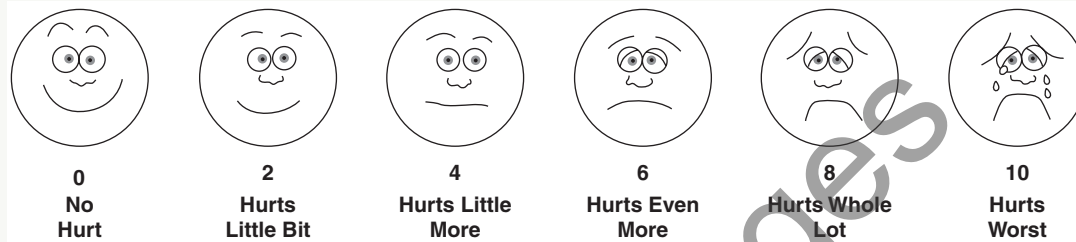


Figure 7-2 The faces pain scale is a self-report measure of pain intensity for children aged 4–16 years.

Source: © 1983 Wong-Baker FACES Foundation, www.WongBaker FACES.org. Used with permission. Originally published in Whaley & Wong's *Nursing care of infants and children*. © Elsevier Inc.

CLINICAL SAFETY ALERT

Pain is a common condition in older people and is frequently under-recognised and undertreated, particularly in people with cognitive decline/dementia and those living in residential aged care facilities. Failure to treat pain in patients with dementia causes immense and unneeded suffering and may also increase agitation and distressing behavioural symptoms.

Best Practice Recommendations

For people with dementia, no single pain assessment approach is superior, but a combination of the following should be used:

- regular assessment of pain and at the very least on a daily basis
- use of appropriate pain assessment tools (such as PAINAID and Abbey Pain Scales (Abbey et al., 2004))
- interpretation of behaviours by family members or carers
- observation of responses to analgesics and other non-pharmacological pain-relieving interventions.

Source: Adapted from Fong (2017b). *Dementia: Pain assessment [Evidence summary]*. Joanna Briggs Institute EBP Database, JBI@Ovid., JBI1653. <http://joannabriggs.org/>

Complicating the categorisation of pain by location is the fact that pain sometimes radiates (spreads or extends) to other areas (e.g. lower back to legs). Also pain may be referred (appear to arise in different areas) to other parts of the body. For example, cardiac pain may be felt in the shoulder or left arm, with or without chest pain. Visceral pain (pain arising from organs) is often perceived in an area remote from the actual organ causing the pain (Figure 7-5).

Duration

When pain lasts only through the expected recovery period, it is described as acute pain, whether it has a sudden or slow onset and regardless of the intensity. Persistent pain is prolonged, usually recurring or persisting over 3 months or longer, and interfering with functioning. Acute and persistent pain



Figure 7-3 Electronic support device or communication board

Table 7-4 The FLACC behavioural observation pain assessment scale for scoring pain in children aged 2 months to 7 years

	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, clenched jaw, quivering chin
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid or jerking
Cry	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging or 'talking to', distractible	Difficult to console or comfort

Source: © National Health and Medical Research Council. National Institute of Clinical Studies (2011). *Emergency care acute pain management manual*, p. 9.

results in different physiological and behavioural responses, as shown in Table 7-5; however, not having physiological responses does not exclude the presence of pain. It is essential that, as part of a comprehensive pain assessment, the nurse asks the person approximately how long the person has been experiencing pain.

Abbey Pain Scale
For measurement of pain in people with dementia who cannot verbalise.

How to use scale: While observing the resident, score questions 1 to 6

Name of resident:

Name and designation of person completing the scale:

Date: **Time:**

Latest pain relief given was.....**at****hrs.**

<p>Q1. Vocalisation eg. whimpering, groaning, crying Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q1	<input type="checkbox"/>
<p>Q2. Facial expression eg: looking tense, frowning, grimacing, looking frightened Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q2	<input type="checkbox"/>
<p>Q3. Change in body language eg: fidgeting, rocking, guarding part of body, withdrawn Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q3	<input type="checkbox"/>
<p>Q4. Behavioural Change eg: increased confusion, refusing to eat, alteration in usual patterns Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q4	<input type="checkbox"/>
<p>Q5. Physiological change eg: temperature, pulse or blood pressure outside normal limits, perspiring, flushing or pallor Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q5	<input type="checkbox"/>
<p>Q6. Physical changes eg: skin tears, pressure areas, arthritis, contractures, previous injuries. Absent 0 Mild 1 Moderate 2 Severe 3</p>	Q6	<input type="checkbox"/>

Add scores for 1 – 6 and record here **Total Pain Score**

Now tick the box that matches the Total Pain Score

0 – 2 No pain	3 – 7 Mild	8 – 13 Moderate	14+ Severe
------------------	---------------	--------------------	---------------

Finally, tick the box which matches the type of pain

Chronic	Acute	Acute on Chronic
---------	-------	------------------

Dementia Care Australia Pty Ltd
Website: www.dementiacareaustralia.com

Abbey, J; De Bellis, A; Piller, N; Esterman, A; Giles, L; Parker, D and Lowcay, B.
Funded by the JH & JD Gunn Medical Research Foundation 1998 – 2002
(This document may be reproduced with this acknowledgment retained)

Figure 7-4 Abbey pain scale

Source: J. Abbey, A. De Bellis, N. Piller, A. Esterman, L. Giles, D. Parker & B. Lowcay (2004).
Funded by the J.H. & J.D. Gunn Medical Research Foundation 1998–2002.

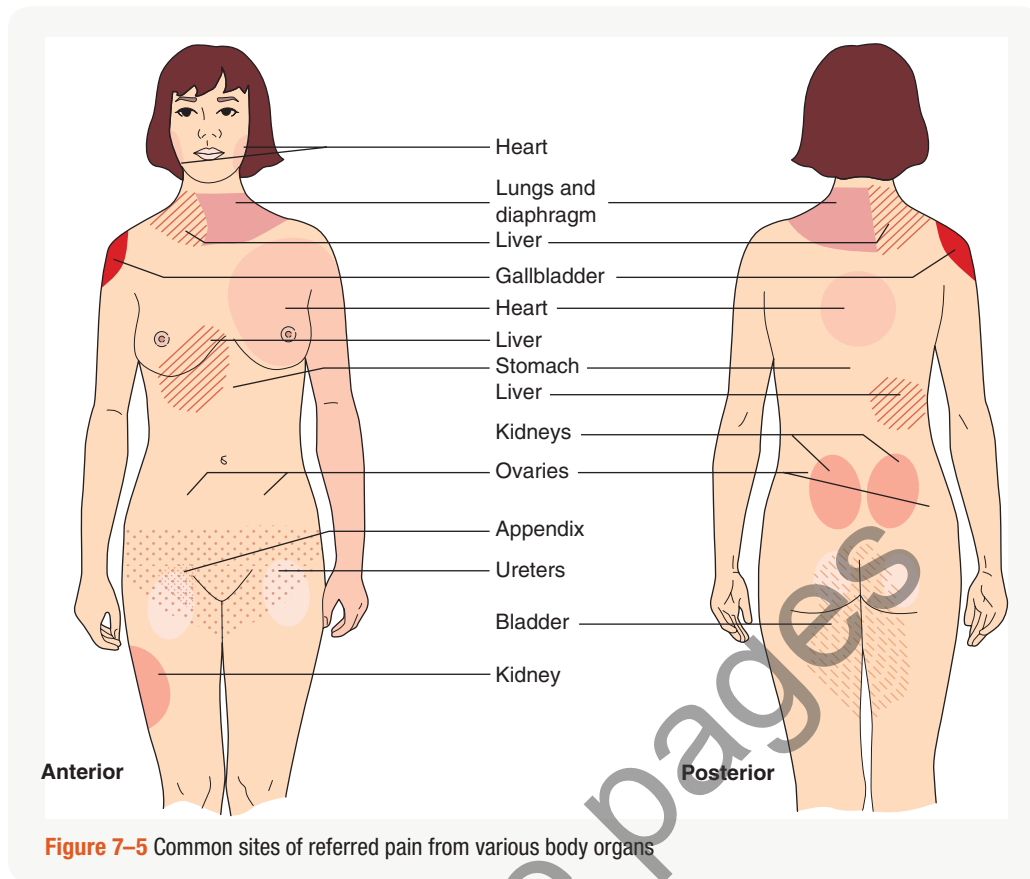


Figure 7-5 Common sites of referred pain from various body organs

Table 7-5 Comparison between acute and persistent pain	
ACUTE PAIN	PERSISTENT PAIN
Mild to severe	Mild to severe
Sympathetic nervous system responses:	Parasympathetic nervous system responses:
<ul style="list-style-type: none"> • Increased pulse rate • Increased respiratory rate • Elevated blood pressure • Diaphoresis • Dilated pupils 	<ul style="list-style-type: none"> • Vital signs normal • Dry, warm skin • Pupils normal or dilated
Related to tissue injury; resolves with healing	Continues beyond healing
Person appears restless and anxious	Person appears depressed and withdrawn
Person reports pain	Person often does not mention pain unless asked
Person exhibits behaviour indicative of pain: crying, rubbing area, holding area	Pain behaviour often absent
Pain decreases when cooling the site	Pain decreases by heating the site

Intensity

Two commonly used uni-dimensional scales for measuring pain intensity are categorical scales and numerical rating scales. Categorical scales utilise the verbal descriptor scale to

describe the degree of pain, and numerical rating scales may be written or verbal and utilise a pain intensity scale from 0 (no pain/no relief) to 10 (worst pain imaginable/complete relief). The **visual analogue scale (VAS)** utilises the same pain rating principle using a horizontal line (see Figure 7-6). The VAS is considered to be both reliable and sensitive in the measurement of pain intensity (Hjermstad et al., 2011). Linking the rating to health and functioning scores, pain in the 1 to 3 range is generally considered mild pain, a rating of 4 to 6 is moderate pain, and pain reaching 7 to 10 is rated as severe pain.

Persistent pain often requires a different type of pain scale that also captures fluctuations in pain intensity and occurrence as well as impact on activities of daily living. An example of this type of tool is the **Brief Pain Inventory** (see Figure 7-7). This pain assessment tool was developed to assess pain in people with cancer but is now widely used for people with all types of persistent pain. A shorter version of the scale called

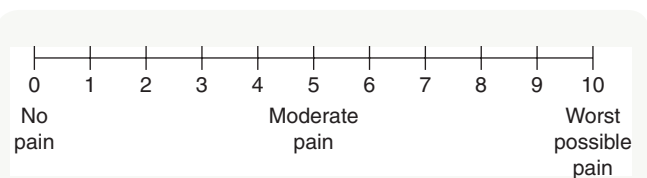


Figure 7-6 Verbal numeric rating scale, with 0 indicating no pain and 10 the worst imaginable pain

STUDY ID #: _____ DO NOT WRITE ABOVE THIS LINE HOSPITAL #: _____

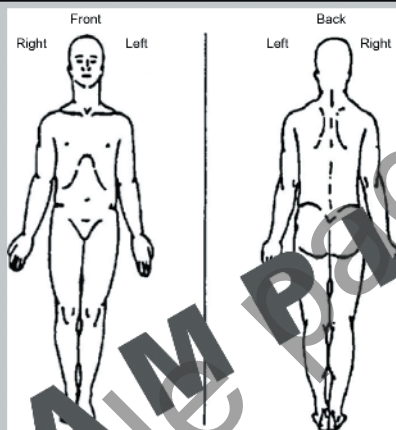
Brief Pain Inventory (Short Form)

Date: ____/____/____ Time: _____
 Name: _____
 Last First Middle Initial

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?

1. Yes 2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.



3. Please rate your pain by circling the one number that best describes your pain at its worst in the last 24 hours.

0 1 2 3 4 5 6 7 8 9 10
 No Pain Pain as bad as you can imagine

4. Please rate your pain by circling the one number that best describes your pain at its least in the last 24 hours.

0 1 2 3 4 5 6 7 8 9 10
 No Pain Pain as bad as you can imagine

5. Please rate your pain by circling the one number that best describes your pain on the average.

0 1 2 3 4 5 6 7 8 9 10
 No Pain Pain as bad as you can imagine

6. Please rate your pain by circling the one number that tells how much pain you have right now.

0 1 2 3 4 5 6 7 8 9 10
 No Pain Pain as bad as you can imagine

Figure 7-7 Brief pain inventory (Short Form) (Continues)

Source: Pain Research Group, MD Anderson Cancer Center, 1997. To order a copy of the BPI go to <http://www.mdanderson.org/BPI>.

STUDY ID #: _____ DO NOT WRITE ABOVE THIS LINE HOSPITAL #: _____

Date: ____/____/____ Time: _____

Name: _____
 Last First Middle Initial

7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
 No Complete
 Relief Relief

9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

A. General Activity
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

B. Mood
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

C. Walking Ability
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

D. Normal Work (includes both work outside the home and housework)
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

E. Relations with other people
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

F. Sleep
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

G. Enjoyment of life
 0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

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Figure 7-7 Brief pain inventory (Short Form) (Continued)

the **Modified Brief Pain Inventory** has also been tested in people with a range of other conditions, including residents of aged care facilities.

The Modified Brief Pain Inventory is a self-administered test which considers the severity of a person's pain (averaging the worst and least pain with the current pain) and the extent to which the pain interferes with a person's life (examining how pain influences walking, mood, sleep, the ability to concentrate and the person's relationship with others).

Aetiology

A comprehensive pain assessment helps to identify the **aetiology** (cause) of the person's pain. Pain may be classified under the broad categories of nociceptive pain and neuropathic pain and each has different causes, signs and symptoms. Nociceptive pain is experienced when an intact, properly functioning nervous system sends signals that tissues are damaged, requiring attention and proper care. For example, the pain experienced following a cut or broken bone alerts the person to avoid further damage until the injury is properly healed. Once stabilised or healed, the pain diminishes; thus, this pain is transient. There may also be persistent forms of nociceptive pain. For example, a person who has lost the protective cartilage in joints will have pain when those joints are stressed because the bone-to-bone contact damages tissues. This osteoarthritis is common and produces pain in millions of people, some of whom have intermittent pain and others who have constant pain for many years.

Subcategories of nociceptive pain include somatic or visceral. Somatic pain originates in the skin, muscles, bone or connective tissue. The sharp sensation of a paper cut or aching of a sprained ankle are common examples of somatic pain. Visceral pain results from activation of pain receptors in the organs and/or hollow viscera. Visceral pain tends to be poorly located and may have a cramping, throbbing, pressing or aching quality. Often, visceral pain is associated with feeling sick (e.g. sweating, nausea or vomiting) as in the examples of labour pain or angina pectoris.

Neuropathic pain is experienced by people who have damaged or malfunctioning nerves due to illness (e.g. post-herpetic neuralgia, diabetic peripheral neuropathy), injury (e.g. phantom limb pain, spinal cord injury pain) or undetermined reasons. Neuropathic pain is typically persistent and is described as burning, 'electric shock' and/or tingling, dull and aching. Episodes of sharp, shooting pain can also be neuropathic pain. Neuropathic pain tends to be more difficult to treat than most other forms of pain.

It is helpful to use mnemonics or acronyms, such as PQRST, COLDERR or SOCRATES, to help remember the facets of pain that should be assessed (see Table 7-6).

It is essential that the findings from a pain assessment are documented in the person's notes and communicated to other members of the health care team to ensure appropriate treatment and continuity of care. It is also essential that the response to interventions initiated to ameliorate pain are documented and re-evaluated over time.

Table 7-6 Using mnemonics and acronyms as cues when assessing pain

P – Factors that precipitate or provoke the person's pain
Q – Quality and character of pain (e.g. aching, burning, crushing, etc.)
R – Region (location) of pain and does it radiate to or from other parts of the body
S – Severity : rate intensity of pain using appropriate pain scale
T – Time : onset and duration of pain
C – Character : What does the pain feel like?
O – Onset : When did the pain start?
L – Location : Where is the pain located?
D – Duration : How long has the pain lasted?
E – Exacerbation : What makes the pain worse?
R – Relief : What makes the pain better?
R – Radiation : Does the pain move anywhere?
S – Site
O – Onset
C – Character
R – Radiation
A – Associated factors
T – Time
E – Exacerbating/relieving factors
S – Severity

CLINICAL SCENARIO

It is 1800 hours in the emergency department and Mrs Grace Simpson, 74 years old, has been brought in by ambulance after falling at home (Levett-Jones & Phelan, 2018). She has a suspected fractured right neck of femur. The paramedics gave Mrs Simpson the medication Methoxyflurane via an inhaler on the way to the hospital but she is still groaning with pain and in obvious distress.

Critical Thinking Questions

- 1 What cues should be collected in order to comprehensively assess Mrs Simpson's pain?
- 2 What questions would you ask Mrs Simpson about her pain?
- 3 What barriers might there be to conducting an accurate pain assessment in this situation?
- 4 What are the risks if a comprehensive and accurate assessment of Mrs Simpson's pain is not undertaken?

THE 3Ps TABLE Pain assessment

PREPARATION AND PLANNING

ACTION	EXPLANATION AND RATIONALE
Identify indication for undertaking a pain assessment.	The indication for the assessment helps to determine the type and frequency of pain assessment required.
Review the person's charts and other relevant clinical data.	An understanding of the person's history, cultural background, age and other relevant factors is essential to accurate and person-centred pain assessment.
Determine whether related assessments are required.	The need to undertake vital signs or other clinical assessments prior to pain assessment requires additional equipment.
Gather the correct equipment: <ul style="list-style-type: none"> • Appropriate pain assessment tool and the person's charts • Vital signs equipment. 	The findings from the pain assessment must be accurately and contemporaneously documented. Vital signs measurement is important for pain assessment (however, the presence of pain does not always produce a change in vital signs).

PERFORMING THE PROCEDURE

ACTION	EXPLANATION AND RATIONALE
Perform hand hygiene.	Hand hygiene is performed as an infection control precaution.
Introduce yourself to the person.	Use full name and designation. This is a professional expectation and helps to promote a therapeutic relationship.
Demonstrate a person-centred approach by explaining the pain assessment and obtaining verbal consent.	Establishing the person's understanding of the assessment and providing education reassures the person and facilitates their participation. Additional persons may be required in some situations, e.g. an interpreter, parent or carer.
Close curtains or door.	Closing the curtains or door ensures the privacy and dignity of the person.
Perform vital signs assessment and collect other relevant clinical data.	The inclusion of vital signs assessment is inherent in most pain assessment tools.
Use an appropriate pain assessment tool or mnemonic to gather information about the person's pain.	Utilising the guidelines and approach associated with the selected tool will ensure all relevant information is collected. Use of a mnemonic helps the nurse remember key cues to collect.
Perform a functional activity assessment.	To determine the extent to which a person's pain interferes with their activities of daily living and capacity to take deep breaths, etc.
Conclude encounter and inform the person of follow-up.	This is a professional expectation and helps to maintain a therapeutic relationship.

PRIORITIES POST PROCEDURE

ACTION	EXPLANATION AND RATIONALE
Document relevant information.	
Clean and return used equipment.	
Repeat hand hygiene.	
Plan for analgesia or non-pharmacological interventions if required.	Assessment data must be interpreted and appropriate nursing actions initiated.
Establish plan for ongoing pain assessment.	Improvements or exacerbation of the person's pain must be monitored regularly.
Refer to relevant members of the health care team if appropriate.	Timely referral to other members of the health care team is required (e.g. pain team or doctor).

SECTION 7.3

PATIENT-CONTROLLED ANALGESIA (PCA)

LEARNING OUTCOMES

On completion of this section you will be able to:

- 1 Demonstrate the ability to effectively and safely care for a person with a PCA.
- 2 Apply the principles of safe medication management to PCA.
- 3 Accurately document nursing interventions related to PCA.
- 4 Demonstrate critical thinking skills when caring for a person with a PCA.
- 5 Complete the critical thinking questions associated with the clinical scenario.

The concept of **patient-controlled analgesia (PCA)** has been in existence in acute care settings for several decades. The underpinning principle is that the analgesia delivery is controlled by the person within parameters determined by the prescriber. PCAs are commonly used for acute pain (e.g. postoperatively or following traumatic injury) and are considered to be a safer, more effective means of treating pain than intermittent or prn administration of analgesia. Studies indicate that PCAs significantly increase pain relief and patient satisfaction while decreasing the risk of pulmonary complications (Li, 2016).

PCAs are typically used in acute care settings. The prescriber orders the type of analgesia, and determines the route, dose and **lock out period**. Nurses are responsible for setting up the PCA, providing patient education and monitoring effectiveness and potential side effects. Regular observations are required according to the person's condition and the established protocol for PCA management.

CLINICAL SAFETY ALERT

Two registered nurses are required to prepare the medication and to check settings on the PCA pump to ensure medication safety. PCAs generally use Schedule 8 (S8) medications, such as morphine. These are substances and preparations for therapeutic use which have high potential for abuse and addiction.

KEY TERMS

lock out period, 335

patient-controlled analgesia (PCA), 335

The PCA device is designed to deliver a measured dose of analgesic medication to the person intravenously or, in some cases, via an epidural catheter. The PCA is programmed with the prescribed dose and lock out time (the minimal amount of time between doses delivered). The person is instructed to press a hand-held device connected to the PCA machine to prevent or alleviate pain. The machine delivers a measured amount of the analgesia based on a pre-programmed regimen. All data related to the person's 'request' for analgesia are stored in the device so that the nurse can monitor usage.

CLINICAL SAFETY ALERT

Multiple unsuccessful attempts for analgesia via a PCA may indicate inadequate analgesia, or the requirement of further education and support to the patient. Both situations require the nurse to explore and address the reason for the multiple attempts.

Key advantages of PCA use are that patient satisfaction is increased as they maintain control over the amount of analgesia delivered and when, and analgesics can be titrated by the prescriber in response to analgesic requirements. There are disadvantages to be considered, which include the need for adequate education of both patients and staff, the cost of PCA machines and the associated risks with peripheral intravenous devices. Additionally, the PCA machine may limit the individual's mobility.

Nurses must be aware of the risks associated with PCA use. Although sedation, respiratory depression and hypotension are infrequently occurring complications from PCAs, opioid induced ventilation insufficiency can occur in some patients and is not indicated by changes in respiratory rate and oxygen saturation levels.

Appropriate nursing observations and critical thinking are essential to mitigate these risk factors.

CLINICAL SCENARIO

It is now day 2 postop and Mrs Simpson has a morphine PCA. At handover you are told that Mrs Simpson made multiple and repeated PCA attempts during the night (not all of them successful). She was using about 4 mg per hour until 0400 and from then on used less than 1 mg per hour. When assessed during the night Mrs Simpson reported pain scores of between 5 and 8 (Levett-Jones & Phelan, 2018).

Critical Thinking Questions



- 1 What does this information tell you about the adequacy of Mrs Simpson's pain management?
- 2 If you were the nurse caring for Mrs Simpson, what cues would you collect at this stage?
- 3 What do you think might be the potential problem/s in this situation?
- 4 What actions would you take in this situation?

THE 3Ps TABLE Setting up a PCA or changing a PCA syringe

PREPARATION AND PLANNING

ACTION	EXPLANATION AND RATIONALE
Identify indications and potential contraindications for a PCA.	Determines the appropriateness of the PCA for the individual.
Review the person's charts and other relevant clinical data.	An understanding of the person's history and other relevant factors is essential to preparing for the procedure.
Perform hand hygiene.	Hand hygiene is performed as an infection control precaution.
Ensure that two RNs have checked the PCA syringe and are present to set up the PCA.	Checking of S8 medications by two RNs is a legal requirement for safe medication administration.
Gather the correct equipment: <ul style="list-style-type: none"> • Valid order • Vital signs monitoring equipment • PCA pump • Prepared PCA syringe • PCA extension line • Gloves, sharps container, alcohol wipes • PCA chart • Key to PCA machine. 	

PERFORMING THE PROCEDURE

ACTION	EXPLANATION AND RATIONALE
Introduce yourself to the person.	Use full name and designation. This is a professional expectation and helps to promote a therapeutic relationship.
Demonstrate a person-centred approach by explaining the procedure and providing a rationale for PCA; obtain verbal consent.	Establishing the person's understanding of PCA and providing education reassures the person and facilitates their participation.
Close curtains or door.	Closing the curtains or door ensures the privacy and dignity of the person.
Perform hand hygiene.	Hand hygiene is performed as an infection control precaution.
Ensure peripheral IV line and fluids are in situ and that the cannula is patent.	A patent IV line is needed to connect the PCA line to.
Undertake vital signs and pain assessment.	Baseline data is necessary to assist with the person's ongoing assessment.

Check the five rights of medication administration.	This is a requirement for safe medication administration.
If this is the first time the PCA has been set up for this person, attach the extension tubing and prime the PCA line. Then insert syringe into the PCA machine and follow process for attaching extension tubing to primary line.	
If this is a continuing order, remove and replace empty PCA syringe.	
Set syringe type, size, continuous dose, bolus dose and lock out period. When all checks are complete, lock the PCA machine and remove the keys.	
Confirm that the person fully understands how to use the PCA and when.	Education is essential to effective PCA use.
Conclude encounter and inform the person of follow-up.	This is a professional expectation and helps to maintain a therapeutic relationship.
PRIORITIES POST PROCEDURE	
ACTION	EXPLANATION AND RATIONALE
Perform hand hygiene.	Hand hygiene is performed as an infection control precaution.
Document procedure in the person's chart.	This is a legal requirement.
Dispose of any remaining contents of used syringe in accordance with organisational policy and legal requirements.	This is a legal requirement.
Clean and return used equipment.	
Establish plan for ongoing PCA assessment.	The effectiveness of the PCA regimen and possible side effects must be monitored regularly.

SECTION 7.4

NON-PHARMACOLOGICAL PAIN RELIEF

LEARNING OUTCOMES

On completion of this section you will be able to:

- 1 Demonstrate the ability to effectively and safely provide non-pharmacological pain relief to individuals.
- 2 Demonstrate critical thinking when delivering non-pharmacological pain relief interventions.
- 3 Discuss considerations of personal preference, organisational policy and own skill set when delivering non-pharmacological pain relief.
- 4 Complete the critical thinking questions associated with the clinical scenario.

It is important to consider the role and delivery of non-pharmacological pain relief in the management of pain. This area of health care includes a variety of physical, cognitive-behavioural and lifestyle strategies that, broadly speaking, can target the body, mind, spirit and social aspects of a person's pain experience (see Table 7-7). There is a growing body of research, including clinical trials, supporting the powerful effect of **non-pharmacological** pain management strategies on both pain perception and experience (Bushnell et al., 2013). **Physical** strategies are those that alter physiological responses. Examples include massage, application of heat or cold therapy, acupuncture, and interventions such as transcutaneous electrical nerve stimulation (TENS). Studies of hypnosis, specific pain coping strategies, TENS, acupuncture and manual or massage therapy have proven to be effective in the management of pain (Fong, 2017a), while there is less evidence of effectiveness of these approaches in acute pain.

Cognitive-behavioural approaches to pain management can include speaking to qualified therapists to identify negative thoughts and behaviours related to pain experience. Additionally, a range of cognitive-behavioural non-pharmacological pain management strategies can be used that do not require referral to a qualified therapist. Examples that are commonly used to

KEY TERMS

cognitive-behavioural, 338
non-pharmacological, 338
physical, 338

manage chronic pain include relaxation, guided imagery, distraction and meditation.

Seeking information regarding the person's prior experience and preference related to use of non-pharmaceutical interventions is a key component of successful implementation. For some people the use of non-pharmacological pain relief approaches may be in direct contravention of their religious or cultural beliefs. In addition, organisational policies should be checked because delivering some non-pharmacological interventions within acute care environments may not be supported.

Selection of non-pharmacological interventions for pain management will depend on the knowledge, confidence and skill of the nurse to assist with such interventions. Williams et al. (2009) provide a review of several clinical practice guidelines that can assist nurses to make decisions related to their own capacity to engage in non-pharmacological interventions. For example, the use of reiki, aromatherapy, reflexology and acupuncture require a trained therapist, and many interventions can be optimised when the nurse has undertaken training to enhance skills (Williams et al., 2009, p. 152). Nurses may also facilitate non-pharmacological interventions delivered by family or friends after careful consideration of indication or contraindications.

Table 7-7 Non-pharmacological interventions for pain control

TARGET DOMAIN OF PAIN CONTROL	INTERVENTION
Body	Reducing pain triggers, promoting comfort Massage Applying heat or ice Electric stimulation (TENS) Positioning, bracing (selective immobilisation) Acupressure Diet, nutritional supplements Exercise, pacing activities Sleep hygiene
Mind	Relaxation, imagery Self-hypnosis Pain diary, journal writing Distracting attention Repatterning thinking Attitude adjustment Reducing fear, anxiety, stress Reducing sadness, helplessness Information about pain Music therapy
Spirit	Prayer, meditation Self-reflection re life and pain Meaningful rituals Energy work (e.g. therapeutic touch, reiki) Spiritual healing
Social interactions	Functional restoration Improved communication Family therapy Problem solving Vocational training Volunteering Support groups

Source: A. Berman, S. Snyder et al. (Eds) (2021). *Kozier & Erb's fundamentals of nursing* (5th ed.) Sydney, Australia: Pearson Australia, p. 1292.

CLINICAL SAFETY ALERT

Wheat-containing heat packs are commonly used, especially for chronic pain; however, there are no Australian Standards related to their use. Wheat packs have been implicated in house fires and deaths, resulting in recommendations that they are used with extreme caution. The use of these types of heat packs in most acute care settings is prohibited and caution should also be used in the home setting. In addition, gel type heat should also be used with caution, particularly for people who have decreased sensation or altered cognition, due to risk of burns. Chemical patches are also available which produce a thermic reaction. These can be used along with other heat sources if the patient has been assessed as having normal sensory function (so as to avoid potential burns).

USE OF THERAPEUTIC MASSAGE TO RELIEVE PAIN

Massage can be used to relieve chronic pain and muscle tension and can promote relaxation. It can be used on a range of body areas, including back, legs, arms, hands and feet. Spending time with the person to undertake massage will also enhance rapport and therapeutic communication and is an example of implementing therapeutic touch (Applegarth, 2021). Consideration should be given prior to the procedure to decide on the target area for the massage, taking into account prior experience, individual preference and any existing underlying conditions. For nurses who are new to this area of nursing or who have limited experience of massage, it is best to commence with hand or foot massage, and to practise with a friend or colleague first. Contraindications for massage include fractures, recent surgery in the area, poor skin integrity and those who have cultural or religious reasons for declining (Applegarth, 2021). Caution is required with the use of perfumed oils or creams when the person is sensitive or allergic to such additives. An outline of how to perform therapeutic massage for pain and relaxation is provided in the 3Ps table overleaf, using the example of hand massage.

CLINICAL SCENARIO

Mrs Grace Simpson, 74 years old, is a patient on the rehabilitation ward two weeks post right hip replacement (Levett-Jones & Phelan, 2018). She has intermittent pain which is well managed with analgesia; however, she also experiences anxiety and some boredom, which she says leads her to focus on the pain and the worries she is experiencing. The occupational therapist has suggested Mrs Simpson would benefit from non-pharmacological pain relief interventions. Mrs Simpson indicates she will consider such interventions but has reservations about the effectiveness of such alternate therapies.

Critical Thinking Questions

- 1 What would you do if presented with this situation?
- 2 What information would you provide to Mrs Simpson about non-pharmacological pain relief?
- 3 What factors may be impacting on Mrs Simpson's experience?
- 4 Predict what might happen if Mrs Simpson's pain, anxiety and boredom are not appropriately managed in a timely manner.