

Michigan: Pain and Symptom Management

2.5 contact hours: \$18

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Course Summary: Key points of Michigan's pain policies plus Joint Commission regulations for pain management. Covers major categories of pain, common sources, effective assessment, and management in various special populations including children, older adults, and those at the end of life.

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Criteria for Successful Completion: 80% or higher on the post test, a completed evaluation form, and payment where required. No partial credit will be awarded.

This course will be reviewed every two years. It will be updated or discontinued on Mar 1, 2012.

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Target Audience: Occupational Therapists, OTAs

Instructional Level: Intermediate

Content Focus:

- Category 1 - Domain of OT, Client Factors
- Category 2 - Occupational Therapy Process, Outcomes

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Instructions

1. Read the course material and then complete the following forms:
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Course Objectives

When you finish this course, you will be able to:

- Discuss the prevalence of pain.
- Spell out the Joint Commission regulations for pain management and describe the Central Principle of Balance.
- Explain the key points of Michigan's pain policies.
- Distinguish the major categories of pain.
- Describe common sources of pain.
- Outline effective practices and tools for the assessment of pain.
- Identify the chief principles of analgesic pain management.
- Summarize pain management in special populations, including children, adolescents, older adults, and those at the end of life.

Michigan may be ahead of the curve on pain management but that doesn't mean we've arrived. We want to create a paradigm shift in Michigan in the way patients and physicians think and speak about pain management.

Steve Creamer
Bureau of Health Professions

The Prevalence of Pain

Pain is an unpleasant fact of daily life for many people, affecting their emotional, financial, and psychological well being. It is also costly—an estimated \$80 billion is spent annually in the United States to address healthcare issues associated with acute and chronic pain. Despite these massive expenditures, pain is often undertreated and many people are forced to live with the misery of constant pain in their lives.

According to a 2006 National Health Interview Survey, 27% of adults in the United States experience pain in the lower back, 15% experience migraines or severe headaches, 14% experience pain in the neck area, and 5% experience pain in the face or jaw (DHHS, 2007). Given these numbers it is not surprising that pain is one of the most common physical complaints upon a person's admission into the healthcare system (Pain and Policy Study Group, 2008a).

Defining Pain

There is lack of consensus on a definition, but **pain** is often defined as a sensory and emotional experience associated with actual or potential tissue damage. Margo McCaffrey proposed in 1968 that pain is "whatever the experiencing person says it is, existing whenever she or he says it does" (Himmelreich et al., 2007). This suggests that pain is a subjective experience and the patient is the only person who can accurately characterize it. But pain also has psychosocial components and learned responses that play a role in its management and can lead to psychological disability and a pattern of repeated and frustrating interaction with the healthcare system.

The undertreatment of pain is increasingly being recognized as a major healthcare problem. This phenomenon was first documented in a landmark study by Marks and Sachar in 1973, which found that 73% of hospitalized medical patients had moderate to severe pain. Thirty years later, in 2003, Apfelbaum and others found that 80% of surgical patients experienced acute pain after surgery, and 86% of those had moderate to extreme pain (AHRQ, 2008).

It is estimated that 45% to 80% of patients in nursing homes have substantial pain that is undertreated. Of 1,308 outpatients with metastatic cancer from fifty-four cancer treatment centers, 67% reported pain. Of those who had pain, 62% had pain severe enough to impair their ability to function, and 42% were not given adequate analgesic therapy. These studies and others suggest that when patients had moderate to severe pain, they had only about a 50% chance of obtaining adequate pain relief (AHRQ, 2008).

Poor pain management causes needless suffering and, as patients are becoming more aware of their right to pain treatment, clinicians risk liability for failing to manage pain adequately. *Bergman v. Chin* (California Alameda County Superior Court, June 13, 2001) is a landmark case in which a patient successfully sued his physician on grounds of elder abuse for failing to manage his pain.

As a result of this ruling, California adopted guidelines for pain management, and physicians are now required to take twelve hours of training in pain management. Interestingly, the new law protects physicians from liability as long as they use opioids according to established guidelines for pain management. Physicians' fear of causing harm by overtreating pain has been a significant barrier to effective pain management.

Reluctance to treat pain aggressively persists, and in Michigan the incidence of pain is widespread. A telephone survey of Michigan residents conducted by Lisa Miller for her doctoral dissertation found the overall prevalence of chronic pain in Michigan is nearly 23% and the prevalence increases with age (Miller, 2008). A telephone survey of 1,000 Michigan residents conducted for the Michigan Department of Community Health (MDCH) found that about one-third of residents sought treatment for acute pain in the previous year while about one-quarter sought treatment for chronic pain (MDCH, 2009).

Survey respondents said they had received care from the following healthcare practitioners for pain (MCDH, 2009):

- 54.8% from a primary care provider, general practice doctor, osteopathic nurse, nurse practitioner or physician's assistant
- 14.4% from a physical therapist
- 14.2% from a chiropractor
- 13.1% from an orthopedist
- 11% from a surgeon
- 8.6% from a massage therapist

Joint Commission Pain Management Regulations

In 2001 The Joint Commission (TJC), in collaboration with the University of Wisconsin, Madison, Medical School developed pain management standards for hospitals and other healthcare settings that stated, "Every patient has a right to have his or her pain assessed and treated" and "a comprehensive pain assessment would be conducted consistent with the scope of care, treatment and services and the patient's condition" (TJC, 2008).

The Joint Commission pain standards establish that all patients have the right to effective pain management and that pain must be routinely assessed for all patients. Pain is now considered a fifth vital sign, to be assessed along with temperature, pulse, respiration, and blood pressure. Choice of a pain assessment tool is left to the discretion of individual healthcare facilities, but the Commission encourages a simple 0 to 10 pain scale.

Clinicians must address the needs of noncommunicative patients, including those with dementia, by using an alternative means of assessment such as the Wong-Baker Faces Pain Scale, which shows a range of expression from smiling to crying. The Joint Commission also recognized that patients' psychosocial, spiritual, and cultural values affect their response to care.

The Joint Commission's pain guidelines establish that:

- Clinicians must be competent in the assessment and management of pain.
- All patients must be routinely assessed for pain.
- Patients and family members must be educated about the importance of pain management as a part of care.
- Pain should not interfere with optimal level of function or rehabilitation.
- Pain and symptom management must be included in discharge planning.

The Central Principle of Balance

The Central Principle of Balance guides the evaluation of state policies for pain management. This principle represents a government's dual obligation to establish a system of drug controls that will prevent abuse and diversion and also to ensure the adequate medical availability of needed medications (Pain and Policies Study Group, 2008a).

A combination of policies, including international treaties and federal and state laws and regulations govern the use of opioids by medical practitioners. Traditionally, the main purpose of these policies has been drug control—to prevent illegal diversion and abuse of prescription medications. These policies now address availability—recognizing that opioids are necessary for pain relief and that governments must ensure their adequate availability for medical and scientific purposes. When both control and availability are appropriately recognized in public policy, and implemented in everyday practice, this is referred to as a balanced approach (Pain and Policies Study Group, 2008a).

The use of prescription pain relievers without a doctor's prescription or for nonmedical purposes is a significant problem. After marijuana use, it is the second most common form of illicit drug use in the United States. According to the Drug Abuse Warning Network (DAWN), approximately 324,000 emergency department visits in 2006 involved the nonmedical use of pain relievers, including both prescription and over-the-counter pain medications (SAMHSA, 2009).

Michigan has made significant strides in recent years by updating its pain policies and creating a strategic plan for medical professionals and residents of the state. Among the initiatives in the strategic plan are:

- A survey that physicians have the option to complete, when renewing their licenses, that gauges their pain management knowledge, attitudes, and practices
- A statewide phone survey of the public on pain management
- Public service announcements scheduled for late 2009 to increase awareness of the costs of unmanaged pain and the public's right to effective pain management
- Distribution in Spring 2009 of customized copies of *Responsible Opioid Prescribing* to the 28,000 licensed physicians with Michigan-based practices and 5,300 medical residents in Michigan, with professions under consideration for possible future distribution including dentists, nurse practitioners, and physician assistants (FSMB, 2009).

As a result of these efforts, in 2008 Michigan achieved an “A” grade from the University of Wisconsin Pain and Policy Studies Group, joining Oregon, Kansas, Virginia, and Wisconsin as having the most balanced pain policies in the country. Despite these gains, improving state policy, like any other factor related to pain management, is not usually sufficient in and of itself to accomplish effective pain relief, but it is a necessary component to achieving a positive professional practice and regulatory environment for treating pain. To be most effective, a new state policy should be disseminated widely and repeatedly to licensees and the public (Pain and Policies Study Group, 2008b).

Pain Policies in Michigan

The goal in Michigan is to encourage the public to speak openly about pain and help physicians provide a wide range of safe and effective pain management approaches to all Michigan citizens—including opioid medications.

Steve Creamer
Bureau of Health Professions

The Michigan Advisory Committee on Pain and Symptom Management (ACPSM) was established in 1998 to address issues pertaining to pain and symptom management throughout the state. In 2002 they identified several areas of focus:

- The need for public education about pain and symptom management
- The need for education and training in pain and symptom management for healthcare providers
- Lack of availability of Schedule II drugs in pharmacies, particularly in low-income areas
- Fear of addiction and misinformation about Schedule II drugs
- Lack of access to coverage for pain and symptom management
- Clinician reluctance to prescribe Schedule II drugs for fear of disciplinary action

The ACPSM has made recommendations for changes in the Public Health Code to address these issues, including policy statements and adoption of state guidelines on pain management. For more information, visit their website at http://www.michigan.gov/mdch/0,1607,7-132-27417_45947_45950---,00.html.

In the last decade the Michigan legislature has passed several pieces of legislation that address pain management and give direction to prescribers on the use of opiates without fear of prosecution. The undertreatment of pain in Michigan has recently been a topic of discussion and possible legislative action. Michigan public health code has addressed pain management by:

- Lengthening the period of time to fill Schedule 2 prescriptions, and to provide for prescriptions to be partially filled incrementally for terminally ill patients (Section 333.7333)
- Requiring healthcare professionals to complete continuing education in pain and symptom management as a condition of relicensure (Section 333.16204)
- Creating the Advisory Committee on Pain and Symptom Management (Section 333.16204a)
- Providing legislative support to address pain and symptom management issues and enacting legislation that supports the treatment of pain (Section 333.16204b)
- Providing legislative support for the use of controlled substances as being appropriate in the medical treatment of pain and enabling the regulatory agencies to prevent the abuse and illegal diversion of controlled substances by creating an electronic monitoring system (Section 333.16204c)
- Requiring the Department of Community Health to develop, publish, and distribute an informational booklet on pain to include specific content. The department, in conjunction with the controlled substances advisory commission, is required to develop and conduct an educational program for health professionals that covers specific topics (Section 333.16204c)
- Addressing a patient's "right to adequate and appropriate pain and symptom management" (Section 333.20201)

Intractable Pain Treatment Acts

Intractable Pain Treatment Acts (IPTA) are statutes that were intended to improve access to pain management by providing physician immunity from regulatory sanctions for prescribing opioids to patients with intractable pain. The definition of "intractable pain," because it occurred in law, implied that the medical use of opioids is outside legitimate professional practice and suggested that physicians would not qualify for the immunity provided by the law if they prescribed opioids as a treatment of first choice for patients, even if the patient is suffering from severe pain. Fourteen states continue to define intractable pain (or chronic pain) in a way that can convey ambiguous practice messages. In addition, IPTAs typically do not contain clear statements that are aimed at enhancing pain management and access to care (Pain and Policies Study Group, 2008b).

Some states, including Michigan, have worked to remove ambiguities and restrictions from their intractable pain treatment acts. In 2001 Michigan became the first state to delete the term *intractable pain* from its statute, making its provisions applicable to pain in general. More recently, California, Oregon, and Rhode Island repealed a number of restrictive provisions from their IPTAs, including removing the term and definition of intractable pain.

Michigan Medical Marihuana Program

The Michigan Medical Marihuana Program (MMMP) is a state registry program within the Bureau of Health Professions at the Michigan Department of Community Health. The MMMP oversees the registration program for the Medical Marihuana Act, passed by Michigan voters in 2008. (The spelling of *marihuana* within the act is consistent with its spelling in the Michigan Public Health Code.) State law allows medical use of marijuana under specified conditions, although the law does not protect marijuana plants from seizure nor individuals from prosecution if the federal government chooses to take action against patients or caregivers under the federal Controlled Substances Act.

In Michigan, patients must have a physician's recommendation to be eligible to use medical marijuana legally. A qualifying, debilitating medical condition must be listed on the attending physician's statement. Severe or chronic pain and severe or persistent muscle spasms are among the conditions approved under the state's medical marijuana program (Michigan Department of Community Health, 2008).

Categories of Pain

Pain conditions range in severity, extent, and effect. The majority of patients treated in the primary care setting have episodic or acute pain, which can be successfully addressed with a wide range of treatments such as anti-inflammatories, modalities, exercise, rest, and physical therapy. In contrast, the pain experienced by patients in the non-primary care setting is usually chronic, persistent, and often unresponsive to treatments used for acute pain.

Four types of persistent pain are described by the American Geriatrics Society (2002) and others:

- Nociceptive pain—caused by stimulation of pain receptors
- Neuropathic pain—arising from damage to the peripheral or central nervous system,
- Mixed or unspecified pain
- Psychogenic pain—caused or exacerbated by psychiatric disorders

Understanding the vocabulary of pain will help you interpret what you read. Specific modalities are effective with neuropathic pain and not with nociceptive pain; the appropriate treatment for any type of pain is the treatment that works to alleviate the pain. For example, in the past opioids were considered ineffective in treating neuropathic pain but we now know that opioids can be effective in managing this type of pain (Dworkin et al., 2007).

Because pain is a subjective experience it cannot be fully understood by another person. All pain technically occurs in the brain (as perception) and the differentiation between the types of pain is theoretical. There is no one type of pain that is worse than the others. Psychogenic pain can hurt as much as nociceptive pain; the pain from a phantom limb may be more intense than the pain of a traumatic injury.

In general, pain is best managed using a step-wise approach, with attention to balancing side effects with pain relief (Dworkin et al., 2007). It is essential to assess the pain before treatment and at regular intervals during treatment (Chou et al., 2009).

Acute vs. Chronic Pain

Acute pain is a normal sensation triggered in the nervous system to alert you to possible injury. The sensation of acute pain has two components, corresponding to the two major fiber types: myelinated and unmyelinated. The first, sometimes termed "fast pain," is a sharp, pricking pain similar to the brief pain associated with sticking a pin into the skin. The second, "slow pain," follows fast pain and has a burning quality. An example of this type of pain is incisional pain after surgery.

Chronic pain persists or progresses over time, causing pain signals to continue firing for weeks, months, or years. Chronic pain is often difficult to diagnose and treat, and may take a long time to reverse. It generally lasts for three or more months and does not resolve in response to treatment.

One aspect of chronic pain is that nerve pathways may continue to transmit the sensation of pain even though the underlying condition or injury that originally caused the pain has healed. In such situations, the pain itself may have to be managed separately from the underlying condition. Women are over-represented among patients with chronic pain and for many pain conditions prevalence rates are higher for subjects of reproductive age than subjects in postmenopausal years (NIH, 2003).

There can be a lack of distinction between acute and chronic pain during its management. Acute pain is easier to treat and lends itself to mild pain medications, environmental changes (ergonomics, education, body mechanics), and effective treatment programs such as physical therapy modalities, massage therapy, acupuncture, and active movement programs like yoga and Feldenkrais.

Clinicians are less successful when treating chronic pain, which by definition does not resolve quickly and requires stronger medications. Often narcotics or sedatives—with their attendant adverse consequences—are needed, which creates a more complex clinician-patient relationship. If the pain persists for a long time, psychological factors such as anxiety, depression, and anger at treatment failures emerge. Because medical practitioners often approach chronic pain management from a medication perspective, effective modalities that lack evidence-based studies are sometimes overlooked.

Psychogenic Pain

Psychogenic pain is pain associated with psychological factors. The pain assessment may reveal symptoms that do not match the pain complaint. When symptoms fail to match physical findings, countless individuals have been informed that "The pain is all in your head." If these same individuals react with anger and hurt, the patient is often labeled as hostile, demanding, or aggressive.

In reality, the correspondence between physical findings and pain complaints is fairly low (generally, 40–60%). Individuals may have abnormal tests with no pain, or substantial pain with negative results. This is because chronic pain can develop in the absence of the gross skeletal changes we are able to detect with current technology (Department of Veterans Affairs, 2007).

Muscle strain and inflammation are common causes of chronic pain, yet may be extremely difficult to detect. Other conditions that may cause chronic pain include systemic problems (HIV-related pain, sickle-cell pain), trauma to nerves (post thoracotomy pain), circulatory difficulties (diabetic neuropathy), CNS dysfunction (central pain syndromes), and many others. Yet, in each of these cases we may be unable to "see" the cause of the problem. Instead, we have to rely on the person's report of their pain, coupled with behavioral observations and indirect medical data. This does not mean that the pain is psychogenic. Rather, it means that we are less able to detect or understand its cause (Dept of Veterans Affairs, 2007).

Unrelieved Pain

[The information in this section is derived from Hughes (AHRQ, 2008).]

Pain causes stress and unrelieved pain prolongs the stress response, adversely affecting the patient's recovery. The endocrine system reacts by releasing an excessive amount of hormones, ultimately resulting in carbohydrate, protein, and fat catabolism; poor glucose use; and other harmful effects. This reaction combined with inflammatory processes can produce weight loss, tachycardia, increased respiratory rate, fever, shock, and death.

The cardiovascular system responds to the stress of pain by activating the sympathetic nervous system, which produces a variety of unwanted effects. Following a surgical procedure, these include hypercoagulation, plus increased heart rate, blood pressure, cardiac workload, and oxygen demand. Aggressive pain control is required to reduce these effects and prevent thromboembolic complications. Cardiac morbidity is the primary cause of death after anesthesia and surgery (AHRQ, 2008).

Since the stress response causes an increase in sympathetic nervous system activity, intestinal secretions and smooth muscle sphincter tone increase, and gastric emptying and intestinal motility decrease. This response can cause temporary impairment of gastrointestinal function and increase the risk of ileus (intestinal obstruction) (AHRQ, 2008).

Unrelieved pain may be especially harmful for patients with metastatic cancers. Stress and pain can suppress immune functions, including the natural killer (NK) cells that play a role in preventing tumor growth and controlling metastasis. Further, management of perioperative pain is probably a critical factor in preventing a surgery-induced decrease in resistance to metastasis (AHRQ, 2008).

Unrelieved acute pain can result in chronic pain eventually; thus, pain now can cause pain later. If acute shingles pain is not treated aggressively, it is believed to increase the risk of post herpetic neuralgia. A survey of post surgical patients found a high prevalence of chronic pain in patients whose acute pain was inadequately managed.

Common Sources of Pain

Despite the difficulty in classifying and understanding different mechanisms of pain, certain pain syndromes are pervasive in the clinical setting. Low back pain, post surgical pain, cancer pain, and pain associated with arthritis are common reasons patients seek medical care.

Low Back Pain

More than 85% of low back pain patients who present to primary care have pain that cannot be reliably attributed to a specific disease or spinal abnormality. The term *nonspecific low back pain* is often used in these cases. Attempts to identify specific anatomic sources of low back pain in such patients have not been validated in rigorous studies and classification schemes frequently conflict with one another (VA/DOD, 2008).

A practical approach is to determine the likelihood of specific underlying conditions and measure the presence and level of neurologic involvement. Such an approach facilitates classification of patients into 1 of 3 broad categories:

- Nonspecific low back pain
- Back pain potentially associated with radiculopathy or spinal stenosis (suggested by the presence of sciatica or pseudoclaudication)
- Back pain potentially associated with another specific spinal cause (VA/DOD, 2008)

The last category includes the small percentage of patients with serious or progressive neurologic deficits or underlying conditions requiring prompt evaluation (tumor, infection, cauda equina syndrome), as well as patients with other conditions that may respond to specific treatments (ankylosing spondylitis, vertebral compression fracture) (VA/DOD, 2008).

Post Surgical Pain

Pain is common and expected after surgery. Effective post surgical pain management is associated with patient satisfaction, earlier mobilization, shortened hospital stays, and reduced costs. Despite these benefits, there are substantial numbers of patients who suffer from post surgical pain.

The goal of pain management following a surgical procedure is to prevent and control pain. Post surgical pain, like cancer pain, is expected to be present continuously during the first 24 to 48 hours after surgery, with spikes of increased pain with movement, deep breathing and coughing, and ambulation. Around-the-clock dosing is recommended during this early post surgical period to prevent severe pain and control continuous pain (AHRQ, 2008).

Of the almost 35 million patients discharged from U.S. hospitals in 2004, 46% had a surgical procedure and 16% had one or more diagnostic procedures. Recent data suggest 80% of patients experience post surgical pain—and between 11% and 20% experience severe pain. Despite the availability of analgesics (particularly opioids) and national guidelines to manage pain, the incidence of post surgical pain has remained stable over the past decade. Thus, acute pain associated with surgical and diagnostic procedures is a common occurrence in U.S. hospitals and remains inadequately managed for many patients (AHRQ, 2008).

Postsurgical pain management should use of a combination of pain control strategies, such as opioids, nonsteroidal anti-inflammatory drugs, nonpharmacological interventions designed for the particular patient, operation, and circumstances. Pain management requires systematic patient assessment post surgically, at scheduled intervals, in response to new pain, and prior to discharge (VA/DOD, 2002).

A series of three systematic reviews has been published in the past five years examining the efficacy, safety, and side-effect profile of opioids used to manage post surgical pain. The first review concluded that patient-controlled analgesia (PCA) and epidural routes of administration were superior to intramuscular (IM) injections when pain intensity and relief were considered (AHRQ, 2008). This series of systematic reviews suggests the IM route of administration produces the poorest outcomes. The use of intravenous PCA was associated with the highest levels of nausea and sedation, whereas epidural analgesia was associated with the highest rate of urinary retention.

Cancer Pain

Cancer pain is composed of acute pain, chronic pain, tumor-specific pain, and treatment-related pain, combined with ongoing psychological responses of distress and suffering. Pain from cancer tends to increase in severity as the cancer advances. Patients with cancer often experience pain at multiple sites concurrently, through multiple mechanisms, and with distinct patterns, such as continuous pain, movement-related pain, and spontaneous breakthrough pain. Addressing only one source and type of pain may be inadequate (National Library of Medicine, 2001).

Clinicians have identified a number of cancer pain syndromes, some of which are tumor-specific patterns of local or distant metastasis, whereas others reflect diffuse neuropathies from tumors or chemotherapy. In addition, the nervous system itself may become dysfunctional as a result of cancer. Tumor-related cognitive impairment can interfere with pain assessment and confound analgesic titration (NLM, 2001).

Although slight improvements in the treatment of pain in cancer patients have been noted in recent years—particularly in industrialized countries—nearly 1 in 2 patients with cancer still receives inadequate treatment for pain (Deandrea et al., 2008). Several trends in the treatment of cancer pain have been noted:

- Wealthier health systems can sustain and encourage better pain management.
- Settings not specific for cancer patients had a higher percentage of undertreated patients.
- Patients who were rated less ill and at an early stage of the disease (no distant metastasis) were more likely to receive inadequate analgesia (Deandrea et al., 2008).

The discrepancy between the physician's and patient's estimate of the severity of pain suggest that a failure in physician-patient communication may play a role in undertreatment of cancer pain (Deandrea et al., 2008).

Arthritis

Osteoarthritis, the most common form of arthritis, is a chronic condition involving degeneration of cartilage in the joints. It is the number one cause of chronic pain and is associated with substantial disability and reduced quality of life. About 6% of U.S. adults age 30 or older have symptomatic osteoarthritis of the knee, and 3% have symptomatic osteoarthritis of the hip. Osteoarthritis increases with age: the incidence and prevalence increase two- to tenfold from age 30 to 65 and continue to increase after age 65. The total costs for arthritis, including osteoarthritis, may be greater than 2% of the gross domestic product, with more than half of these costs related to work loss (AHRQ, 2006a).

Rheumatoid and psoriatic arthritis are among the most disabling forms of arthritis. Rheumatoid arthritis (RA), which affects 1% of the U.S. adult population (about 2 million people), is an autoimmune disease that involves inflammation of the synovium (a thin layer of tissue lining a joint space) with progressive erosion of bone, leading in most cases to misalignment of the joint, loss of function, and disability. Rheumatoid arthritis tends to affect the small joints of the hands and feet in a symmetric pattern, but other joint patterns are often seen. The diagnosis is based primarily on clinical history and physical examination (AHRQ, 2007).

Psoriatic arthritis (PsA) affects fewer people in the United States than RA (about 1 million people). PsA is associated with the skin disease psoriasis. It has a highly variable presentation, which generally involves pain and inflammation in joints and progressive joint involvement and damage. Like RA, PsA can be disabling (AHRQ, 2007).

Assessment of Pain

In practice, assessing pain is complicated, and there is inconsistency among clinicians when assessing pain. In a sample of physicians and nurses, Anderson and colleagues found lack of pain assessment was one of the most problematic barriers to achieving good pain control (AHRQ, 2008).

The most critical aspect of pain assessment is that it is done on a regular basis using a standard format. The assessment parameters should be directed by hospital, unit, or clinic policies and procedures. Pain should be reassessed after each intervention to evaluate the effectiveness of the treatment plan and determine whether modification is needed (AHRQ, 2008).

Pain History

Initial assessment should include a detailed history, physical examination, psychosocial assessment, and diagnostic evaluation. Assessment should occur:

- At regular intervals after initiation of treatment
- At each new report of pain
- At a suitable interval after pharmacologic or nonpharmacologic intervention (for example, 15 to 30 minutes after parenteral drug therapy and 1 hour after oral administration) (NCI, 2008)

The mainstay of pain assessment is the patient self-report; however, family caregivers are often used as proxies for patient reports, especially in situations in which communication barriers exist, such as cognitive impairment or language difficulties. Family members who act as proxies typically, as a group, report higher levels of pain than patient self-reports, but there is individual variation (NCI, 2008).

Pain Assessment Tools

A standardized tool with established validity should be used to assess the intensity of pain in both adults and children. Because choice of intervention, including type of analgesic and dosing, is made based upon intensity, every pain assessment should include this type of measure. The Joint Commission requires that hospitals select and use the same pain assessment tools across all departments (AHRQ, 2008).

Numerous **pain intensity measures** have been developed and validated. Some tools—such as the visual analogue scale (VAS) and the numeric rating scale (NRS)—provide a numeric rating of pain intensity. Simpler tools such as the verbal rating scale (VRS), which classifies pain as mild, moderate or severe, are also commonly used. Studies indicate that older adults prefer to characterize their pain using the VRS—the description can be translated to a number for charting.

Patients should be taught how to establish a “comfort-function goal.” This is the pain intensity at which the patient is easily able to perform necessary activities, such as ambulating after surgery or being able to concentrate on job-related activities, with the fewest side effects. For example, a patient on morphine may report a pain level of zero but be unable to stay awake enough to talk with her family. The patient must decide how much discomfort she can tolerate and still do what is important to her. Interventions are implemented to achieve and maintain this pain rating as much of the time as possible.

Assessment tools such as the McGill Pain Questionnaire and the Brief Pain Inventory allow patients to describe subjective psychological feelings of pain. The McGill questionnaire contains a variety of verbal descriptors that help distinguish between musculoskeletal and nerve-related pain. The Brief Pain Inventory, developed by the World Health Organization, asks if the pain interferes with daily activities. The ability to resume activity, maintain a positive affect or mood, and sleep are recognized as important functions for patients.

Behavior Assessment Tools

Behavioral assessment tools are helpful in identifying the existence of pain and evaluating interventions. These scales are of two types: (1) pain behavior scales, and (2) pain behavior checklists. Some of these scales are scored by identifying the number or intensity of behaviors. However, this score is not a pain intensity score. No research as yet confirms that a pain behavior score is a pain intensity score. Therefore, it is unsafe to use pain behavior scores as pain intensity scores. A patient with only a few behaviors may have as much pain as a patient with many more behaviors (AHRQ, 2008).

An example of a **pain behavior scale** is the Behavioral Pain Scale (BPS), developed for use in the critically ill patient in the ICU. It evaluates and scores three categories of behavior:

1. Facial expression—scores range from 1 for relaxed to 4 for grimacing.
2. Upper-limb movement—scores range from 1 for no movement to 4 for permanently retracted.
3. Ventilator compliance—scores range from 1 for tolerating ventilator to 4 for unable to control ventilation (AHRQ, 2008).

A score above 3 may indicate pain is present and the score can be used to evaluate intervention, but cannot be interpreted to mean pain intensity. For a pain behavior scale to be useful, the patient must be able to respond in all categories of behavior. For example, the BPS would be useless in a patient who is receiving a neuromuscular blocking agent (AHRQ, 2008).

Behavior checklists differ from pain behavior scales in that they do not evaluate the degree of an observed behavior and do not require a patient to demonstrate all of the behaviors specified, although the patient must be responsive enough to demonstrate some of the behaviors. These checklists are useful in identifying a patient's "pain signature"—the pain behaviors unique to that individual (AHRQ, 2008).

An example of a pain behavior checklist is the Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC). The PACSLAC evaluates sixty behaviors such as facial expressions, activities, and mood. A check mark is made next to any behavior the patient exhibits. The total number of behaviors may be scored but, again, this cannot be equated with a pain intensity score. It is unknown if a high score represents more pain than a low score. In other words, a patient who scores 10 out of 60 behaviors does not necessarily have less pain than a patient who scores 20. However, in an individual patient, a change in the total pain score may suggest more or less pain (AHRQ, 2008).

Assessing Pain in the Cognitively Impaired Patient

The assessment of pain in the cognitively impaired patient can be a significant challenge. Clinicians and caregivers may have difficulty knowing when these patients are in pain and when they are experiencing pain relief. They may become agitated or manifest unusual behaviors when they are in pain. This makes the patient vulnerable to both undertreatment and overtreatment. Because of this, failure to report pain should not be assumed to mean the absence of pain.

Although there are a number of assessment tools currently in use, there is a lack of established reliable and valid measures for assessment of pain in those with limited cognitive ability. One commonly used tool in those with advanced dementia is the pain assessment in advanced dementia scale (PAIN-AD), in which the caregiver observes and records behaviors that might indicate the person is uncomfortable.

The PAIN-AD scale was developed by a team of clinicians at the E. N. Rogers Memorial VA Hospital in Bedford, Massachusetts, and involves the assessment of breathing, negative vocalization, facial expression, body language, and consolability. During the pain evaluation behaviors assessed include labored breathing, calling out or moaning, crying, facial grimacing, rigidity, clenched fists, striking out, and inability to be consoled or reassured (Frampton, 2004).

If a patient is unable to self-report pain, other less reliable measures must be used to identify the existence of pain and estimate the probable intensity. These assessment measures form a hierarchy, arranged in order of probable importance:

- **Conditions**, such as surgery, or procedures, such as wound care, which are likely to cause pain.
- **Patient behaviors**, which are likely to indicate pain. A behavioral assessment tool may be used. Whenever possible, a pain behavior scale should be chosen that has been researched for reliability and validity in the clinical setting.
- **Knowledge of others who know the patient**, such as the family or caregivers. They should be asked if they see behaviors that may indicate pain or if they know of preexisting conditions, such as arthritis, that cause pain (AHRQ, 2008).

If any of the above suggests the presence of pain, assume pain is present. If appropriate, a trial dose of analgesic can be given and the patient's behavior should be observed before and after the intervention. If the behavior improves or subsides, this may indicate that indeed the patient has pain and that the analgesic should be continued. If there is no change in behavior, a stronger dose of analgesic may be indicated.

Assessing Pain in Children

There are several ways pain can be measured in children. Research has shown that self-reporting—what a child is saying using age-appropriate numeric scales, pictorial scales, or verbal scales—is reliable in children. Behavioral measures are appropriate for children under 2 years of age. Physiologic measures are effective for neonates.

In infants, pain assessment can be accomplished using the Neonatal Infant Pain Scale, the Premature Infant Pain Profile, or the CRIES tool, which measures crying, oxygen saturation, vital signs, expressions of pain, and sleeplessness. In older children the Visual Analogue Scale, Pictorial Pain Scale, the Adolescent Pediatric Pain tool, and the Behavioral Observational Pain Scale are all effective tools for assessing pain.

Management and Treatment of Pain

The goal of pain management is to improve function, enabling individuals to work, attend school, or participate in other day-to-day activities. Patients and their practitioners have a number of options for the treatment of pain; some are more effective than others. In general, pain is inadequately treated (AHRQ, 2008).

Effective management of pain and suffering involves a multi-disciplinary team, which develops and implements a comprehensive treatment plan utilizing appropriate pharmacologic and non-pharmacologic interventions. Each member of the team should regularly re-evaluate the effectiveness of the treatment plan, adjust as needed, and treat side effects. There has been increased emphasis on documentation, which should include a complete assessment and a plan of care that is written in a clear, consistent, and accurate manner (Pain and Policies Study Group, 2008).

Analgesics

Analgesics, particularly opioids, are the primary treatment for acute pain. Analgesics are usually divided into three categories:

1. Nonopioids, which include acetaminophen and NSAIDs
2. Opioids, which include morphine-like drugs
3. Adjuvant analgesics, which include local anesthetics and anticonvulsants

Using an analgesic from each one of the three groups may improve the safety of analgesic therapy. When more than one analgesic is used, the same level of pain relief may be achieved with a lower dose of each analgesic. For example, use of a local anesthetic along with an opioid usually allows reduction of the opioid dose needed for adequate pain control (AHRQ, 2008).

Based upon evidence and clinical practice, there are several principles of analgesic management to meet the objective of preventing moderate to severe pain:

- When continuous pain is anticipated, a fixed-dose schedule (around the clock) should be used.
- A PRN order of a rapid onset analgesic may be necessary to control activity-related (breakthrough) pain.
- To ensure opioids are safely administered, begin with a low dose and titrate to comfort.

Modification in analgesic administration is based upon assessment of the effect of the previous dose, including change in pain intensity, relief, and side effects experienced. Patients respond differently to various opioid and nonopioid analgesics; therefore, if one drug is not providing adequate pain relief, another in the same class may result in better pain control.

Assessment of effect should be based upon the onset of action of the drug administered; for example, IV opioids are reassessed in 15 to 30 minutes, whereas oral opioids and nonopioids are reassessed 45 to 60 minutes after administration (AHRQ, 2008).

The use of nondrug therapies is recommended in most pain guidelines; however, the evidence for their consistent benefit in terms of pain intensity, relief, or improved function is weak at best. This result does not mean a nondrug technique—or several techniques—may not improve a patient outcome (AHRQ, 2008).

Acetaminophen

On June 30, 2009, a federal advisory board voted to recommend that the Food and Drug Administration (FDA) ban Percocet and Vicodin. These medications are combinations of opioids with acetaminophen, the active ingredient in the pain reliever, Tylenol. The synergistic properties of these medications meant that working together they often do a better job of controlling pain than either one alone.

Acetaminophen is the most commonly used medication to relieve pain. In 2005 over 28 billion doses were sold, many in over-the-counter (OTC) preparations. Between 1990 and 1998, there were approximately 56,000 emergency department visits, 26,000 hospitalizations, and 458 deaths per year linked to acetaminophen use (FDA, 2009).

Percocet and Vicodin contain 325 to 750 mg of acetaminophen per tablet, depending upon the specific preparation. The maximum recommended dose of acetaminophen is 4 grams a day and 3 grams a day for a person over the age of 60. No more than 2 grams day is recommended for those with liver disease. As the liver metabolizes acetaminophen, one of the resulting chemicals is toxic to the liver tissue. The toxin accumulates with chronic use and can cause damage.

Often acetaminophen is in a prescribed preparation and is a relatively safe amount; however, many patients do not realize that acetaminophen is present in many combination OTC medications.

Here are some over-the-counter medications that contain acetaminophen:

- Tylenol PM
- Benadryl Severe Allergy and Sinus Headache Maximum Strength Caplets
- Excedrin Aspirin-Free Caplets
- Pamprin Maximum Pain Relief Caplets
- Sinarest No Drowsiness Tablets
- Sudafed Sinus and Headache Caplets
- Tylenol Sinus Medication

For more information about acetaminophen, see the Resources section at the end of this course. The FDA committee will consider the ban over the remainder of 2009 and is likely to make a final decision in 2010.

Barriers to Pain Management

Characteristics of the healthcare system, healthcare professionals, and patients contribute to the prevalence of unrelieved pain (see table). Certain patients may be given low priority and the cost of a specific treatment may be a consideration. Restrictive drug-related public policies, as well as concerns about regulatory scrutiny when prescribing controlled substances have also been recognized as significant impediments to pain relief (Pain and Policies Study Group, 2008a).

Barriers to Adequate Pain Management

<p>Problems related to the healthcare system</p>	<ul style="list-style-type: none"> • Low priority given to cancer and AIDS pain treatment • Inadequate reimbursement • The most appropriate treatment may not be reimbursed or may be too costly for patients and families • Restrictive regulation of controlled substances • Problems of availability of treatment or access to it
<p>Problems related to healthcare professionals</p>	<ul style="list-style-type: none"> • Poor assessment of pain • Inadequate knowledge of pain management • Concern about regulation of controlled substances • Fear of patient addiction • Concern about side effects of analgesics • Concern about patients becoming tolerant to analgesics
<p>Problems related to patients</p>	<ul style="list-style-type: none"> • Reluctance to report pain • Concern about distracting physicians from treatment of underlying disease • Fear that pain means disease is worse. • Concern about not being a “good” patient • Reluctance to take pain medications. • Fear of addiction or of being thought of as an addict • Worries about unmanageable side effects • Concern about becoming tolerant to pain medications

Source: HRSA, 2005.

Uneven or non-existent medical coverage is a significant factor in the undertreatment of pain. According to the latest available data from the U.S. Census Bureau, in 2007 there are nearly 46 million people in the United States without health insurance (DeNavas-Walt, Proctor, & Smith, 2008). In those under the age of 65 the percentage of uninsured is estimated to be 27% of the population (National Coalition on Health Care, 2009).

The recession and its attendant job losses has increased the number of uninsured in the United States. It is estimated that nearly 7 million Americans will lose their medical insurance by 2010 (NCHC, 2009). Many who do have insurance are not covered for prescription medication. Even older adults who are covered under Medicare have an annual cap on the amount Medicare will pay for medications (CMS, 2009).

Healthcare practitioners may fear causing harm, such as opiate addiction, and may lack an understanding of the **pharmacokinetics** (study of the absorption, distribution, metabolism, and excretion) of pain medications. Nurses are admonished early in their careers about the possibility of causing respiratory depression from opioid administration and may not understand that respiratory depression occurs within the first 2 weeks of opioid administration and diminishes as the patient develops tolerance to respiratory depression as a side effect. Healthcare practitioners may not know that constipation is a potential side effect as long as a patient is on opioids, even if on them for years (Villars et al., 2007).

Patients can contribute to the prevalence of unrelieved pain. They may be concerned about potential medication side effects. They may not be aware of the variety of methods available to alleviate pain and may feel there is no hope for alleviating chronic pain. Some may believe that pain is a normal part of aging while others may fail to report pain symptoms to their healthcare practitioners. Others may be hesitant to express dissatisfaction with their pain plan or may not adhere to their pain management program. As with clinicians, patients may fear the stigma associated with opioids or other analgesics. They may fear that medications will be reduced without their knowledge or that staff will punish them in other ways (avoidance, for example). Cultural beliefs about pain also play a role.

Safe Use of Opioids

Of all the analgesics used in pain control, the most safety issues arise with the use of those referred to as mu (μ) opioids, or morphine-like drugs such as morphine, hydromorphone (Dilaudid), and fentanyl. Clinicians fear causing harm with these analgesics by administering too much and causing life-threatening respiratory depression. Sometimes this fear results in undertreatment of pain. Clinicians need to be educated about effective methods of preventing respiratory depression and appropriate use of naloxone (Narcan) if respiratory depression does occur (AHRQ, 2008).

Opioid-induced respiratory depression is preceded by an increasing level of sedation. An alert patient will not suddenly succumb to respiratory depression. Consequently, respiratory depression can be prevented by observing sedation levels and decreasing the opioid before respiratory depression occurs. In addition, this effect tends to dampen over time should a patient remain on opioids (Chou et al., 2009).

Clinicians can use a sedation scale such as the POSS (see table below) at regular intervals to monitor patients receiving opioids. This scale should be used for all opioid-naïve patients with moderate to severe pain when opioid dosing is initiated. These patients should be monitored at least every 2 hours during the first 24 hours of opioid therapy. Using a sedation scale, the clinician knows when it is safe to administer additional opioid and when the opioid dose should be decreased or stopped (AHRQ, 2008).

Pasero Opioid-Induced Sedation Scale (POSS) with Interventions

Scale	Intervention
S = Sleep, easy to arouse	Acceptable; no action necessary; may increase opioid dose if needed
1 = Awake and alert	Acceptable; no action necessary; may increase opioid dose if needed
2 = Slightly drowsy, easily aroused	Acceptable; no action necessary; may increase opioid dose if needed
3 = Frequently drowsy, arousable, drifts off to sleep during conversation	Unacceptable; decrease opioid dose 25% to 50% or notify primary MD or anesthesiologist for orders; administer a non-sedating, opioid-sparing nonopioid, such as acetaminophen or a NSAID; monitor respiratory status and sedation level closely until sedation level is less than 3 and respiratory status is satisfactory.
4 = Somnolent, minimal of no response to physical stimulation	Unacceptable; stop opioid; consider administering naloxone; notify primary MD or anesthesiologist; monitor respiratory status and sedation level closely until sedation level is less than 3 and respiratory status is satisfactory.

Source: Pasero, 1994. Reprinted by permission.

Administration of opioids via the IM route is not recommended for pain management. It is painful, and it has unreliable absorption, with a 30- to 60-minute lag time to peak effect and a rapid drop in action. In addition to being ineffective, the IM route is dangerous because patients are often alone at the time of peak effect and can become excessively sedated, vomit, and aspirate. A better alternative is the intravenous (IV) route of administration (AHRQ, 2008).

Adverse Effects of Opioids

There are a number of adverse effects associated with the use of opioids for pain management (see box below). They usually cause drowsiness in the first 24 to 36 hours and patients should be advised that this will resolve. Use a low dose to initiate therapy but be prepared to increase the dose over the next 48 hours based on the patient's pain scores. Nausea is a common side effect in those first few days and can be treated with an anti-emetic such as prochlorperazine or lorazepam.

The most common side effect of opioids is constipation. All opioids slow bowel motility because they affect the receptors in the gut that guide peristalsis. Patients should be given a bowel stimulant the entire time they are on the opioid because the body does not develop a resistance to this effect as it does with other effects such as drowsiness. One protocol to avoid constipation is to administer senna 8.6 mg orally with each dose of pain medication.

Common Side Effects of Opioid Analgesics

Side Effect	Comments
Constipation	Requires prescription of bowel stimulant at the time of prescribing opioid; tolerance does not develop.
Drowsiness	Resolves after 24 to 36 hr; extended sleeping can be from exhaustion; may need psychostimulant, e.g., methylphenidate.
Nausea	Prescribe antiemetic with first prescription; resolves in several days; may need around-the-clock dosing.
Urinary retention	Uncommon side effect; change opioids or adjuvants.
Itching/twitching	May indicate toxic levels due to decreased elimination; lengthen interval; rotate opioids.

Source: HRSA, 2005.

Note: In the summer of 2009 the Michigan Bureau of Health Professions is sending a book on responsible opioid prescribing to all physicians and medical residents practicing in Michigan. The book, *Responsible Opioid Prescribing: A Physician's Guide* is based on the Federation of State Boards of Medicine Model Policy for Prescribing Controlled Substances for the Treatment of Pain. The book is also available from the FSBM website at <http://www.fsmb.org/RE/PAIN/default.html>.

The Problem of Diversion

While most patients use pain medication responsibly, diversion of medications to recreational use does occur. Ongoing monitoring of a pain medication regimen is essential. In addition, one healthcare provider needs to take the responsibility for tracking all aspects of care for the patient's painful condition. This person could be a primary care provider, a "medical home," or any person or clinic that is able to monitor the patient over time.

Ideally, there would be only one prescriber for opioids. In the case where a patient has a complex condition requiring consultative services, the primary contact person (or clinic) needs to be kept apprised of the consultant's recommendations, whether or not that professional prescribes (Chou et al., 2009). So, if a physical therapist sees a patient for a painful condition, there needs to be a mechanism for communicating the treatment plan to the primary care provider. The same is true for a consulting anesthesiologist. Information technology can be helpful to track patient information, especially if the patient obtains care under one healthcare plan. There are pilot programs where smaller entities, such as an independent pharmacy and a primary care office, build information systems that can communicate with each other in order to track a patient's care across agencies.

Honest communication with the patient is critical. Work with patients to decide who will be the keeper of the pain management care plan. Create a clear plan for communication between the patients and the professional treating them.

Patient and Family Education

[The information in this section is derived from Hughes (AHRQ, 2008).]

Patient and family education is a central part of acute pain management. For patients, the essential elements of pain education include telling the patient the following:

- Preventing and controlling pain is important to your care.
- There are many interventions available to manage pain; analgesics (opioid and nonopioid) are the most effective in managing acute pain.
- Some people are afraid of using opioids because of the side effects and risk of addiction. Side effects can be managed effectively with medication. The risk of addiction when using opioids to control acute pain is extremely low.
- Your responsibility in achieving good pain control is to tell us when you are experiencing pain or when the nature or level of pain changes.
- Complete pain relief may not be achievable; we will work with you to keep pain at a level that allows you to engage in activities necessary to recover and return home.

Patients on long-term opioid therapy need to know how to manage potential side effects. The constipation is likely to continue over the entire treatment period. There is no evidence-based preventive treatment, so patients should be advised in a manner similar to patients with constipation for other reasons. The mechanism of the constipation is the opioids direct effect on the mu receptors in the gut. In addition to the routine measures, including adequate hydration, exercise, high fiber diet (25–35 grams a day) a stimulant laxative may be needed (Chou et al., 2009).

Increases in opioid dosing may cause a temporary sedation. Patients should be warned to avoid the operation of machinery and driving until the effects of a dosage increase are fully appreciated (Chou et al., 2009).

Caregivers may have difficulty managing multiple medications and may miss doses due to their work schedules. Their responsibility to monitor for adverse or toxic effects in family members who are not capable of reporting problems themselves is important in preventing dehydration brought on by vomiting and diarrhea, and even more serious emergency situations. Caregivers need education to recognize adverse drug effects and help in developing the critical thinking skills that will enable them to manage potential problems.

There is some evidence that interventions designed to improve specific caregiving tasks are helpful. For example, Ferrell and colleagues examined the impact of pain education on family caregivers who were providing care to older adults with cancer. The pain education program included pain assessment plus pharmacologic and nonpharmacologic interventions. The pain education program helped improve caregivers' knowledge and attitudes about managing their family members' pain.

Skilled communication allows medical practitioners to understand the patient's needs. Clinicians may uncover factors contributing to discomfort, such as uncomfortable position, thirst, or the need to urinate. Addressing these needs will improve patient comfort and communicate the clinician's desire to promote comfort. The time spent with the patient to communicate concern and caring may go a long way in providing patient comfort (AHRQ, 2008).

Pain Management in Special Populations

Pain management in children, in older adults, and at the end of life requires special knowledge, particularly of side effects, drug-drug interactions, and dosing.

End of Life

For individuals living with advanced chronic disease, neither prevention nor cure is ordinarily possible. Such people have complicated priorities. Their priorities may include living well as long as possible without undue suffering and being close to and cared for by family without imposing a burden on family members.

During this phase of life, care must serve multiple and complex goals, and that care is affected by patients, caregivers, and healthcare systems. Understanding the experience of patients living with advanced illness and that of their caregivers requires considering a range of conceptually overlapping measures including satisfaction, quality of care, quality of dying, and quality of life (Lorenz et al., 2004).

When a person is living with advanced illness and coming to the end of life, effective prevention and relief of symptoms becomes a high priority. Effective pain management is a palliative focus for many conditions, and pain is among the most debilitating and feared symptoms that patients and families face.

Expert opinion plus research on the end-of-life experiences of patients, caregivers, and providers have provided a description of the major domains for evaluating the end-of-life experience. These core considerations arise from the experience of both patients and caregivers and include:

- Pain and other symptom prevention and treatment
- Adequate support for families and caregivers, including bereavement
- Continuity of healthcare
- Treatment consistent with patient and family preferences and medical knowledge
- Effective, empathic communication about diagnoses, prognosis, and care plans
- Well-being, including addressing existential and spiritual concerns
- Function and self-determination
- Length of illness (Lorenz et al., 2004)

Studies demonstrate a pain prevalence of 70% to 100% among cancer patients, and an Institute of Medicine (IOM) conference named pain in advanced cancer as one of five important targets for national reform. Undertreatment and inequitable access to pain treatment have been described among many cancer patients presenting with pain. Pain is also prevalent among patients with advanced health conditions other than cancer, underscoring the importance of evaluating the scientific evidence relevant to pain in both cancer and noncancer conditions (Lorenz et al., 2004).

The American College of Physicians has published clinical practice guidelines for pain management with the following strong recommendations for patients with serious illness at the end of life:

- Clinicians should regularly assess patients for pain, dyspnea, and depression.
- Clinicians should use therapies of proven effectiveness to manage pain. For patients with cancer, this includes NSAIDs, opioids, and bisphosphonates. (Qaseem et al., 2008)

Patients at the end of life present many of the same issues as any other patient population. Assessment is critical, as is involving the patient and family in establishing goals for palliative pain management. Patients and family members should be educated about dosing, compliance, addiction, tolerance, and side effects. Barriers to good pain management at the end of life include discounting the patient's subjective measure of pain, difficulty in assessing patients with cognitive impairment, myths about opioid therapy, and fear of addiction and hastening death (Institute for Clinical Systems Improvement, 2008).

Older Adults

Pain is the number one complaint of older adults, and 1 in 5 older adults takes a painkiller regularly. Older adults have an increased pain threshold, a decreased tolerance for pain, and recover more slowly after an injury. Older adults often do not adequately report their pain to healthcare professionals, possibly because they see pain as normal part of aging or feel their pain is a low priority to busy healthcare practitioners. They may also fear the outcome, including loss of control or hospitalization.

Older adults are vulnerable to adverse drug reactions and drug-drug interactions. Those with cognitive impairment are often unable to express their feelings of pain clearly. In those cases, clinicians must monitor nonverbal and behavioral signs that may indicate the presence or intensity of pain. As with other patient populations, no test can accurately signify the amount of pain a person is feeling—self-report is the gold standard for pain assessment.

The American Geriatrics Society (AGS) has issued guidelines for the management of pain in older people that include the incorporation of several nondrug approaches in patients' treatment plans. AGS panel members recommend that, whenever possible, patients use alternatives to aspirin, ibuprofen, and other NSAIDs because of the drugs' side effects, including stomach irritation and gastrointestinal bleeding. For older adults, acetaminophen is the first-line treatment for mild-to-moderate pain, according to the guidelines. More serious chronic pain conditions may require opioids, including codeine or morphine, for relief of pain (NINDS, 2001).

Additional strategies for management of pain in older adults include:

- Assess pain regularly and frequently to facilitate appropriate treatment.
- Anticipate and aggressively treat for pain before, during, and after painful diagnostic or therapeutic treatments.
- Educate patients, families, and other clinicians to use analgesic medications prophylactically before and after painful procedures.
- Educate patients and families about pain medications, their side effects and adverse effects, and issues of addiction, dependence, and tolerance.
- Educate patients to take medications for pain on a regular basis and to avoid allowing pain to escalate.
- Educate patients, families, and other clinicians to use nonpharmacologic strategies to manage pain, including relaxation, massage, and heat/cold (Horgas & Yoon, 2008).

Barriers to effective pain management in older adults involve a number of issues (AAFP, 2009):

- Patient attitudes
- Physician knowledge, lack of training in pain management, and concerns about addiction
- Management of medication side effects
- Practice issues, including time pressures

Children and Adolescents

Pain management in children and adolescents requires special attention, particularly because children may perceive pain differently than adults and may be reluctant to report pain. Many misconceptions about pain in children hamper its effective management and contribute to undertreatment. For example, it was once erroneously thought that neonates do not feel pain or that children are unable to describe their pain accurately.

Research has shown that children benefit from a thorough assessment and that pain scales are effective in establishing the level of pain in children if the scale is age appropriate. Pain management in children can be improved by including information from parents, teachers, and siblings, but this should not replace the child's self-report.

Understanding medication dosing, interactions, and side effects is critical in children. Dosing is different for children but the goal is to reach an analgesic level of pain control. Safe pediatric prescribing requires accurate weight, proper conversion of pounds to kilograms, and the choice of an appropriate preparation and concentration. An AHRQ study (2006b) found that about 1 in 7 (15%) new prescriptions written for children during outpatient visits were potentially for the wrong dose. Eight percent were potential overdoses and 7% were potential underdoses.

Other findings indicated that:

- Among children weighing less than 35 kg, only 67% of medications were dispensed within recommended dosing ranges.
- Pain-relievers were the class of medications most likely to be potentially overdosed (15%), whereas anti-epileptics were the class of medications most likely to be potentially underdosed (20%).
- 20% of children younger than 4 years of age receiving any medication, 20% of children receiving an “as-needed” medication, and nearly 17% of children receiving an analgesic received a potentially improperly dosed medication.
- Young and medically complex children, who are most vulnerable to potentially serious adverse drug events, were most likely to be dispensed potential drug overdoses.

Proper pain management in children includes (AAPF, 2009):

- Completing a thorough assessment using available tools
- Determining the source of the pain
- Using reports from parents, family members, and school sources
- Establishing goals for treatment
- Reassessing in a timely manner
- Monitoring treatment success and side effects

Conclusion

Misinformation about pain management contributes to undertreatment at every age. The evidence base supporting the use of analgesics to manage acute pain is strong and clear—analgesics, particularly opioids, are effective in controlling acute pain. Undertreatment of acute pain remains prevalent despite the availability of analgesics and guidelines. Undertreatment is attributed to clinician behaviors—lack of adequate pain assessment and inadequate prescription and administration of analgesics. Research needs to be directed toward effective strategies for changing clinician attitudes and behaviors that will result in better pain management for patients (AHRQ, 2008).

Education about safe pain management will help prevent undertreatment of pain and the resulting harmful effects. Use appropriate tools for assessing pain in cognitively intact adults and in cognitively impaired adults—otherwise, pain may be unrecognized or underestimated. Use of analgesics, particularly opioids, is the foundation of treatment for most types of pain. Safe use of analgesics is promoted by utilizing a multi-modal approach, using more than one type of analgesic to treat the individual’s pain. Opioid use is often avoided or inadequate for fear of causing life-threatening respiratory depression. Nurse monitoring of sedation levels when opioids are initiated is one way to ensure safety. While nondrug techniques pose minimal safety issues, current evidence does not indicate that these techniques produce consistent, predictable pain management outcomes (AHRQ, 2008).

Pain management requires thorough initial and ongoing assessment. Achieving pain management goals for chronic pain may require balancing side effects with pain control. Healthcare personnel must communicate well with the patient and each other to achieve optimal pain management. While it is important to give enough medication to manage pain effectively, healthcare personnel must remain aware of the potential for diversion of medication to recreational use or abuse.

Resources

Acetaminophen Overdose and Liver Injury— Background and Options for Reducing Injury:
<http://www.regulations.gov/search/Regs/home.html#documentDetail?R=09000064809d1387>

Food and Drug Administration (FDA) Consumer Q&A on acetaminophen:
<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm168830.htm>

Medline Plus drug information on acetaminophen, including a list of OTC medications containing acetaminophen:
<http://www.nlm.nih.gov/medlineplus/druginfo/meds/a681004.html>

References

Agency for Healthcare Research and Quality (AHRQ). (2008, March). Improving the quality of care through pain assessment and management. In RG Hughes (Ed.), *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Prepared with support from the Robert Wood Johnson Foundation. AHRQ Publication No. 08-0043. Retrieved January 9, 2009 from <http://www.ahrq.gov/QUAL/nursesdbk/>.

Agency for Healthcare Research and Quality (AHRQ). (2007). *Comparative Effectiveness of Drug Therapy for Rheumatoid Arthritis and Psoriatic Arthritis in Adults*. Retrieved December 30, 2008 from <http://effectivehealthcare.ahrq.gov/healthInfo.cfm?infotype=rr&DocID=70&ProcessID=14>.

Agency for Healthcare Research and Quality (AHRQ). (2006a). *Comparative Effectiveness and Safety of Analgesics for Osteoarthritis*. Retrieved December 30, 2008 from <http://effectivehealthcare.ahrq.gov/healthInfo.cfm?infotype=rr&DocID=67&ProcessID=2>.

Agency for Healthcare Research and Quality (AHRQ). (2006b). Patient Safety and Quality: Frequent Potential Medication Dosing Errors Occur During Outpatient Pediatric Visits. Retrieved January 16, 2009 from <http://www.ahrq.gov/research/mar06/0306RA2.htm>.

American Academy of Family Physicians (AAFP). (2009). *Disparities in Care: Special Populations in Pain Management*. Retrieved July 20, 2009 from <http://www.aafplearninglink.org/Webcasts/Disparities-care-Special-populations.aspx>.

American Geriatrics Society (AGS). (2002). The management of persistent pain in older persons. Panel on Persistent Pain in Older Persons. *J Am Geriatr Soc* 50:1–20.

Centers for Medicare and Medicaid (2009). *Your Medicare Benefits*. Washington: U.S. Government Printing Office. Retrieved August 10, 2009 from www.medicare.gov.

Chou R, Fanciullo GJ, Fine PG, et al. (2009). Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. *Journal of Pain* 10(2):113-230.

Deandrea S, Montanari M, Moja L, Apolone G. (2008). Prevalence of undertreatment in cancer pain: A review of published literature. *Annals of Oncology* 19(12). Retrieved December 23, 2008 from <http://annonc.oxfordjournals.org/cgi/content/full/19/12/1985>.

DeNavas-Walt C, Proctor BD, Smith JC. (2008). Income, Poverty, and Health Insurance Coverage in the United States: 2007. U.S. Census Bureau, Current Population Reports, P60-235. Washington: U.S. Government Printing Office.

Department of Veterans Affairs. (2007). *VHA Pain Management: Chronic Pain Primer*. Retrieved January 26, 2009 from http://www1.va.gov/Pain_Management/page.cfm?pg=15.

Department of Veterans Affairs/Department of Defense (VA/DOD). (2008). *Low Back Pain and Sciatica in Primary*

Care. Retrieved December 24, 2008 from http://www.oqp.med.va.gov/cpg/LBP/LBP_Base.htm.

Department of Veterans Affairs/Department of Defense (VA/DOD). (2002). *Management of Post Operative Pain Clinical Practice Guideline*. Retrieved December 24, 2008 from http://www.oqp.med.va.gov/cpg/PAIN/PAIN_base.htm.

Dworkin RH, O'Connor AB, Backonja M, et al. (2007) Pharmacologic management of neuropathic pain: Evidence-based recommendations. *Pain* 132: 237–251.

Federation of State Boards of Medicine of the United States (FSMB). (2009). Newsline. Mar/Apr, 2009. Retrieved July 30, 2009 from http://www.michigan.gov/documents/mdch/FSMB_Newsline_March-April_2009_281162_7.pdf.

Food and Drug Administration (FDA). (2009). Background document on acetaminophen. Retrieved August 10, 2009 from <http://www.regulations.gov/search/Regs/home.html#documentDetail?R=09000064809d1387>.

Frampton KK. (2004). Vital Sign #5: Pain assessment and management in LTC requires a thorough, team-oriented care plan. *Caring for the Ages* 26. Retrieved January 5, 2009 from <http://download.journals.elsevierhealth.com/pdfs/journals/15264114/PIIS1526411406601248.pdf>.

Health Resources and Services Administration (HRSA). (2005). *A Guide to the Clinical Care of Women with HIV/AIDS*. Retrieved January 5, 2009 from <http://hab.hrsa.gov/publications/womencare05/WG05chap12.htm>.

Himmelreich C, Scott M, Bazen P. (2007). *Engaging Excellence in Pain Management: What You Have to Do with It*. University Hospital Acute Pain Services, SUNY Upstate Medical University Hospital, Nursing Grand Rounds, March 9, 2007. Retrieved February 10, 2009 from http://www.upstate.edu/uha/nursing/ngr/pain_management.pdf.

Horgas AL, Yoon SL. (2008). Pain management. In E Capezuti et al. (Eds). *Evidence-based Geriatric Nursing Protocols for Best Practice*, 3rd ed. New York: Springer. Retrieved January 1 2009 from http://www.guidelines.gov/summary/summary.aspx?doc_id=12268&nbr=006352&string=pain+AND+elderly.

Joint Commission, The. (2008). *Health Care Issues: Pain Management*. Retrieved December 12 2008 from http://www.jointcommission.org/JointCommission/Templates/GeneralInformation.aspx?NRMODE=Published&NRNODEGUID=%7bA08FCD4F-CB99-4B32-B309-1FF1F51CC6C6%7d&NRORIGINALURL=%2fNewsRoom%2fhealth_care_issues%2ehtm&NRCACHEHINT=Guest#9.

Lorenz K, Lynn J, Morton SC, et al. (2004). *End-of-Life Care and Outcomes*. Evidence report/technology assessment No. 110. AHRQ Publication No. 05-E004-2. Retrieved January 8, 2009 from <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat1a.section.77860>.

Michigan Department of Community Health (MCDH). (2009). Public Survey on Pain March 2009. Retrieved June 22, 2009 from: http://www.michigan.gov/documents/mdch/PMpublicPhoneSurveyReportMarch2009_274822_7.pdf.

Michigan Department of Community Health (MCDH). (2008). Medical Marijuana Program: Frequently Asked Questions. Retrieved February 15, 2009 from http://www.michigan.gov/mdch/0,1607,7-132-27417_51869_52140---,00.html.

Miller LR. (2008). Chronic pain prevalence in Michigan. ETD Collection for Wayne State University. Paper AAI1450514. Retrieved July 27, 2009 from <http://digitalcommons.wayne.edu/dissertations/AAI1450514>.

National Cancer Institute (NCI). (2008). *Pain Assessment*. Retrieved December 6, 2009 from http://www.nci.nih.gov/cancertopics/pdq/supportivecare/pain/HealthProfessional/page3#Section_44.

National Coalition on Health Care (NCHC). (2009). Healthcare Facts: Health Insurance Coverage. Retrieved August 19, 2009 from <http://www.nchc.org/documents/Fact%20Sheets/Kellogg%20General%20Coverage%20Fact%20Sheet%202008-11-2009.pdf>.

National Institutes of Health (NIH). (2003). *Interactive Textbook on Clinical Symptom Research. Chapter 25: Neural mechanisms of cardiac pain*. Retrieved December 23, 2008 from http://painconsortium.nih.gov/symptomresearch/chapter_25/sec2/crfs2pg2.htm.

National Institutes of Neurological Disorders and Stroke (NINDS). (2001). *Pain: Hope Through Research*. Retrieved December 6, 2008 from http://www.ninds.nih.gov/disorders/chronic_pain/detail_chronic_pain.htm#125133084.

National Library of Medicine. (2001). *Management of Cancer Pain*. Retrieved January 26, 2009 from <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat1.section.49605>.

Pain & Policy Studies Group. (2008a). *Achieving Balance in Federal and State Pain Policy: A Guide to Evaluation*, 5th ed. Madison: University of Wisconsin, Paul P. Carbone Comprehensive Cancer Center. Retrieved January 1, 2009 from http://www.painpolicy.wisc.edu/Achieving_Balance/EG2008.pdf.

Pain & Policy Studies Group. (2008b). *Achieving Balance in State Pain Policy: A Progress Report Card*, 4th ed. Madison: University of Wisconsin, Paul P. Carbone Comprehensive Cancer Center. Retrieved December 11, 2008 from http://www.painpolicy.wisc.edu/Achieving_Balance/PRC2008.pdf.

Pasero C. (1994). *Acute Pain Service: Policy and Procedure Guideline Manual*. Los Angeles: Academy Medical Systems.

Qaseem A, Snow V, Shekelle P, et al. (2008). Evidence-based interventions to improve the palliative care of pain, dyspnea, and depression at the end of life: A clinical practice guideline from the American College of Physicians. *Ann Intern Med* 148(2):141–46. Retrieved January 10, 2009 from http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=12149&nbr=6246.

Substance Abuse and Mental Health Services Administration, Office of Applied Studies (SAMHSA). (2009). *The NSDUH Report: Trends in Nonmedical Use of Prescription Pain Relievers*. Retrieved July 30, 2009 from: <http://www.oas.samhsa.gov/2k9/painRelievers/nonmedicalTrends.htm>.

U.S. Department of Health and Human Services (DHHS). (2007). *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2006. Vital and Health Statistics* 10(235). Retrieved May 16, 2008 from http://www.cdc.gov/nchs/data/series/sr_10/sr10_235.pdf.

Villars P, Dodd M, West C, et al. (2007). Differences in the prevalence and severity of side effects based on type of analgesic prescription in patients with chronic cancer pain. *Journal of Pain Symptom Management* 33(1):67–77.

(Post Test begins on next page)

Post Test

Use the Answer Sheet following the test to record your answers.

1. Pain is defined as:
 - a) A sensory experience not usually associated with actual or potential damage.
 - b) A sensory/emotional experience associated with actual or potential tissue damage.
 - c) An emotional response to a learned behavior.
 - d) An emotional response to a physical stimulus.
2. Sufficient pain relief can result in improved quality of living for people with chronic pain and can decrease suffering at the end of life. Chronic pain:
 - a) Is often a sign of weakness.
 - b) Has been treated very successfully by traditional medicine.
 - c) Is frequently undertreated in older adults.
 - d) Is rarely seen in young children.
3. The Joint Commission has developed pain management standards. These standards state that:
 - a) Clinicians must address the needs of noncommunicative patients, including those with dementia.
 - b) Pain medications should not be given unless a patient is truly in pain.
 - c) Opioids are only given to patients who can express their level of pain on a numeric scale.
 - d) Opioids should be prescribed sparingly to prevent patients from becoming addicted.
4. The Central Principle of Balance is:
 - a) The need to balance the amount of opioid administered with the patient's tolerance for the drug.
 - b) Ensuring medication availability for legitimate use while protecting public safety through drug control measures.
 - c) The ability of a person to maintain balance while under the influence of narcotics.
 - d) Ensuring that an opioid dosage is kept within a strict therapeutic range.
5. In Michigan, the goal of recent legislation addressing pain management is to:
 - a) Address the overuse of opioids to prevent illegal diversion for nonmedical uses.
 - b) Shorten the period of time to fill Schedule 2 prescriptions.
 - c) Encourage the public to seek alternative treatments for pain before talking to their physicians.
 - d) Provide a wide range of safe and effective pain management approaches to all Michigan citizens.
6. Marijuana has been approved for medical use in Michigan for:
 - a) Severe or chronic pain.
 - b) Treatment of heroin addiction.
 - c) Cough related to pneumonia.
 - d) Depression.

7. Pain that is a normal sensation triggered in the nervous system to alert you to possible injury is:
 - a) Chronic pain.
 - b) Psychogenic pain.
 - c) Acute pain.
 - d) Nociceptive pain.
8. Pain that exists for three or more months and does not resolve in response to treatment is known as:
 - a) Acute pain.
 - b) Fast pain.
 - c) Slow pain.
 - d) Chronic pain.
9. Unrelieved pain can cause:
 - a) Increased intestinal motility and diarrhea.
 - b) A decrease in the recovery period following surgery.
 - c) Increased heart rate, blood pressure, oxygen demand, and hypercoagulation.
 - d) An increase in the natural killer cells that play a role in preventing tumor growth.
10. Low back pain:
 - a) Generally cannot be reliably attributed to a specific disease or spinal abnormality.
 - b) Can usually be associated with a specific anatomic source.
 - c) Should be treated with opiates rather than alternative therapies.
 - d) Is rarely caused by spinal stenosis or a herniated disc.
11. Pain from cancer:
 - a) Tends to decrease in severity as the cancer progresses.
 - b) Is likely to be undertreated in its early stages.
 - c) Is usually treated adequately in settings not specific for cancer patients.
 - d) Is only caused by pressure from the tumor.
12. The most critical aspect of pain assessment is:
 - a) Interviewing family members to ascertain if the patient is accurately reporting their level of pain.
 - b) Eliciting and documenting the duration and character of the pain.
 - c) Assessment that is done on a regular basis using a standard format with reassessment after each intervention.
 - d) Making certain that the patient is not overly sedated.
13. According to The Joint Commission, pain intensity scales:
 - a) Must be changed according to the needs of different departments within a hospital.
 - b) Should reflect the patient's appearance and vital signs, not only what the patient says.
 - c) Should be used as the sole measure of pain perception.
 - d) Must be the same across all departments in a particular hospital.

14. When a patient is unable to self-report pain, the clinician must:
 - a) Withhold all pain medications until the cause of pain is determined.
 - b) Rely on the patient's condition, behaviors, and others' knowledge of the patient.
 - c) Administer an opioid analgesic for generalized pain.
 - d) Administer sedation with Ativan or Valium before assessing for pain.
15. Principles of analgesic management used for the prevention of moderate to severe pain include:
 - a) When continuous pain is anticipated, a fixed-dose, around-the-clock schedule is used.
 - b) PRN orders for breakthrough pain should be avoided.
 - c) When administering opioids, start with a high dose and titrate to comfort.
 - d) When more than one analgesic is used, a higher dose of each analgesic is often necessary.
16. All of the following can create barriers to effective pain management except:
 - a) Treatment may be too costly for patients and families.
 - b) Caregivers may be concerned that patients may become tolerant or addicted to analgesics.
 - c) A patient may fear that pain means the disease is worse.
 - d) Consistent and thorough assessment of a patient's pain.
17. Administration of opioids such as morphine and Dilaudid:
 - a) Is safest via the intramuscular (IM) route.
 - b) Should be done while the patient is connected to an apnea monitor.
 - c) Must be followed by the monitoring of sedation levels and respiratory status.
 - d) Should be followed by the rapid administration of naloxone if respiratory depression is noted.
18. Side effects of opioid analgesics include:
 - a) Diarrhea lasting 4 to 5 days.
 - b) Drowsiness that usually resolves after 24 to 36 hours.
 - c) Increased respiratory rate when the dose is increased.
 - d) Difficulty sleeping.
19. Patient and family education is a central part of acute pain management. It is important to inform caregivers and patients:
 - a) About test results, medications, and resources and provide guidance to caregivers.
 - b) That complete pain control can usually be achieved.
 - c) That to prevent addiction, opioids will be used only as a last resort.
 - d) That pain control strategies can only be shared with the patient due to confidentiality.
20. Pain management at the end of life:
 - a) Should not include opioids because of the potential to increase confusion and falls.
 - b) Must be focused on treating the underlying cause of the disease that is causing the pain.
 - c) Should include NSAIDs, opioids, and bisphosphonates in cancer patients.
 - d) Is best treated with only high doses of opioids.

21. Pain is the number one complaint in older adults. It is recommended that:
- a) Aspirin or ibuprofen be used for mild to moderate pain relief.
 - b) Acetaminophen not be used in the older adults because it may cause GI bleeding.
 - c) Codeine not be used because it causes constipation.
 - d) Patients take pain medication on a regular basis and not allow pain to escalate.
22. Treating pain in pediatric patients presents special challenges to physicians and parents. These challenges include:
- a) Children should not take opioids because there is a high risk of addiction.
 - b) Children grow rapidly and may therefore not receive enough medication.
 - c) Infants often spit out their medications, which makes it hard to know how much was ingested.
 - d) Pediatric dosing, proper conversion of pounds to kilograms, and appropriate preparations and concentrations.

(Answer Sheet on next page)

Answer Sheet

Michigan: Pain and Symptom Management

Name (Please print your name): _____

Date: _____

Passing score is 80%

1. _____
2. _____
3. _____
4. _____
5. _____
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21. _____
22. _____

Course Evaluation

Please use this scale for your course evaluation. Items with asterisks (*) are required.

- 5 = Strongly agree
- 4 = Agree
- 3 = Neutral
- 2 = Disagree
- 1 = Strongly disagree

*1. Upon completion of the course, I was able to:

a. Discuss pain in the United States including Joint Commission regulations and balance pain policies.

5 4 3 2 1

b. Describe the main points of Michigan's pain policies.

5 4 3 2 1

c. Define the major categories of pain.

5 4 3 2 1

d. Discuss common sources of pain.

5 4 3 2 1

e. Outline effective practices and tools for the assessment of pain.

5 4 3 2 1

f. Describe the main principles of analgesic pain management.

5 4 3 2 1

g. Discuss pain management in special populations including at the end of life, in older adults, and in adolescents and children.

5 4 3 2 1

*2. The course was written in a way that facilitated my learning.

5 4 3 2 1

*3. This course was free from commercial bias.

5 4 3 2 1

*4. The course met my continuing education needs.

5 4 3 2 1

*5. The material presented was supported by evidence.

5 4 3 2 1

*6. The author avoided the use of anecdotal information as the main source of material.

5 4 3 2 1

*7. The course was free of product promotion.

Yes No**

** If you answered no, please answer #8.

8. Was product promotion the sole purpose of the presentation?

Yes No

(continued on next page)

* 9. It took me 60 minutes per contact hour to complete the course, test, and evaluation.

- Yes No**

** If your answer was no, how long did it take? _____

10. My professional educational level is (check one):

Nursing

- Nurse Aide LVN/LPN RN (diploma) RN (AD)
 BSN MSN Nurse Practitioner / Advanced Practice Nurse
 PhD / DNSc

Therapy

- OT Aide COTA OT MOT OTD
 PT Aide PTA PT MPT MSPT DPT PhD

Other (please specify): _____

11. I heard about ATrain Education from:

- | | |
|--|---|
| <input type="checkbox"/> Search engine | <input type="checkbox"/> Advertisement |
| <input type="checkbox"/> Government or Board website | <input type="checkbox"/> Returning customer |
| <input type="checkbox"/> Friend | <input type="checkbox"/> Publication (Magazine, etc.) |
| <input type="checkbox"/> Other _____ | |

12. I found the ATrainCEU.com website easy to use:

- Yes No

13. Comments or suggestions (optional):

(Registration information on next page)

Registration Information

Please answer all of the following questions (*required).

- * Name: _____
- * Address: _____
- * City: _____ State: _____ Zip: _____
- * Phone: _____
- * Professional designation: _____
- * License number and state: _____

Please email my certificate: Yes No

Email (required if you want your certificate sent by email): _____

(If you request an email certificate we will **not** send a copy of the certificate by US Mail.)

Payment Options

You may pay by credit card or by check.

Fill out this section only if you are **paying by credit card**.

2.5 contact hours: \$18

Credit card information:

Name _____

Address (if different from above): _____

City: _____ State: _____ Zip: _____

Card type: Visa MC American Express Discover

Card number _____ CVS # _____

Expiration date _____

Test Completion and Mailing Instructions

1. Complete all forms:

- Answer Sheet
- Evaluation Learning Activity
- Registration Form (this page)

2. If you are **paying by check**, prepare a check for \$18 made out to ATrain Education, Inc.

3. Mail the completed forms and your payment to:

ATrain Education, Inc
5171 Ridgewood Rd
Willits, CA 95490

When we receive your forms and payment, we will mail (or email, if you request it) your certificate of completion. If you have any questions or concerns, please call or contact us at Sharon@ATrainCEU.com. And thanks for taking the ATrain!