

Special Section: Cancer-Related Pain

Introduction

Pain is an important concern among people with cancer and their caregivers. Cancer patients may experience pain at diagnosis, during treatment, and after treatment has ended, even if their cancer does not recur. Pain is common and often more severe among people with advanced disease. It is one of the most important negative factors affecting the quality of life of people with cancer. Pain can interfere with normal daily activities; diminish enjoyment of everyday pleasures; prevent relaxation and sleep; and increase anxiety, depression, stress, and fatigue. It can also make people withdraw from others, decrease their social activities, and have less contact with friends or family.

Regardless of the stage of disease or recovery, pain associated with cancer can almost always be relieved by proper treatment.¹⁻⁴ Pain control is an important component of quality cancer care. All patients with cancer should be assessed for pain each time they are seen throughout the course of cancer treatment and continuing care. Cancer patients play an important role in describing the severity and nature of their pain so that the most effective treatment(s) can be given. Understanding the reasons for pain at different stages of cancer, the importance of reporting it, how to describe it, and the many ways it can be treated can be helpful to patients and caregivers when discussing pain issues with doctors and other health care providers.

This special section will describe the types of cancer-related pain and methods of pain assessment and treatment. It will also address the problem of under treatment of cancer pain and educational and legislative initiatives to ensure that all cancer patients receive adequate pain control.

What Is Pain?

Everyone has experienced pain as a sensation that hurts. Pain serves as a protective alarm that keeps us from hurting ourselves or alerts us to the fact that something is wrong. Stubbing a toe or leaning against a hot stove activates specialized sensory neurons (nociceptors)

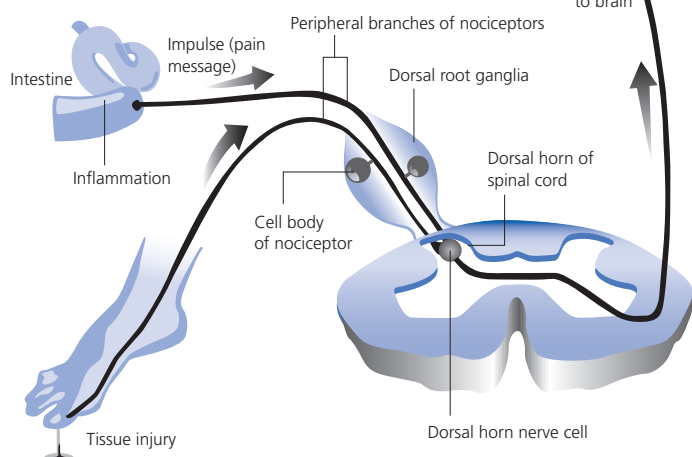
that respond specifically to hurtful stimuli, such as extreme temperature or mechanical pressure, or to chemicals generated in response to injury or inflammation (Figure 1). When the nociceptor encounters a noxious stimulus, it sends a message into the spinal cord. This message activates nerves that carry the pain signal to the brain. When pain signals reach the brain, they may or may not reach the level of conscious thought; if they do, the person experiences pain.^{5,6}

Not only does pain affect people differently, but it can also affect the same person differently at different times. Factors that may influence pain perception include complex processing of sensory information within the central nervous system, the strength of the stimulus that generates the pain sensation, the presence of other stimuli in the environment, and the person's emotional and psychological state.^{6,7} Cultural factors may modify the response to pain, resulting in a range of responses to the same stimulus from stoicism to intolerance. Cultural factors may also influence communication about pain among patients, caregivers, and health care providers.^{8,9}

There are many possible causes of pain associated with cancer, the most common being pain caused by the cancer itself. Pain can also be caused by the cancer treatment or may have nothing to do with the cancer.^{4,3}

Figure 1. The Pain Circuit

Feeling the pain. The pain circuit, shown here in simplified form, extends from the body's periphery – the skin and other tissues outside the central nervous system – to the spinal cord and brain. Hurtful stimuli activate special pain-sensing nerve cells, or nociceptors, which generate impulses that convey word of the trouble to nerve cells in the dorsal horn region of the spinal cord. Those cells, in turn, pass the message to the brain, which interprets it as pain.



Recreated with permission of Amadeo Bachar; from *Toward Better Pain Control*, *Scientific American*, June 2006; 61-67.

Experts divide pain into two basic types: **nociceptive** and **neuropathic**. It is important to distinguish between the two types of pain because the causes and treatments are different.

Nociceptive describes pain that accompanies damage to tissues of the body. It results from activation of nociceptors and can be further classified as **somatic** or **visceral**.

- **Somatic** pain arises from activation of nociceptive neurons in either the body surface (skin) or musculo-skeletal tissues (bone, joint, muscle, and connective tissue). Common causes of somatic pain in cancer patients include metastases in the bone and pain related to surgery. Somatic pain is localized to a specific area and is often described as stabbing, throbbing, dull, or aching.
- **Visceral** pain arises from the soft internal organs and tissues of the body that are enclosed within a cavity, the so-called “viscera.” It occurs because of compression or stretching of pain receptors in the thoracic (chest), abdominal, or pelvic organs. Visceral pain is common in pancreatic cancer patients, as well as patients who have cancer metastases to the abdomen. Visceral pain is difficult to pinpoint and is usually described as pressure-like cramping, gnawing, or squeezing. Sometimes visceral pain is experienced at the surface of the body (referred pain); for example, pain resulting from irritation of the diaphragm (the muscle partition separating the chest and abdominal cavities) may be experienced as shoulder pain.⁴

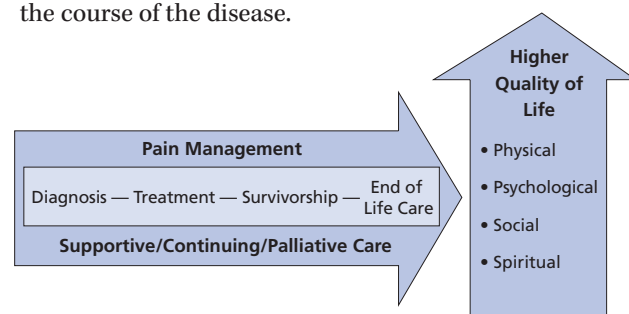
Neuropathic pain is caused by injury to the nervous system rather than stimulation of nerve endings. It may result from a tumor compressing or infiltrating the nerves or spinal cord. It also results from chemical damage to the nervous system caused by cancer treatment (chemotherapy, radiation, or surgery). This type of pain is typically described as sharp, burning, or shooting and is often accompanied by numbness or tingling in the extremities. Patients may also report allodynia, which refers to pain provoked by a normally non-painful stimulus such as a light touch. Neuropathic pain is often more resistant to treatment with conventional pain-relieving medications than nociceptive pain.¹⁰

How Common is Pain in Cancer Patients?

Pain is one of the most common symptoms associated with cancer. Approximately 30% of patients newly

The Cancer Continuum

The terms supportive care, continuing care, and palliative care all describe care that treats the whole patient and his/her symptoms throughout the course of disease with the goal of relieving suffering and maintaining the highest possible quality of life. This care should begin at the time of diagnosis and continue through active treatment and survivorship. Supportive care may refer to care following treatment when antibiotics, hematologic growth factors, transfusions, or pain management are necessary. It may also include a host of important services offered by health care providers, such as physical therapy, individual or group counseling, nutritional guidance, and support groups. Although many patients, caregivers, and some medical professionals associate palliative care solely with end-of-life care, this term is increasingly used to refer to pain control and other interventions to relieve symptoms, reduce suffering, and enhance quality of life throughout the cancer experience. For patients who will ultimately die of their cancer, care should extend into the period when it is no longer possible to alter the course of the disease.

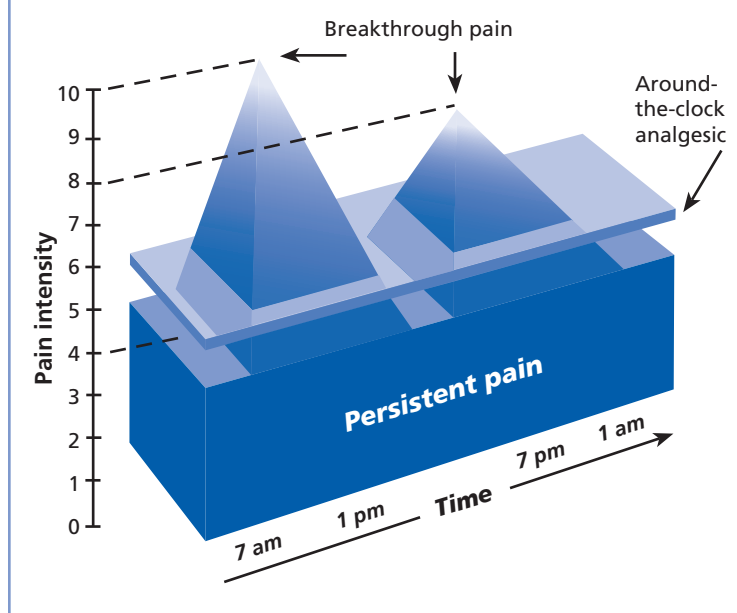


diagnosed with cancer, 30%-50% of patients undergoing treatment, and 70%-90% of patients with advanced disease experience pain.^{11,12,13}

Pain is generally not the first sign of cancer. Early-stage cancers of the lung, breast, uterus, and ovary rarely produce pain. However, prostate and colon cancers may produce pain even in the early stages by obstructing the urinary or digestive tract. Solid tumors generally are a more common source of pain than leukemia and lymphoma.

Pain among patients undergoing active treatment may be associated with the treatment itself. Pain is a potential side effect of surgery, radiation therapy, and chemotherapy. For example, patients receiving certain

Figure 2. Breakthrough Cancer Pain



types of chemo- and radiation therapy may develop mucositis (painful mouth sores).¹⁴

For about half of the people diagnosed with cancer, the initial course of therapy is successful and the cancer never recurs.¹⁵ Although they remain cancer-free, some of these patients continue to experience pain. Such pain may result from long-term side effects of treatment. For example, 2%-20% of women experience pain after breast surgery, which is caused by injury to the intercostal-brachial nerve.^{10,16} Damage to the nervous system is also a serious side effect of treatment with some commonly used chemotherapy drugs, including the taxanes (such as paclitaxel and docetaxel), vinca alkaloids (such as vincristine and vinblastine), and platinum-based compounds (such as cisplatin and oxaliplatin).⁶ When chemotherapy damages the nervous system, it results in a condition called peripheral neuropathy. The symptoms include tingling, burning, weakness, or numbness in the hands or feet or both.¹⁵ Although painful peripheral neuropathy from chemotherapy usually subsides over time, some patients develop persistent or chronic pain. The neuropathy associated with cisplatin, for example, may progress for a long period of time even after therapy has concluded.¹⁷

For some patients, either the initial course of therapy does not eliminate the cancer entirely, or the therapy produces a cancer-free period but eventually the cancer recurs. Patients are said to have advanced cancer when treatment no longer controls disease progression.

Most patients with advanced cancer have an increased frequency and intensity of pain. Many of these patients experience both nociceptive and neuropathic pain.¹⁰ One of the most common types of pain in advanced cancer results from metastases to the bones.¹⁷ Because the vertebra composing the spine are commonly involved, compression of the nerve roots as they come out of the spine may cause nerve pain secondary to bony metastases. Cancers of the lung, breast, prostate, colon, and kidney are most commonly associated with painful bone metastases.¹⁸

There are two general categories of pain: acute and chronic. Acute pain is severe and lasts a short time. It generally goes away when the cause of the pain is relieved. For example, the surgical incision heals or the broken bone mends. Chronic or persistent pain lasts for a long period of time. People with chronic pain that is controlled with medicine can still have breakthrough pain. Breakthrough pain is characterized as a transient increase or episode of pain that exceeds the level managed by pain medications used on a continuous basis (Figure 2). Many patients with advanced cancer experience breakthrough pain on a recurring basis.^{19,20}

How Is Cancer Pain Treated?

Pain assessment

Regular pain assessment and pain management should have the highest priority in the routine care of patients with cancer. Adequate pain assessment is essential to effective pain control; pain whose severity is underestimated will not be treated aggressively enough. Guidelines for cancer pain treatment from the Agency for Health Care Policy and Research, the American Pain Society,²¹ the National Comprehensive Cancer Network,²² and the World Health Organization (WHO) all use assessment of pain intensity through patient report as the most important consideration in determining treatment.²³

Pain rating scales

Many standardized pain questionnaires assess pain intensity as well as other factors related to pain. Questionnaires currently in use for research and clinical practice include the Brief Pain Inventory,²³ the Memorial Symptom Assessment Scale,^{24,25} the Edmonton Symptom Assessment Scale,²⁵ and specific pain visual analog scales.²³ A scale used in the clinical setting should assist in assessing patient pain and the impact it has on daily living by providing a measure of pain severity.

Clinicians using a visual analog scale (VAS) ask the patient to locate the position on the scale (usually a straight line) that is equivalent to the intensity of pain. One end of the line represents no pain and the other end represents the worst possible pain (Figure 3). In addition, some clinicians use a numerical rating scale (NRS). The most commonly used NRS uses an 11-point scale of 0 to 10. As with a VAS, the numbers are typically arranged along a horizontal line ranging from no pain (0) to the worst pain imaginable (10). Another alternative, the simple descriptive pain intensity scale is especially useful for a quick estimate of pain intensity (Figure 3). Pain assessment instruments may alert clinicians to moderate pain (i.e., 5-6 on the NRS) that requires immediate intervention, which should then be continuously monitored to determine the effectiveness of the treatment. Severe pain, defined as 7 to 10 on the NRS, requires emergency evaluation and treatment. Cancer patients reporting severe pain usually require rapid treatment with a very effective opioid, such as morphine.²³

The description of pain can provide valuable clues to its origin and help in identifying the best treatment. Information on the location, quality (e.g., sharp, aching, tingling), temporal pattern, and exacerbating factors (such as position or movement) of the pain is helpful in understanding the potential causes and best approach to treatment. When a patient reports a new or intensifying pain, a physical examination and other tests such as x-rays, magnetic resonance imaging (MRI), and blood tests may also be needed.²³ Once the necessary information has been collected, a treatment plan can be developed and discussed with the patient and caregivers.

Pharmacological treatment of pain

A useful model for the pharmacological treatment of cancer pain is provided by WHO's Three-Step Analgesic Ladder (Figure 4). Non-opioid analgesics, such as non-steroidal anti-inflammatory agents (NSAIDs) and acetaminophen, are used to treat mild to moderate pain (Step 1). When pain is not relieved by these medicines, opioids are added (Step 2). Higher doses or more effective opioids, combined with NSAIDs or acetaminophen, are used in Step 3 to control severe or persistent pain. Supplemental therapies, such as corticosteroids, antidepressants, and anticonvulsants can be used in each of the three steps to treat symptoms that are exacerbating the pain or to provide independent pain relief activity.²

NSAIDs and acetaminophen: The first choice for treatment of mild pain involves non-opioid medicines such as acetaminophen (Tylenol®) and non-steroidal anti-inflammatory agents (NSAIDs) such as ibuprofen and the selective COX-2 inhibitor celecoxib. These medicines are excellent at relieving bone pain, superficial pain, muscle pain, and some other types of pain, and are also used with other types of pain medications to provide greater pain relief.²

NSAIDs largely influence pain by acting at the pain-sensing ends of nociceptors. When a tissue is injured, a variety of cells in the area release prostaglandins that make the nociceptors more sensitive to stimulation. Aspirin and other NSAIDs inhibit the activity of a family of enzymes (cyclooxygenases) that cells use to generate the prostaglandins. Because NSAIDs also inhibit prostaglandin production elsewhere in the body, they can have serious side effects, including ulcers and bleeding. They also slow blood clotting, so they must be used cautiously in patients with bleeding or clotting disorders. The mechanism by which acetaminophen

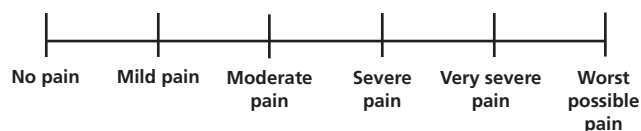
Figure 3. Examples of Pain Rating Scales

Visual Analog Scale

No pain _____ Worst pain

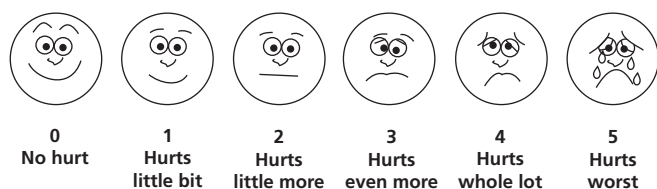
Directions: Ask the patient to indicate on the line where the pain is in relation to the two extremes. Qualification is only approximate; for example, a midpoint mark would indicate that the pain is approximately half of the worst possible pain.

Simple Descriptive Pain Intensity Scale



Source: Jacox A., Carr D. B., Payne R., et al. 1994. *Management of Cancer Pain Quick Reference Guide for Clinicians*. Number 9. AHCPR Publications No. 94-0593. Rockville, MD: Agency for Health Care Policy Research, US Department of Health and Human Services, Public Health Service.

Wong-Baker FACES Pain Rating Scale



Source: Wong D. L., Hockenberry-Eaton M., Wilson D., Winkelstein M. L., Schwartz P. 2001. *Wong's Essentials of Pediatric Nursing*, ed. 6. St. Louis, Mosby, p. 1301. Copyright Mosby. Reprinted with permission.

reduces pain is not fully understood. Although acetaminophen does not slow blood clotting, high doses can damage the liver.^{2,26} Patients must be cautioned about combining prescription and non-prescription pain medications that contain acetaminophen.

Some non-opioid medications are available without prescription. A maximum daily dose is recommended for each of these medicines because of the potential for serious side effects.

Opioids: Opioids are the most effective pain-relieving medicines and are available only by prescription. Opioids are sometimes classified as short-acting or long-acting. It is common for opioids to have a non-opioid pain-relieving medicine, such as acetaminophen, mixed with them.²⁷

In contrast to non-opioid pain medicines, opioids relieve pain by inhibiting transmission of the pain message from the spinal cord to the brain. Opioids also cause the neurons within the spinal cord to be less responsive to pain signals.^{5,27}

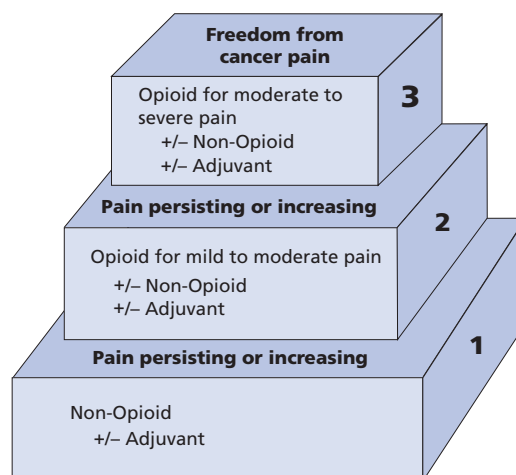
Although the role of opioids in blocking pain is primarily in the spinal cord, other neurons in the body have opioid receptors, including neurons in the brain and the digestive system. This explains why opioids can cause a range of undesirable side effects including drowsiness, constipation, and respiratory depression. Though most of these side effects can be treated, a patient's level of tolerance may limit the dosage that can be comfortably administered. Patients taking opioids must be monitored closely in order to maintain maximum pain relief while minimizing side effects.²⁸

Opioids commonly used in the treatment of cancer pain are morphine, hydromorphone, oxycodone, fentanyl, and methadone. Morphine is usually administered orally or intravenously. Fentanyl is available as a patch worn on the skin for the treatment of persistent pain. The drug is absorbed slowly into the blood stream and can give the patient pain relief for up to 72 hours. Fentanyl is also available as a lozenge and an effervescent tablet for breakthrough pain.

In part to avoid some of the undesirable side effects, opioids are sometimes delivered directly to the spinal cord (epidural or intrathecal administration).³⁰ Medicine may also be administered via an indwelling pump (usually used for chronic pain).

Adjuvant analgesics: These are medicines that are typically used to treat illnesses other than cancer, but

Figure 4. Pain Relief Ladder



Source: World Health Organization, 1990.

that have been found to provide relief of certain kinds of cancer-related pain.³¹ They include:

- **Antidepressants:** some antidepressants have been found to relieve pain as well as decrease depression. They may be particularly effective in reducing neuropathic pain.
- **Anticonvulsants:** these medicines are generally used for seizure disorders and are also effective for the treatment of neuropathic pain.
- **Steroids:** steroids may be used to relieve pain associated with swelling and for bone pain.
- **Local anesthetics:** these medicines can be applied in the form of a cream or ointment and may be used to prevent pain from a needle stick or from lesions on the skin and mucous membranes. When local anesthetics are administered epidurally (around the spinal nerves), they can block pain in specific regions of the body. A lidocaine patch for topical administration of this drug is effective for the treatment of "shingles" pain.

Bisphosphonates: Drugs called bisphosphonates are used to treat bone metastases and multiple myeloma. They reduce pain by preventing fractures. In rare instances, long-term use of bisphosphonates can cause osteonecrosis (bone death) of the jaw.³²

Radiotherapy: Radiation therapy is often used as part of the initial treatment of cancer, but it can also be used to relieve pain when cancer has spread to the bone. Radiation may be delivered over several days to the areas that are most painful, such as boney metastases. Radiation therapy decreases the cancer cell's ability to

grow and divide. By shrinking the size of the tumor, radiation may decrease the discomfort of cancer cell invasion of critical tissues. Fatigue is a common side effect of radiation treatment.³³

Non-pharmacological and complementary methods:

Although medication is the mainstay of cancer pain management, a number of other methods can be helpful and can generally be used in conjunction with pain medications. Cognitive and behavioral techniques can help to divert attention from pain, improve pain tolerance, and increase a person's sense of control. Education about pain origin and treatment can also be helpful to patients and caregivers. Many different approaches are used, including videos, books, special tutorials, and educational sessions with an expert. Some individuals with cancer pain can be assisted through telephone counseling and Internet-based educational approaches.^{34,35}

Non-traditional approaches to pain management include acupuncture, mind-body imaging techniques, and therapeutic massage. Acupuncture involves application of small needles (or in the case of acupressure, pressure with fingers) along points of the body "meridians." Mind-body techniques include hypnosis and progressive muscle relaxation. Pain reduction using these methods may occur by distracting and refocusing on more positive perceptions. Therapeutic massage is thought to alter pain impulses through the relaxation induced by surface sensory input. The relaxation and sleep associated with massage may reduce perceived pain levels.³⁴

Interventional treatments: Some patients experience inadequate pain control despite medications or cannot tolerate the side effects of these drugs. Approaches that may be used to relieve pain in these individuals include regional infusion of medications (similar to epidural anesthesia) and neurosurgical approaches (interrupting the pain pathways by injecting blocking substances or cutting the nerves responsible for the pain).⁴ The choice of a neurosurgical procedure is based on the location and type of pain, the general condition of the patient, the patient's life expectancy, and the nature of the expertise available. Another approach is transcutaneous electrical nerve stimulation (TENS), which uses a small battery-powered device with superficial electrodes to stimulate painful areas.⁴

Inequities in Treatment of Cancer Pain

Although control of pain can improve a person's quality of life, cancer pain often goes untreated, under treated,

or improperly treated. Some population groups – including the elderly, women, and members of racial and ethnic minorities – are more likely to be under treated for cancer pain than others. For example, a study of under treatment of pain among cancer patients in nursing homes found that while half of all patients in pain were receiving opioids, only 13% of patients aged 85 or older were receiving these medications. The study also found that African American patients in daily pain were 1.6 times as likely to receive no medication for pain relief.³⁶ A study of pain management in adult outpatients of all ages with advanced cancer found that the likelihood of receiving inadequate pain relief varied by race/ethnicity, age, and sex.³⁷ Predictors of inadequate pain management included minority status, age of 70 years or older, and female sex. The same study also found that patients seen at centers that mostly treated minorities were 3 times as likely as those treated elsewhere to have inadequate pain management.³⁷ A study of opioid availability in New York area pharmacies in 1998 found that pharmacies located in predominantly Hispanic and African American neighborhoods were significantly less likely to stock opioid analgesics than those in predominantly non-Hispanic white neighborhoods.³⁸

Cancer Pain in Children

Treatment of cancer pain in children is a special concern. Although children with cancer experience pain from the same general causes as adults, they have a different spectrum of cancers than adults. Specifically, children tend to have fewer solid tumors, so they are less likely to experience tumor-related pain and more likely to have pain as a result of diagnostic or therapeutic procedures and treatment toxicities.³⁹ The prevalence of pain in children who are hospitalized for cancer reaches 50% in some surveys, while the prevalence of pain in outpatients is about 25%.⁴⁰ Children may be under treated for pain because of the misconception that pain is not experienced by the very young.

Pain evaluation is particularly difficult in children younger than 3 years, for whom behavioral and observational assessment approaches are used. Use of visual analog scales has been validated in children as young as 8 years and the use of "happy/sad faces" has been used in patients as young as 3 years (Figure 3).²³ Although the techniques for pain management in children are similar to those in adults, there is less information on the effectiveness of specific pain treatments in children.⁴¹

Barriers to Effective Treatment of Cancer-related Pain

Studies have identified a number of barriers to effective treatment for cancer pain.⁴²

Barriers among patients and families

Many patients and caregivers have misconceptions about cancer pain. They may believe that pain is inevitable with cancer or that reporting pain will distract the physician from treating or curing the cancer. They may fear that they will not be considered “good patients” if they complain about pain. Other common misconceptions are that people inevitably become addicted to strong pain medications and that people are given morphine only near the time of death. Many patients and caregivers are concerned that opioid medications inevitably make a person drowsy and “out-of-it.” None of these beliefs are true.^{15,42}

Although pain is not inevitable with cancer, many patients with cancer do experience pain. When pain occurs, open communication with health care providers can lead to earlier identification of treatable problems and adequate relief of symptoms. Control of pain and other symptoms does not reduce the effectiveness of cancer treatment.

Although concern about addiction to opioid medications is common, opioid addiction is extremely rare among cancer patients. Patients may experience **tolerance** and **physical dependence**, but this is not the same as addiction.⁴³

- **Tolerance** is the need for an increase in the amount of drug to achieve the same level of pain relief. Not every patient taking opioids develops tolerance. When it does occur, it can usually be managed by increasing the frequency of administration or switching to another opioid medication.
- **Physical dependence** is the occurrence of withdrawal symptoms if the drug is stopped suddenly. This is not the same as drug addiction. When opioids are no longer needed for pain relief, physical withdrawal symptoms can be avoided by reducing the dose of opioids slowly over time.

Although many people feel sedated when they start to take opioids, this side effect often subsides in a few days. If it does not, the dose of medication can generally be adjusted to obtain adequate pain relief without drowsiness. A stimulant may also be used to counteract a lingering sedative effect.

Barriers to adequate pain treatment among health care professionals

Health care providers may lack basic knowledge of pain control because of inadequate education in pain assessment and management. Lack of cultural awareness and/or language barriers may also contribute to inequities in cancer pain management. Many health care providers have unwarranted fears about opioid side effects and are confused about the meaning of tolerance and addiction. Health care professionals also cite lack of time and inadequate reimbursement as barriers to pain assessment and management. Health care professionals – including physicians, nurses, pharmacists, and others – often cite concerns about legal prosecution or revocation of their professional licenses as a barrier to pain management with opioids.^{40,44,45}

Restrictive laws and regulations and their enforcement

Because opioid medications can be diverted and abused, they are controlled substances that are subject to laws and regulations governing how they are prescribed and dispensed. The Federal Controlled Substance Act was written to ensure the availability of opioid medicines for legitimate use in treating pain while still controlling illegal uses (abuse and diversion). The Drug Enforcement Agency (DEA) has sole jurisdiction over this Act’s enforcement. Despite the absence of evidence to show that the prescription of opioid medications for pain management is the source of drug diversion and the resulting abuse problem,⁴⁷ the DEA’s rigorous enforcement of national drug policy, coupled with confusion about the law, may have the unintended consequence of reducing access for patients in pain who legitimately need these drugs.^{46,48}

State laws and pain policies designed to prevent abuse and diversion of prescription medications vary tremendously. In recent years, several states have made great strides toward improving the balance between limiting abuse and ensuring access to pain management.⁴⁶ For example, many state medical licensing boards have adopted all or part of the Federation of State Medical Boards *Model Policy for the Use of Controlled Substances for the Treatment of Pain* to address the professional barriers to pain management.⁴⁶ Despite these improvements, some state agency and medical board policies still contain outdated language reinforcing misperceptions, such as the confusion between physical dependence and addiction, as well as

provisions limiting the amount of opioids that can be prescribed for the treatment of cancer pain.⁴⁸

Overcoming Barriers to Cancer Pain Management

Professional education and training

Steps have been taken to improve opportunities for professional education about cancer pain and its treatment. Excellent, evidence-based pain management clinical practice guidelines for practitioners are available through the American Pain Society and the National Comprehensive Cancer Network (NCCN).^{21,22} As a companion piece for patients, the American Cancer Society and NCCN collaboratively developed *Cancer Pain: Treatment Guidelines for Patients* in lay language to help cancer patients and their families talk with their health care providers and make decisions about pain issues and treatment options.⁴⁹ The American Cancer Society will continue working with its many partners in the pain community to consider expansion of these existing activities and development of new initiatives to help fill professional training gaps.

Improving state policy

Improving state policy is a necessary complement to the many ongoing state-level initiatives designed to educate health care professionals about the appropriate use of pain medications and to inform the general public about the availability of pain treatment options.⁵⁰ State pain initiatives are voluntary, grassroots organizations that provide education and advocacy to health care providers as well as cancer patients and their families. They are composed of nurses, physicians, pharmacists, social workers, psychologists, patient advocates, and representatives of clergy, higher education, and government.⁵¹ Through its involvement in several state pain initiatives, the American Cancer Society has worked with the Alliance of State Pain Initiatives (ASPI) and other partners to develop initiatives for improving state pain policies and communicating these policies to health care providers to help promote better pain control practice. In September 2006, the Pain and Policy Studies Group at the University of Wisconsin Comprehensive Cancer Center released a comprehensive review of pain management policies in all 50 states. Funded by the American Cancer Society, the Lance Armstrong Foundation, and the Susan G. Komen Breast Cancer Foundation, the study found that states have made significant improvements in balancing policies that prevent the abuse of pain medication without restricting legitimate medical

use since the initial evaluation in 2000. Michigan and Virginia were reported to have the most balanced pain policies in the country and 19 states had made improvements in the language of pain policies in the past 3 years that enable enhanced pain management. These reports are important tools for identifying where progress is needed to encourage continued momentum for ensuring delivery of adequate pain relief.

Inadequate reimbursement

The US system of reimbursing the costs of health care leaves many cancer patients without the means to cover the costs of cancer treatment and care, including pain management. Health insurance reimbursement, or lack of reimbursement, plays a significant role in the way in which pain is treated, where it is treated, and what level of care is available. Reimbursement policies vary substantially among third-party payers, which results in some patients having full access to adequate pain management while others do not.

More than 47 million Americans have no health insurance and many cancer patients with health insurance find that their insurance pays for only a portion of the costs, leaving them with medical bills that are difficult or impossible to pay. Sometimes health insurance coverage of pain relief medication is limited, so the most appropriate treatment may be unaffordable for patients and their families. These problems are compounded among the most vulnerable populations – including low-income individuals and racial and ethnic minorities – who have been shown to have a greater degree of pain and suffering from cancer than do other Americans.⁴⁶

The American Cancer Society is monitoring and studying the size and scope of these and other reimbursement issues as barriers to the provision of quality cancer care. We will continue working with partners to evaluate options for action to better integrate cancer pain and symptom management within the health system.

International perspective

Although inadequate pain management is a serious problem in most developed countries, this problem is even more serious in developing countries.⁵² The World Health Organization (WHO) has developed guidelines for assessing national drug policies for the degree of balance. In many countries, national drug laws have been evaluated and found to interfere with cancer pain relief. In many developing countries, cancer pain management is also limited by geographical barriers,

medical infrastructure, and financial resources. In some countries, stringent regulations and negative perceptions associated with heroin trafficking further limit appropriate medical use of opioids.⁵² The WHO has played an important role in encouraging effective pain management and monitoring the availability of opioids internationally.⁵³

Looking Ahead: Advocating for Better Pain Control

The American Cancer Society seeks to limit the negative impact that cancer and its treatment can have on a person's quality of life. This includes efforts to ensure that the lives of patients, survivors, and their families are not overpowered by pain and that pain related to cancer and its treatment is addressed during all phases of the cancer experience. We are dedicated to working with state pain initiatives and other partners to advocate for

needed policy change and to raise awareness about the importance of treating cancer pain and suffering for all patients and survivors from the time of diagnosis throughout the balance of life.

Helpful Online Resources:

American Cancer Society: <http://www.cancer.org>

American Pain Foundation:
<http://www.painfoundation.org>

Alliance of State Pain Initiatives (ASPI):
<http://www.aspi.wisc.edu>

Pain and Policy Studies Group (PPSG):
<http://www.medsch.wisc.edu/painpolicy>

National Comprehensive Cancer Network (NCCN):
<http://www.nccn.org>

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