

FREE take one

Managing Cancer Pain

A TREATMENT GUIDE
FOR PATIENTS AND THEIR FAMILIES

WHERE
INFORMATION
EQUALS HOPE

Published in
partnership with



**Cancer Pain Research
Consortium**

→ CONTENT REVIEWED BY A DISTINGUISHED
MEDICAL ADVISORY BOARD

RELIEVING CANCER-RELATED PAIN



Cancer Pain Research
Consortium

INTERDISCIPLINARY • RESEARCH AND EVIDENCE-BASED • PATIENT-CENTERED

The Cancer Pain Research Consortium is a 501c3 organization dedicated to the relief of pain and suffering associated with cancer and its treatment. A multidisciplinary group, comprised of physicians and mid-level providers from across North America representing many major cancer centers and large practices, the CPRC is dedicated to generating and promoting interdisciplinary, patient-centered, evidence-based care for cancer-related pain.



WE CAN USE YOUR HELP.

If you or a loved one has been touched by the pain of cancer—or if you simply understand how important this is—please consider making a tax-deductible donation to help us in this important work. To donate to the Cancer Pain Research Consortium, visit www.CancerPainResearchConsortium.org/Donate.

IN THIS GUIDE

- 2 Overview
- 4 Defining Cancer-Related Pain
- 5 Emotional Effects of Pain
- 6 Pain Medications
- 8 Needle Procedures to Block Pain
- 10 Targeted Drug Delivery
- 11 Quality of Life
- 12 Neurosurgical Options
- 14 Integrative Oncology Approaches
- 15 Rehabilitation Care
- 16 Advocacy & Financial Resources
- 17 Relieving Cancer-Related Pain

CO-EDITORS-IN-CHIEF



Charles M. Balch, MD, FACS
*Professor of Surgery, The University of Texas Southwestern Medical Center
 Editor-in-Chief, Patient Resource LLC
 Editor-in-Chief, Annals of Surgical Oncology
 Past President, Society of Surgical Oncology*



William S. Rosenberg, MD
*Neurosurgeon and Founder, Center for the Relief of Pain
 Midwest Neuroscience Institute of Kansas City
 President and Founder, Cancer Pain Research Consortium*

SPECIAL THANKS

- Brian Bruel, MD, MBA**
Associate Professor, Department of Pain Medicine, The University of Texas MD Anderson Cancer Center
- Gary E. Deng, MD**
Medical Director, Integrative Medicine Service, Memorial Sloan Kettering Cancer Center
- Arkadiusz Z. Dudek, MD, PhD**
Professor of Medicine and Medical Director of Clinical Trial Office, University of Illinois Cancer Center
- Amitabh Gulati, MD**
Anesthesiologist, Director of Chronic Pain, Memorial Sloan Kettering Cancer Center
- Robert N. Jamison, PhD**
Professor of Anesthesia and Psychiatry, Brigham and Women's Hospital at Harvard Medical School, Pain Management Center
- Jack W. Jennings, MD, PhD**
Associate Professor of Radiology, Musculoskeletal Section, Washington University School of Medicine, Mallinckrodt Institute of Radiology
- Candice Johnstone, MD, MPH**
Radiation Oncologist, Associate Professor, Medical Director, Froedtert & The Medical College of Wisconsin Cancer Network
- John Raymond Peteet, MD**
Associate Professor of Psychiatry, Harvard Medical School Psychiatrist, Brigham and Women's Hospital & Dana-Farber Cancer Institute
- Kanu P. Sharan, MD**
Medical Oncology, Assistant Professor of Medicine, MD Anderson Cancer Center at Cooper University Health Care

PATIENT RESOURCE

- Chief Executive Officer **Mark A. Uhlig**
- Publisher **Linette Atwood**
- Co-Editor-in-Chief **Charles M. Balch, MD, FACS**
- Co-Editor-in-Chief **William S. Rosenberg, MD**
- Senior Vice President **Debby Easum**
- Vice President, Operations **Leann Sandifar**
- Managing Editors **Lori Alexander, MTPW, ELS, MWC
 Deb Whippen**
- Senior Editor **Dana Campbell**
- Graphic Designer **Michael St. George**
- Medical Illustrator **Todd Smith**
- Production Manager **Jennifer Hiltunen**
- Vice Presidents, Business Development **Amy Galey
 Kathy Hungerford
 Stephanie Kenney**
- Account Executive **Melissa Amaya**
- Office Address **8455 Lenexa Drive
 Overland Park, KS 66214**
- For Additional Information **prp@patientresource.com**
- Advisory Board **Visit our website at
 PatientResource.com to read bios of
 our Medical and Patient Advisory Board.**

For Additional Copies: To order additional copies of *Patient Resource Cancer Guide: Managing Cancer Pain*, visit PatientResource.com, call 913-725-1600, or email orders@patientresource.com.

Editorial Submissions: Editorial submissions should be sent to editor@patientresource.com.

Disclaimer: Information presented in *Patient Resource Cancer Guide: Managing Cancer Pain* is not intended as a substitute for the advice given by your health care provider. The opinions expressed in *Patient Resource Cancer Guide: Managing Cancer Pain* are those of the authors and do not necessarily reflect the views of the publisher. Although *Patient Resource Cancer Guide: Managing Cancer Pain* strives to present only accurate information, readers should not consider it as professional advice, which can only be given by a health care provider. Patient Resource, its authors, and its agents shall not be responsible or in any way liable for the continued currency of the information or for any errors, omissions or inaccuracies in this publication, whether arising from negligence or otherwise or for any consequences arising therefrom. Patient Resource, its authors, and its agents make no representations or warranties, whether express or implied, as to the accuracy, completeness or timeliness of the information contained herein or the results to be obtained from using the information. The publisher is not engaged in rendering medical or other professional services. The publication of advertisements, whether paid or not, and survivor stories is not an endorsement. If medical or other expert assistance is required, the services of a competent professional person should be sought.

© 2016 Patient Resource LLC. All rights reserved.
 PRP PATIENT RESOURCE PUBLISHING®

For reprint information, email prp@patientresource.com.

OVERVIEW

▲ **The biggest myth about pain** related to cancer is that people with cancer must endure it. It is true that pain affects most people with cancer, but no one has to accept pain as a permanent part of life. There are now many ways to relieve cancer-related pain, and it's important to understand these options and find out which option will work best for you. Although success cannot always be guaranteed, it is reasonable to expect your doctors to work diligently toward alleviating your pain.

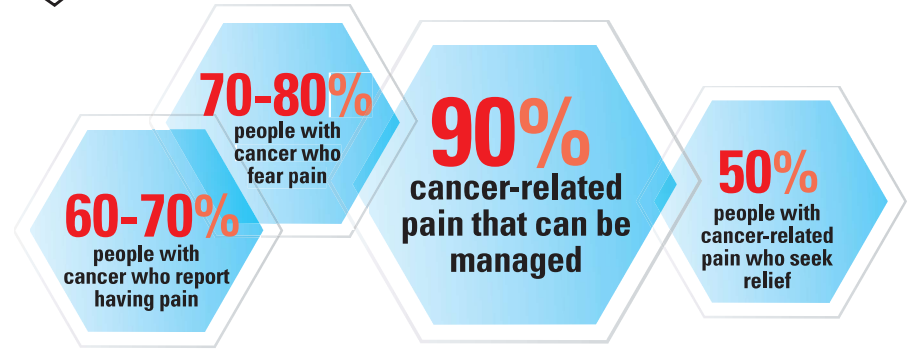
About 90 percent of all cancer-related pain can be successfully managed, yet only half of people with pain seek relief. Why is this? Doctors have noted many reasons why patients do not seek help for pain relief:

- **Guilt** – they don't want to hurt their doctor's feelings.
- **Fear** – they are afraid that if they hurt, it means the treatment isn't working or the cancer has gotten worse.
- **Acceptance** – they feel that pain is just a part of the cancer experience.
- **Pride** – they feel they should just be tough, live with the pain and not complain.
- **Fear of addiction** – many patients may forgo medications for fear of becoming addicted.
- **Overwhelmed feeling** – there are already too many doctors, appointments and medications to handle; they don't want to add yet another aspect to their treatment plan.

You should not let any of these reasons keep you from finding pain relief. Every person with cancer is encouraged to seek relief.

BY THE NUMBERS

CANCER-RELATED PAIN



HARMFUL EFFECTS OF UNRELIEVED PAIN

Unrelieved pain affects every part of your life. Your body's disease-fighting abilities are lowered when you're in pain, interfering with your health and recovery in general. Other side effects can also be intensified when you're in pain, and depression often occurs when pain is unrelieved over a long time. In addition, pain affects your ability to sleep, work and maintain your relationships. These harmful effects make pain too important to ignore.

BENEFITS OF PAIN RELIEF

Pain relief has many benefits beyond the obvious one of being more comfortable. Studies show that when people with cancer get their pain under control, they are much more likely to finish their treatment on schedule. Pain relief also enables people to be more active, boosting their health and emotional well-being. Some evidence even suggests that survival is longer when pain is managed effectively.

BE YOUR OWN ADVOCATE

Every doctor wants the best for his or her patients, but it is impossible for every doctor to know about all of the ever-expanding options for pain management. That's why a pain specialist plays an important role in the care and treatment of people with cancer-related pain. If your pain is unrelieved, tell your doctor that you want to see a pain specialist. With a physician who has expertise in pain management on your treatment team, your comfort will be a top priority throughout your treatment and recovery.

It may also be helpful to reach out to other people with cancer to learn about pain relief options that worked for them. Although each person responds differently to pain relief treatment, those who have found a successful approach can be a valuable resource for you.

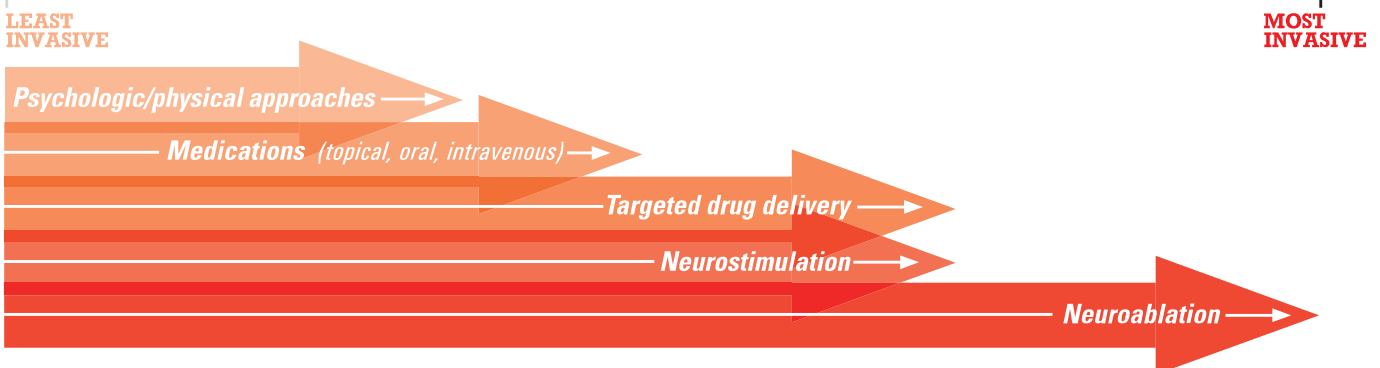
KNOW YOUR OPTIONS

Most people think that the only way to relieve pain is to take medication. But there are many ways to manage pain, and they run

FIGURE 1

PAIN TREATMENT CONTINUUM

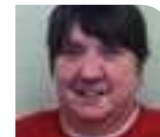
Continuum (not related to effectiveness)



on a continuum from least to most invasive (see Figure 1). You may not necessarily advance through the continuum on a straight line; depending on the particular situation, a more invasive procedure may be given before a less invasive one. Your doctor will discuss the various options and choose an order of options that seems best. Some psychological/physical approaches may help alleviate mild pain, and these approaches are often valuable when used in combination with other treatments for more severe pain. Pain medications are the next step on the continuum.

» | **PATIENT AMBASSADOR**

“ *When I was diagnosed with cancer, my biggest fear was pain, and the pain I had was beyond anything I had ever imagined. I had an intrathecal drug delivery system implanted, and I can’t believe how effective the pump is. My quality of life has significantly improved beyond what I expected. Now I feel I can face any treatment I need to for cancer.* ”



~Cathy



[MYTH] Increasing pain means that my disease is getting worse.

[FACT] Pain and severity of disease are not necessarily related, but increasing pain should prompt a conversation with your doctor to evaluate the cause and develop a plan for more acceptable pain relief.

[MYTH] I don’t want to have unpleasant side effects from pain medications.

[FACT] Side effects may occur with some pain medications, but they can be managed and some will decrease or disappear over time on their own. If you become tolerant to your medications or the side effects are too difficult, a health care provider with expertise in cancer pain can help guide you through other options.

[MYTH] If I take narcotics (opioids) regularly, I may become addicted.

[FACT] Although people can become tolerant to a pain medication (meaning more doses are required to have the same effect), tolerance is not the same as addiction. Addiction is a specific diagnosis in which people act in risky or abnormal ways to get drugs. People with cancer who take pain medications as directed usually don’t become addicted.

[MYTH] If I start taking pain medication early on, I will run out of options for pain relief in the future.

[FACT] Many pain-relieving medications and procedures are available. More options are available if pain becomes more severe.

In this guide, you can learn about the wide range of pain medications now available and how they’re used. You will also learn about interventional approaches that are options when medications fail to relieve pain. These interventions include targeted drug delivery; nerve blocks; percutaneous procedures on the spine; neurostimulation; neuroablation; and palliative radiation, chemotherapy and surgery. These interventions can be used in combination with lower doses of pain medication if necessary.

This guide also provides information on integrative oncology approaches, or evidence-based complementary therapies that can be used in conjunction with other pain management techniques. You will also learn how rehabilitation cancer care, which focuses on restoring function and movement, can help in managing pain. Lastly, you will learn about the emotional aspects of pain and how to address these issues.

Be sure to review the resources at the back of the guide to find help on your path to pain relief. Do not let pain control your life — control your pain and take back your life. ■

ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** www.cancer.org
Cancer-related Pain
- ▶ **American Society of Clinical Oncology:** www.cancer.net/navigating-cancer-care/side-effects
Pain: Causes and Diagnosis
- ▶ **American Society of Regional Anesthesia and Pain Medicine:** www.asra.com
Treatment Options for Chronic Pain
- ▶ **Cancer-Pain.org:** www.cancer-pain.org
- ▶ **Cancer Pain Research Consortium:** www.cancerpainresearchconsortium.org
- ▶ **National Cancer Institute:** www.cancer.gov
Pain Control: Support for People with Cancer

DEFINING CANCER-RELATED PAIN

▲ Cancer-related pain is caused by

several different factors; in most cases it is directly related to the cancer itself and the location of the tumor(s). As a tumor grows, it can press on internal organs, tissues and joints, creating pressure that ultimately leads to pain in that specific area. Pain can also be caused by cancer that has spread to bone. This pain is typically felt in the back, pelvis and hips, as these bones are the most common sites of cancer spread (metastasis). Cancer-related pain may be felt in parts of the body other than where the primary tumor is located, especially in advanced disease.

In addition to cancer-specific pain, diagnostic procedures and treatments, including surgery, chemotherapy and radiation therapy, may cause different types of pain. After surgery, pain is usually felt in the area of the surgery. This pain will gradually lessen as the body heals and recovers. The pain or discomfort caused by chemotherapy and radiation therapy can be mild to severe, but often (although not always) ends when treatment does. Sometimes, a hormone imbalance or treatment-related nerve damage may contribute to chronic pain.

TYPES OF PAIN

Doctors refer to pain in three categories: nociceptive somatic, nociceptive visceral and neuropathic. These terms seem complicated, but their meaning can be simplified. Nociceptive pain arises when nerve cells (called nociceptors) are stimulated to send pain signals by some kind of ongoing injury, such as pressure by a tumor or the cut of a surgical scalpel. Pain caused by stimulation of nerve cells in soft tissues or muscles is defined as nociceptive somatic; pain caused by stimulation of nerve cells in body organs is defined

as nociceptive visceral. Neuropathic pain is caused by damage to nerves, causing these nerves to send pain signals even though there isn't ongoing injury. Each of these categories of pain has distinct causes (see Table 1). Pain is also defined by its timing.

■ **Acute pain** is pain that occurs suddenly; it is sometimes related to a diagnostic procedure or treatment. This type of pain is time-limited; in other words, the pain usually resolves once the body recovers and heals.

■ **Chronic pain**, also called persistent pain, lasts for at least one month — usually longer — after treatment. This type of pain is usually related to the direct effects of a tumor or cancer treatment, but in a small number of people, pain may be unrelated to either the cancer or the treatment.

■ **Breakthrough pain** includes severe flares of pain that “break through” during treatment with pain medication. Breakthrough pain can range from mild to severe and can last minutes to hours.

DESCRIPTIONS OF PAIN

Your doctor will ask you to describe your pain. Think about your pain and describe it carefully, as your doctor will be better able to determine the cause of your pain. For example, if pain feels like burning or “shock-like,” it is most likely related to damaged nerves. Your doctor will also ask about the severity of your pain. A scale of zero to ten (with ten being the worst) is the most common way to rate how bad pain is.



TABLE 1
▲ TYPES OF PAIN AND THEIR CAUSES

Type of Pain	Cause of Pain	Typical Description
Nociceptive somatic pain	Injury or inflammation of tissues	Sharp, aching, stabbing, throbbing, pressure-like; usually intense
Nociceptive visceral pain	Injury to a body organ	Crampy, aching, stabbing; usually dull or vague
Neuropathic pain	Damage to nerves outside of the spine and brain (peripheral nerves) or within the central nervous system	Burning, “shock-like,” “electrical”; usually sudden and quick

Also give your doctor details about your pain:

- What makes it worse?
- Does anything make it better?
- How does it affect your daily life?

CAUSES OF CANCER-RELATED PAIN

Some of the more common side effects of cancer and cancer treatments that can cause pain include the following:

■ **Loss of motion** may occur after surgery. For example, many people have pain related to loss of motion in the arm after a mastectomy.

■ **Lymphedema** occurs when excess fluid builds up and causes abnormal swelling, typically in an arm or a leg. Swelling ranges from mild to extreme and is most likely to occur after surgery involving removal of lymph nodes from the underarm, groin, pelvis or neck. Typically, the more lymph nodes removed, the greater the risk for lymphedema.

■ **Peripheral neuropathy** is a condition caused by damage to the peripheral nerves, the nerves outside the brain and spinal cord. Some chemotherapy drugs cause peripheral neuropathy, which is experienced as numbness and tingling in the hands and feet, a decreased sensation of hot and cold, muscle weakness, cramping and balance problems.

■ **Osteoporosis** occurs when healthy bone isn't rebuilt at the same rate as it's being destroyed by cancer cells or certain treatments. As a result, bone becomes weak, brittle and painful. This condition can happen naturally with age but is intensified by cancer.

■ **Bone metastasis** is the spread of cancer into bones. Pain is caused by damage to bone cells as cancer cells invade.

TALKING ABOUT PAIN

Regardless of the cause or type of cancer-related pain, there are options for managing it so that you can have less pain and a better quality of life. Be sure to talk to your doctor or other member of your cancer treatment team about your pain so that they can discuss options with you. ■

ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** www.cancer.org
What Causes Pain in People with Cancer?
- ▶ **American Society of Clinical Oncology:** www.cancer.net
Pain: Causes and Diagnosis
- ▶ **Cancer Pain Research Consortium:** www.cancerpainresearchconsortium.org
- ▶ **National Cancer Institute:** www.cancer.gov
Pain Control: Support for People with Cancer

EMOTIONAL EFFECTS OF PAIN

▲ **Cancer often exacts an emotional toll,** and pain can cause even greater emotional distress. Dealing with chronic pain can lead to anxiety, frustration and even depression, so individuals with cancer should be sure to find emotional support as they seek methods to relieve their pain.

Studies have shown that greater levels of pain are associated with higher levels of emotional distress. So taking steps to reduce your pain is the first step in coping with distress. But for some people with cancer-related pain, more steps may be needed. If distress becomes severe enough, depression may develop.

RECOGNIZING DEPRESSION

Studies have shown that, among people with cancer, depression is most likely to occur during times of unrelieved symptoms, including pain. In fact, more than one-third of people with cancer have both pain and depression. Therefore, it is important to know the signs of depression. Depression is more than just feeling sad or hopeless. A clinical diagnosis of major depression requires that at least five of the following symptoms occur every day for at least two weeks:

- Persistent sad, anxious or “numb” feeling
- Loss of interest or pleasure in once-enjoyed hobbies and activities
- Feelings of hopelessness
- Feelings of guilt, worthlessness or helplessness
- Fatigue and loss of energy
- Difficulty concentrating, remembering and making decisions
- Sleep problems
- Changes in appetite and/or weight
- Thoughts of death or suicide, or suicide attempts
- Restlessness, irritability
- Social withdrawal
- Repeated episodes of crying

Unfortunately, many of the recognized symptoms of depression are also problems associated with chronic pain, such as sleep problems, lack of energy and recurrent worried thoughts. Seeking treatment both for the pain and for your mood is important.

TREATMENT FOR DEPRESSION

Certain medications, counseling or both



can help those with all stages of depression. Some people find benefit in counseling alone (without medications), but moderate or severe depression is typically managed with a combination of psychological treatment and medication (antidepressants). Types of counseling include:

■ **Individual psychotherapy** – to explore the emotional issues that contribute to depression.

■ **Cognitive-behavioral therapy** – to help a person change his or her negative thought patterns and behaviors.

Many antidepressants are available; those used most often for people with cancer belong to a class known as selective serotonin reuptake inhibitors (SSRIs). These drugs include fluoxetine (Prozac), paroxetine (Paxil), and sertraline (Zoloft), among others. There are also newer antidepressants, known as SNRIs, that have some effectiveness in treating pain, such as duloxetine (Cymbalta). Each antidepressant drug has different potential side effects, which can usually be managed by adjusting the dose or switching the medication. Your doctor will work with you to find the antidepressant that works best for you with minimal side effects. Antidepressants do not take effect right away; SSRIs take about two to four weeks to become effective, and others may take longer.

BOOST YOUR MENTAL HEALTH

Emotional distress can make your pain seem more severe. Maintaining your physical health can help boost your mental health, making it easier to cope with pain as you seek options for better pain management. An



BOOST YOUR MENTAL HEALTH

» Improve your mental health by incorporating any of the following activities into each day.

- ▶ Exercise (walk, do yoga, swim, dance)
- ▶ Pace your activity and learn to say “no” to things that will severely aggravate your pain
- ▶ Eat well and avoid high-calorie comfort food
- ▶ Get plenty of rest
- ▶ Socialize with friends and family members
- ▶ Spend time with pets
- ▶ Enjoy a hobby
- ▶ Meditate or perform deep-breathing exercises
- ▶ Seek out humor (watch a comedy or pick up a funny book)
- ▶ Write in a journal or keep a diary
- ▶ Join a support group
- ▶ Unclutter your life

adequate amount of sleep, regular exercise, healthy eating and effective stress management can help you feel better both physically and emotionally. Explore ways to boost your mental health to find the ones that best meet your needs.

SEEK PROFESSIONAL HELP

Many people with cancer avoid talking about the emotional effects of cancer and pain because of the stigma attached to depression and other mental health problems. But you must be emotionally healthy in order to better cope with all of your cancer-related issues, including finding appropriate pain management. Do not be afraid or embarrassed to talk to your doctor or another member of your cancer treatment team about a referral to a mental health specialist who has experience working with people with cancer. ■

ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** www.cancer.org
Emotional Side Effects
- ▶ **Cancer Support Community:**
www.cancersupportcommunity.org
Emotional Support for Cancer
- ▶ **National Cancer Institute:** www.cancer.gov
Feelings and Cancer

PAIN MEDICATIONS

▲ **One of the most common ways** to alleviate pain is to take over-the-counter and doctor-prescribed medications, a practice known as pharmacotherapy. Oral pain medication is usually the first step in relieving pain, and your doctor will most likely start with weak pain medications and switch to stronger medications if your pain is unrelieved. This stepped process is known as the analgesic ladder (see Figure 1). Your doctor and you will decide how to best manage your pain, using the analgesic ladder as a guide.

TYPES OF PAIN MEDICATION

Mild pain can often be controlled with over-the-counter pain relievers, whereas more severe pain will likely require stronger medications that must be prescribed by your doctor. Newer strong pain medications are now available to be given in a variety of ways and include the following:

- A pill or tablet taken orally (by mouth)
- A pill or spray taken sublingually (under the tongue)
- A tablet held in the buccal mucosa (inside the cheek)
- A cream or spray applied topically (applied to the skin)
- Transdermal (applied to the skin)

The most commonly used medications for pain include:

■ **Non-steroidal anti-inflammatory drugs (NSAIDs) or Non-opioid analgesics** – mostly available over the counter, these medications are intended to relieve mild-to-moderate pain. These drugs include aspirin, ibuprofen (Advil, Motrin), and acetaminophen (Tylenol).

■ **Opioid analgesics or pain relievers** – prescribed by doctors to relieve moderate-to-severe pain. Examples include codeine, oxycodone (OxyContin and Roxicodone), hydromorphone (Dilaudid), methadone (Dolophine), morphine, Tapentadol (Nucynta), fentanyl (Duragesic [transdermal patch], Onsolis [buccal tablet]), oxymorphone, and buprenorphine (Butrans).

■ **Adjuvant analgesics** – medications designed to provide pain relief, often to treat pain related to damaged nerve cells or nerve swelling, by changing how these nerves generate pain signals. These drugs include antiseizure drugs such as gabapentin (Horizant, Neurontin), pregabalin (Lyrica) and carbamazepine (Carbatrol, Eptol, Tegretol); antidepressants such as amitriptyline, nortriptyline (Pamelor) and desipramine (Norpramin); corticosteroids such as dexamethasone (Ciprodex, Maxidex, Maxitrol); and muscle relaxants such as baclofen (Gablofen, Lioresal), cyclobenzaprine (Amrix) and metaxalone (Skelaxin).

■ **Bone-modifying agents** – drugs that are taken to help reduce pain related to bone

USE YOUR PAIN MEDICATIONS SAFELY

Make sure you know the basic information about your pain medications:

- ▶ **The dose you should take and when you should take it**
- ▶ **The time it will likely take for the medication to start working**
- ▶ **The length of time relief will last**
- ▶ **Whether to take the medication with food or other medications or supplements**
- ▶ **Other medications that may interact poorly if taken with the medication**
- ▶ **Common and/or potentially serious side effects of the drug**
- ▶ **What to do if you take too much of the medication at one time**
- ▶ **What to do if you miss a dose**
- ▶ **Whether you should keep it refrigerated**

Other safety rules for pain medication:

- ▶ **Do not mix pain medications with alcohol or illicit substances**
- ▶ **Do not share your medication with others**
- ▶ **Keep your medication in a secure location, preferably in a locked box**
- ▶ **Make sure you understand whether you should drive or operate machinery while taking the drug**
- ▶ **Know whom to call if you have questions or concerns**

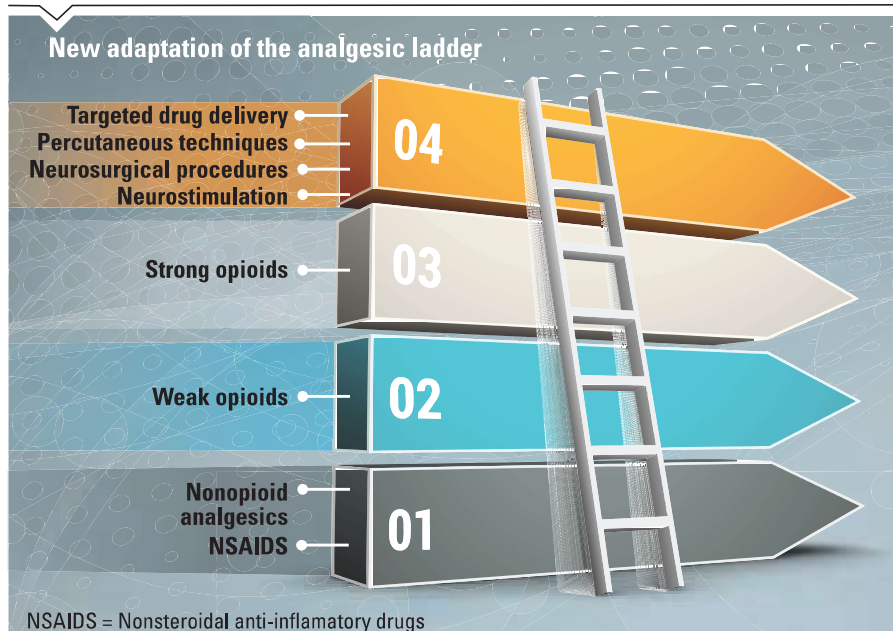
complications from metastatic cancer. Some examples are zoledronic acid (Zometa), pamidronate (Aredia) and denosumab (Prolia or Xgeva).

TAKING YOUR PAIN MEDICATION

Pain medication is much more effective when it is taken at regular intervals; a long-acting medication is usually given for this purpose. In this way, you can “stay ahead” of the pain. The most important way you can help ensure the maximal effectiveness of your pain medication is to take your pain medication at the specific intervals your doctor prescribes. Your doctor should also tell you how to manage breakthrough pain (see pyramid, page 7), which is pain that suddenly peaks above baseline pain for a variety of reasons.

You can also help ensure that your pain medication is effective by keeping track of your pain level and how well and for how long your medication is working. For example, tell your doctor if your pain medication is not relieving your pain adequately or if there is a prolonged period of time before pain is relieved. Your doctor may decide that you need a different dose of the pain medication, a different pain

FIGURE 1
PAIN RELIEF LADDER



medication or a combination of medications, including adjuvant medications.

Some people with cancer-related pain find it helpful to keep a pain diary. With a pain diary, you can keep track of the details of your pain, such as the following:

- Words that describe the pain (aching, burning)
- Name, dose and time you take your pain medication
- Your pain rating (on a scale of zero to ten) at various times during the day, especially after you have taken pain medication
- How long the pain medication works
- When you use other pain-relief methods (such as relaxation techniques, distraction or imagery)
- Side effects you have from the medication

SAFETY IS KEY

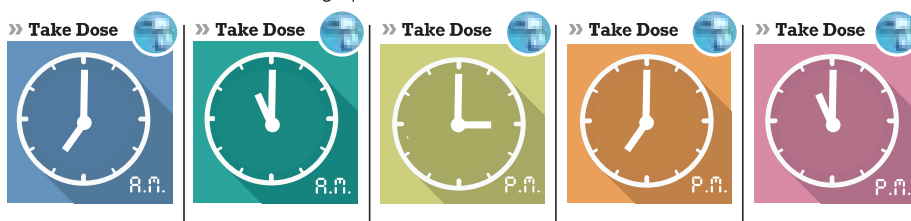
Most pain medications are very strong, and while taking them to manage cancer-related pain is safe, there are important steps to making sure you, as well as your family and friends, stay safe. When discussing pain medications with your doctor, be sure to tell him or her about other medications you take (including over-the-counter drugs and supplements) and any allergies and other conditions you have (for example, high blood pressure or diabetes). Your doctor needs to know



COMBATTING PAIN

AROUND-THE-CLOCK DOSING

Pain medication is much more effective when it is taken at regular intervals around-the-clock rather than when you have pain. Around-the-clock dosing can help you “stay ahead” of pain. Take your pain medication exactly as your doctor prescribes. Make sure to discuss with your doctor how to handle breakthrough pain.



these facts to avoid prescribing a medication that may be harmful to you.

“Telling your doctor about pain is the first step to a good quality of life.”

For every prescription medication approved by the FDA, a package insert must accompany the medication. Your doctor, nurse or pharmacist should explain your medications to you and answer any questions you have. Make sure you know the basic information about your medications and how to ensure safety.

SIDE EFFECTS TO EXPECT

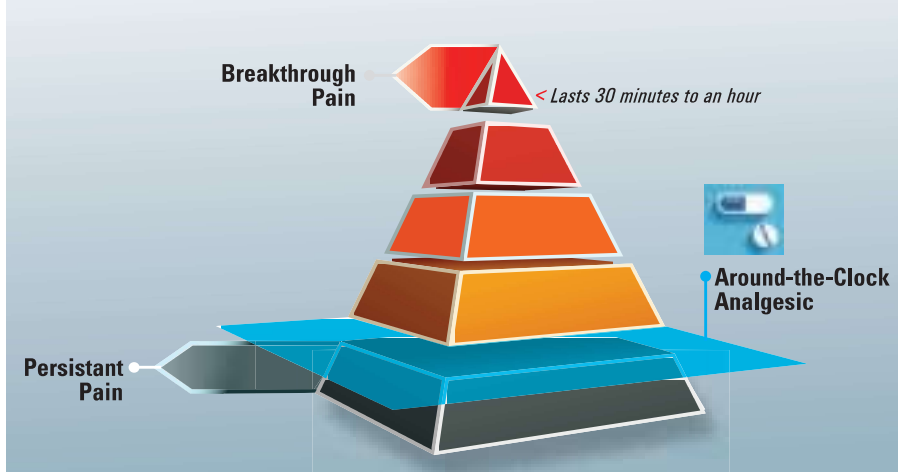
Every treatment has possible side effects, but

each person’s reaction to a medication is different. Side effects do not occur in every person, and some side effects may be more severe in some people and mild in others. When a pain medication is prescribed for you, ask your doctor, nurse or pharmacist as many questions as needed until you understand the drug you’ll be taking and what the side effects may be.

There are easy ways to manage most of the side effects associated with pain medication. Constipation is one of the most common side effects of opioids. Because of this, most people who are prescribed opioids are encouraged to take a laxative to help alleviate constipation. Nausea, vomiting or confusion may occur in some people when they first start taking a medication, but these side effects usually ease once the person’s body adjusts to the medication. In addition, your doctor can prescribe medications to relieve some side effects.

TREATING BREAKTHROUGH PAIN

Breakthrough pain comes on suddenly during regular treatment with pain medication. This can be spontaneous for no apparent reason or provoked by movement or other factors. Be sure to tell your doctor if you have breakthrough pain so that he or she can prescribe specific treatment. Most pain medication is long-acting, but breakthrough pain requires a short-acting drug that works quickly. These drugs are often called “rescue medications.” The most common medications used for breakthrough pain include morphine, oxycodone, hydromorphone and fentanyl. Fentanyl is unique in that it comes in three forms: a sublingual spray (Subsys), a sublingual tablet (Abstral) and a nasal spray (Lozanda). Unlike regular pain medication, medication for breakthrough pain is taken as needed, as soon as pain begins; don’t try to “wait it out” because it can become worse and more difficult to manage. Be sure to tell your doctor if you have breakthrough pain more than four times a day, if the breakthrough pain is getting worse, or if the breakthrough medication does not relieve the pain.



OPEN COMMUNICATION

Effectively managing pain relies on open communication between you and your doctor. Some people hesitate to tell their doctor about pain because they don’t want to seem as if they’re complaining. Telling your doctor about pain is not complaining — it is the first step in getting what you need to feel comfortable with a good quality of life.

If you are taking strong pain medications and your pain is still unrelieved or you cannot tolerate the side effects, ask your doctor about seeing a pain specialist who can discuss other options, including interventional approaches. ■

ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** www.cancer.org
Guide to Controlling Cancer Pain
Daily Pain Diary
- ▶ **American Society of Clinical Oncology:** www.cancer.net
Pain: Treating Pain with Medication
- ▶ **National Cancer Institute:** www.cancer.gov
Cancer Pain

NEEDLE PROCEDURES TO BLOCK PAIN

▲ **Procedures that are predominantly** done through small entries into the skin, usually with a thin needle rather than through open surgery, are referred to as percutaneous techniques. These techniques are performed by an interventional radiologist, a pain physician or another interventionalist, doctors who specialize in these minimally invasive techniques that use imaging (X-rays, ultrasound and computed tomography [CT]).

Percutaneous techniques for pain management have provided pain relief for many patients with cancer-related pain. Often, pain relief is immediate. An important advantage is that these techniques are usually done in an outpatient setting, and patients can go home shortly after the procedure.

Percutaneous pain techniques include:

- **Nerve blocks**
- **Ablative (removing of body tissue) procedures**
- **Vertebroplasty/kyphoplasty or cementoplasty** (filling the bones of the spine with cement to stabilize them and/or reduce pain)

NERVE BLOCKS

With a nerve block, a local anesthetic, usually with steroids, is injected around the nerve that travels to the painful area. The drugs stop the nerve from sending pain signals to the brain. The doctor will inject a

» PATIENT AMBASSADOR

“ I chose a percutaneous cordotomy — turning off the pain fibers in my spinal cord using a small electrode — to try to relieve my pain. The procedure was easy, and the pain was instantly gone! Now I can get up and take care of myself. I can walk around and don’t need any pain medications. I couldn’t have asked for a better result. ”



~Steve

small amount of a local anesthetic to numb the skin so there will be no pain where the needle is injected. Imaging helps the doctor insert the needle precisely. Before the nerve block procedure starts, a sedative may be given to help the patient become calm and relaxed, but oftentimes this is not required.

There are different types of nerve blocks, and they are named after the nerves that are treated. As described in more detail below, the common nerves that are blocked to treat cancer-related pain are the celiac plexus, the superior hypogastric plexus, and the lumbar and intercostal nerves, but many other nerves may be targeted, depending on the location of pain.

A celiac plexus neurolysis (interruption of the nerves) is usually done for people who have pain related to pancreatic cancer, as well as cancer of the bile duct, stomach or

liver (see Figure 2). The superior hypogastric plexus is a web of nerves that travel to the pelvis. A nerve block in this location is usually done for pain related to advanced cervical, colorectal, prostate or testicular cancer. An intercostal nerve block is done to relieve pain in the upper chest or upper abdomen related to mastectomy or metastatic cancer to the ribs. Lumbar blocks (see Figure 1) or central epidurals are often done for patients with metastases to the spine with involvement of the nerves.

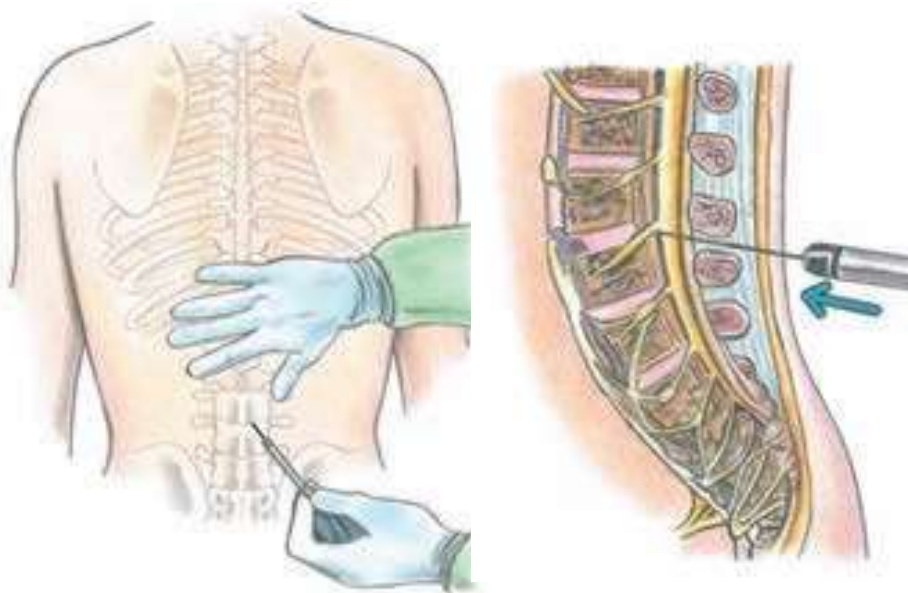
Many people with cancer-related pain have benefited from nerve blocks and have been able to reduce their oral pain medications. The length of time pain is relieved varies, but is usually a few months. Because the procedure is minimally invasive, the risks are relatively low, and the patient may be able to resume normal activities within a few days.

ABLATIVE PROCEDURES

Ablative procedures kill painful tumor cells and can also be done with percutaneous techniques. With these procedures, heat, cold or a chemical solution is delivered through a thin needle to kill tumor cells causing bone pain, with the spine and the pelvis being the most common locations. Ablation with heat is radiofrequency ablation, or RFA; ablation with cold is cryoablation. Chemicals injected for ablation include highly concentrated alcohol or phenol.

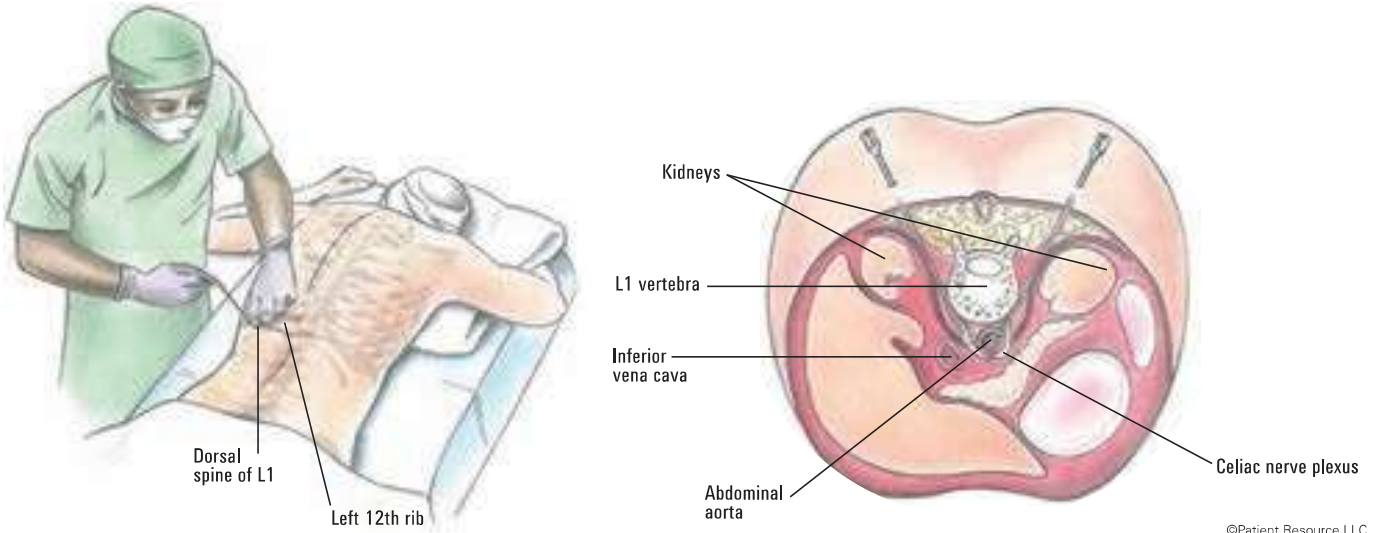
As with other percutaneous techniques, the risk of side effects and complications is relatively low, and people can resume their usual activities within a few days. Ablative procedures have been effective in significantly reducing bone pain from metastatic disease and abdominal pain from cancer in the internal organs, with long-term pain relief reported. The procedure may be repeated, if necessary.

FIGURE 1
▲ LUMBAR NERVE BLOCK



©Patient Resource LLC

FIGURE 2
CELIAC PLEXUS BLOCK



VERTEBROPLASTY/KYPHOPLASTY AND CEMENTOPLASTY

Percutaneous techniques are used in vertebroplasty/kyphoplasty, two procedures done to treat pain related to compression fractures of the spine caused by metastases. With vertebroplasty, bone cement is injected into the vertebral body (a bone segment of the spine) (see Figure 3). Sometimes, kyphoplasty is also done before vertebroplasty — this procedure involves placing a small balloon into the vertebral body and then inflating and deflating the balloon to create a cavity. This process can help to restore height to the vertebral body. When the bone cement hardens, it prevents further collapse of the vertebra, stabilizes the fracture, re-

» PATIENT AMBASSADOR

My family and friends could not believe the difference in my physical and emotional state since the pain pump was placed. With a device as simple as this, cancer patients and others in pain can extend and improve quality of life.

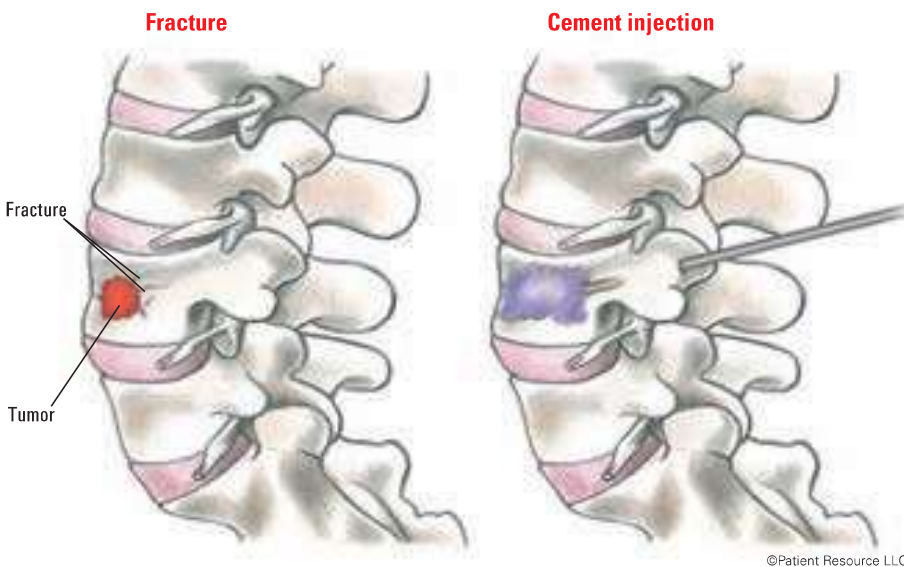


~Karen

stores mobility and, in turn, relieves pain. As with other percutaneous techniques, the procedure is done with imaging guidance to ensure that the injection is precise. The risk of complications is low, and patients usually go home the same day.

Vertebroplasty, with or without kyphoplasty provides pain relief for most patients with cancer who have compression fracture of the spine. Often, back pain is relieved in just hours after the procedure. Cementoplasty involves putting cement in other bones fractured from cancer mostly in the pelvic bones for pain relief and fracture stabilization.

FIGURE 3
VERTEBROPLASTY



DECIDING ON AN OPTION

Many patients who have cancer-related pain can benefit from a percutaneous technique, but it is important to talk to your doctor about the benefits and risks of each procedure and if it's the right procedure for your type of pain. If one of these procedures is not right for you, other options are available. ■

ADDITIONAL RESOURCES

- ▶ **American Society of Regional Anesthesia and Pain Medicine:** www.asra.com
Pain Relief After Surgery
- ▶ **International Association for the Study of Pain:** www.iasp-pain.org
Search Fact Sheets – April 1, 2014, then Vertebroplasty and Kyphoplasty for Cancer Pain

TARGETED DRUG DELIVERY

▲ **If you cannot find pain relief with other routes of pain medication** (oral, intravenous, etc.) or you have side effects that you cannot tolerate, targeted drug delivery may be an option. A targeted drug delivery system consists of a small pump and a catheter that delivers pain medication directly to the intrathecal space or the fluid surrounding the spinal cord (see Figure 1). The system has been shown to be safe and effective and can be used for patients at all stages of the care continuum, especially during end-of-life care.

HOW THE PROCEDURE IS DONE

A screening test, or trial, may be done before the procedure to help ensure that targeted drug delivery is a good choice for you. The trial may allow you to experience how the drug delivery system will control your pain and will enable your doctor to determine how much and what kind of medication you will need. The screening test usually takes place in a hospital or surgical center.

If the trial is successful, a surgeon will perform a minimally invasive surgery to implant the drug pump, often in the abdominal wall. The pump is about three inches in diameter, the size of a hockey puck, but thinner. A catheter (a thin, flexible tube) is inserted into the spinal fluid in the intrathecal space and is then connected to the pump under the skin. The surgery typically takes less than an hour, and patients can usually go home the same day or the next day and return to normal activities within a few days. The pump has an internal battery that allows it to work for about five to ten years. It is filled with medicine and will need to be refilled during

a short office procedure, usually every one to three months.

HOW THE SYSTEM WORKS

Targeted drugs, delivered directly to the spinal fluid, act on pain receptors in the spinal cord. Because these drugs do not need to diffuse throughout the whole body before arriving at their targets in the brain and spinal cord, better pain control can be achieved at much lower drug doses. And lower doses mean fewer side effects.

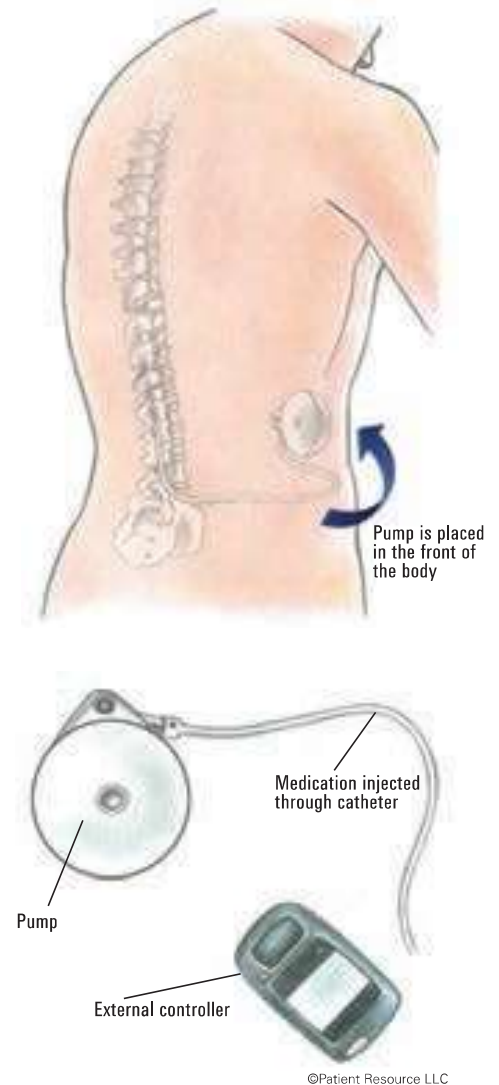
A member of your treatment team will use a needle to fill the pump with pain medication and will program the pump to automatically send a constant and specific dose of the medication through the catheter, providing relief. The pump can be refilled as necessary and the drug can be changed or the dose can be adjusted to find the combination that best manages your pain. Some targeted drug delivery systems include a hand-held device that allows you to push a button to receive an extra dose of medication to manage breakthrough pain. Even if this device is included, your doctor will set a limit on how much medication can be delivered and over what period of time.

If you or your doctor decide at any time that targeted drug delivery is not effective or is not the right choice for you, the system can be removed.

POSSIBLE BENEFITS AND RISKS

Targeted drug delivery is a powerful tool for managing pain that has not responded to other approaches. Patients with a targeted drug delivery system are less likely to need emergency department care or hospitalization for pain management. And they are more likely to be able to carry out normal activities with an improved quality of life. In addition, the common side effects of strong pain medica-

FIGURE 1
▲ TARGETED DRUG DELIVERY



tions, such as lethargy, loss of appetite, nausea and constipation, can be avoided.

These benefits come with some potential risks. Because surgery is needed to implant the system, you will need anesthesia for the procedure. The normal risks of surgery, including infection and bleeding, are possible.

Be sure to discuss the possible risks and benefits with your doctor when making a decision about a targeted drug delivery system. If this system is not an option or is not effective for you, other interventional approaches are also available. ■

» PATIENT AMBASSADOR

I had a pump implanted that delivers medications directly to my spinal fluid and spinal cord. Since the pump was placed, I am off almost all pain pills. I thought pumps were only for those who were on their last leg. I don't think that way now. I am very pleased with the way it controls my pain and am very glad I got it.



~Wilella

ADDITIONAL RESOURCES

- ▶ **American Cancer Society Treat the Pain:** www.treatthepain.org
- ▶ **Flowonix:** www.flowonix.com
- ▶ **Medtronic:** www.medtronic.com/patients/cancer/device/index.htm
- ▶ **Tame the Pain:** www.tamethepain.com

QUALITY OF LIFE

▲ **There are times when a traditional cancer-fighting treatment** may be used to shrink a tumor simply in order to improve a person's quality of life. Radiation therapy, chemotherapy and surgery can be done in such instances to relieve or control cancer-related pain or other symptoms. This treatment is referred to as palliative.

RADIATION THERAPY

Palliative radiation therapy is effective for treating chronic cancer-related pain that has not been relieved by other methods. Palliative radiation therapy is most often used for two different reasons:

- **Pain related to growth of a tumor** – radiation is delivered to shrink a tumor that may be causing painful or disturbing symptoms.
- **Pain related to spread of cancer to the bone** – radiation is delivered to an area of the bone damaged by cancer to help relieve bone pain.

External-beam radiation therapy is the type of radiation most commonly used to treat cancer that has spread. With external-beam radiation therapy, high-energy X-rays are used to deliver radiation from a source outside the body. Another type of radiation therapy used for palliation is internal, with radiation delivered directly to a tumor through either radioactive medications (known as radiopharmaceuticals) or small radioactive

beads. Radiopharmaceuticals travel through the body and target cancer that has spread to the bones. Radioactive beads are implanted in a tumor and are used more commonly in the setting of curative treatment.

Radiation therapy may cause a skin reaction in the area being treated. The skin may absorb small amounts of radiation, causing redness and irritation similar to that with a mild sunburn. These reactions are usually minor and will resolve on their own after treatment. Your doctor can prescribe a cream if the reaction is more severe. Other possible side effects relate to the body part being treated.

CHEMOTHERAPY

Some of the same chemotherapy drugs that are used to treat cancer are used with palliative chemotherapy. Palliative chemotherapy is usually given intravenously (through a vein in your arm) but may be given by mouth. The reason for using palliative chemotherapy is similar to that for palliative radiation therapy. Sometimes, by treating the growth and/or spread of the tumor, symptoms such as pain can improve.

It may take time for chemotherapy to shrink the tumor enough to relieve pain. In addition, as with all treatments, some potential risks should also be considered when thinking about palliative chemotherapy. Chemotherapy can cause side effects that can include nausea, vomiting and diarrhea. Talk to your doctor about the risks and benefits of chemotherapy drugs so you can help make a decision about whether this option is best for you.

SURGERY

Your doctor may suggest palliative surgery to help manage your pain. Palliative surgery may be done to:

- Remove a tumor or part of a tumor that is causing pain because of where it is located.
- Repair an organ or tissues damaged by cancer.
- Prevent further damage, such as stabilizing the spine.

The risks of any surgical procedure include infection, internal bleeding, blood clots and interference with other organs. But these risks are rare with palliative surgery. Your doctor will select a surgical procedure that is the least invasive as possible. For example, some procedures can be done with an endoscope (a small instrument through which a camera and surgical instruments can be passed). Endoscopic surgery involves the use of smaller incisions than conventional surgery (open surgery), so recovery time may be shorter.

UNDERSTANDING THE GOAL

When palliative radiation therapy, chemotherapy or surgery is done for advanced cancer, it cannot cure the cancer. It is important to remember this so that you and your caregivers do not have unrealistic expectations. These palliative methods may not be right for every person with cancer, but they may be beneficial in controlling pain and other symptoms, and they may be right for you.

CONSIDERING THE OPTIONS

Radiation therapy, chemotherapy and surgery can affect your quality of life and have risks as well as benefits. It is essential that you talk with your doctor openly about what you can expect from one of these options. Don't be afraid to ask questions (see list at left). It's important for you to know if the benefits will outweigh the risks. If one of these palliative methods is not an option, ask your doctor about other approaches to controlling your symptoms. ■



QUESTIONS TO ASK YOUR MEDICAL TEAM

PALLIATIVE RADIATION THERAPY

- ▶ **How likely is it that the radiation will shrink the tumor causing my pain? If the tumor does shrink, how long will it be before it starts to grow again?**
- ▶ **How many radiation treatments will I need?**
- ▶ **What side effects can I expect from the radiation?**

PALLIATIVE CHEMOTHERAPY

- ▶ **How likely is it that chemotherapy will shrink the tumor causing pain? If the tumor does shrink, how long will it be before it starts to grow again?**
- ▶ **How long will treatment last?**
- ▶ **What side effects can I expect from the chemotherapy drug?**

PALLIATIVE SURGERY

- ▶ **How complicated is the surgery?**
- ▶ **How long will my recovery be?**
- ▶ **What risks are associated with this type of surgery?**



ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** www.cancer.org
Radiation Therapy for Advanced Cancer
- ▶ **Get Palliative Care:**
www.getpalliativecare.org
What is Palliative Chemotherapy?

NEUROSURGICAL OPTIONS

▲ **Neurosurgical options are** procedures designed to stop pain at its source by modifying specific brain and spinal cord fibers that carry pain signals. These procedures are performed by a neurosurgeon, a specialist in surgery on the brain and other parts of the nervous system, including the spinal cord, who has expertise in treating pain. Neurosurgical options can include stimulating various components of the nervous system (neurostimulation) and neuroablation, in which the nerve fibers that carry pain are interrupted.

NEUROSTIMULATION

Neurostimulation is used most often for pain related to damaged nerves, including treatment-related peripheral neuropathy. This approach can offer important benefits to people with this type of pain, including improved quality of life, the need for less pain medication, the ability to stand or walk for longer periods without pain and the ability to carry out activities that were once painful.

How it works

During a neurostimulation procedure, the neurosurgeon implants a small device, about the size of a pacemaker, with a thin wire (known as a “lead”) that is inserted through a needle and placed near the spinal cord (see

Figure 1). The device will send low-voltage electricity through the lead to interrupt pain signals before they reach the brain. The pain signal may be replaced with a light tingling sensation that has a soothing feeling over the specific area where pain used to be felt.

How the procedure is done

Because some people are not helped by neurostimulation, the procedure is first done on a temporary basis to make sure that it is a good option. The person lives with the implanted device for about a week; if the device is effective at controlling pain, a “permanent” device is implanted (although it is possible to remove it, if needed).

The procedure is considered to be minor; it is minimally invasive and is usually done on an outpatient basis, which means recovery time is short. The device usually does not interfere with any recreational activities, even swimming. The battery has a long life and will probably not need to be replaced for many years. The device can be turned off or surgically removed if it does not help or if it is no longer needed.

Possible risks

As with all surgical procedures, there are risks associated with a neurostimulation procedure, but most of them are minor. Some of these possible risks include bleeding; infection; and pain, weakness or numbness in the area of the incision site.

Over time, scar tissue may form around the

TIP | FROM OUR ADVISORY BOARD



▲ Dr. William S. Rosenberg

“A doctor who specializes in cancer pain can focus on managing that aspect of care, allowing the oncologist to focus on the many other important considerations in treating the cancer.”

leads or the lead may move, which can affect how the stimulation feels. Also, neurostimulation may be effective initially, but subsequently become less effective after a year or two.

Weighing these potential risks against the possible benefits is important, and you and your doctor will decide if the procedure is the best option for you.

NEUROABLATION

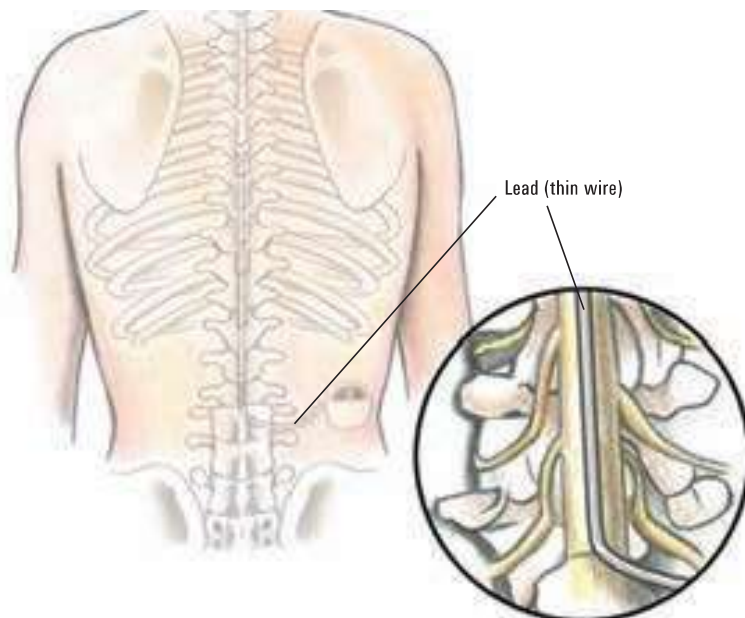
Neuroablation (or the interruption of nerve fibers carrying pain signals) was once considered to be a last resort for controlling pain because, unlike medications, targeted drug delivery (see page 10) and neurostimulation, it is irreversible. However, recent medical innovations have opened up many more neuroablation options for relieving pain that can be done at different times during the cancer journey. Thanks to advances in techniques and instruments, these cutting-edge procedures can often be done safely with percutaneous techniques and a local anesthetic, so they are minimally invasive and patients can return to daily activities shortly after the procedure. Even in cases that require open surgical procedure, only a day or two in the hospital may be necessary.

“I’ve had patients fly in from Boston and fly back the next day,” says Dr. William S. Rosenberg, a neurosurgeon in Kansas City, Missouri. “Of all the procedures we do, this type of treatment really suits people who are suffering from pain during their cancer journey. Often, without an incision to heal or a major invasive procedure, we do not have to interrupt chemotherapy or radiation therapy, and excellent pain relief can be achieved while the patient continues those important treatments.”

How it works

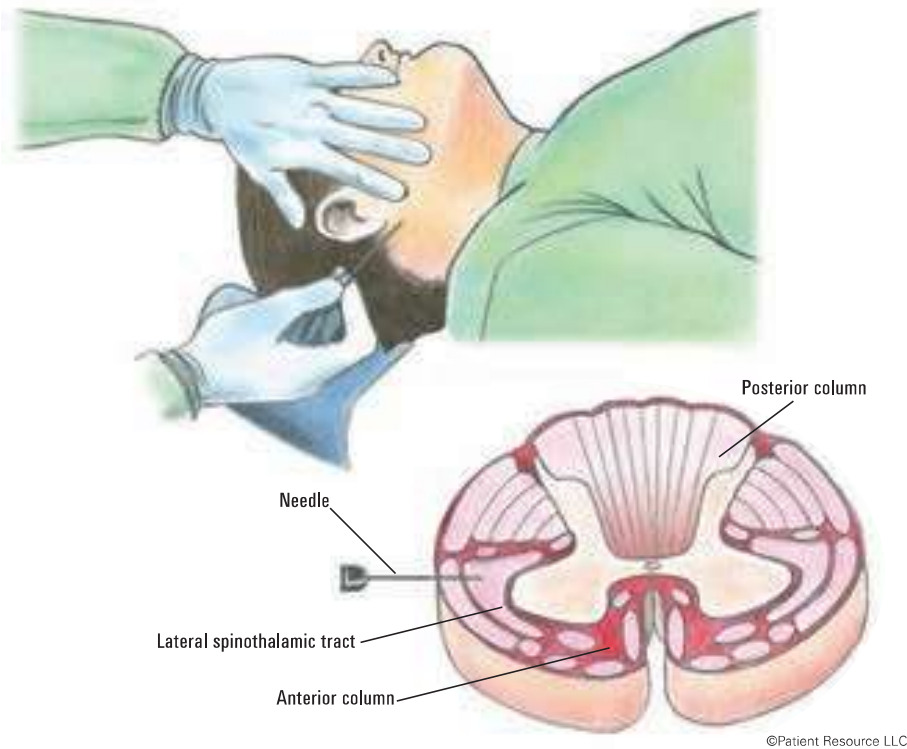
Neuroablation procedures work to interrupt certain pain pathways in the brain or spinal cord to achieve pain control. The pathway targeted depends on the type and location of the pain. When you consult with a neurosurgeon with expertise in pain management, he

▲ FIGURE 1
NEUROSTIMULATION



©Patient Resource LLC

FIGURE 2
CORDOTOMY



or she will ask you questions about your pain and your overall health to determine if one of these procedures is right for you.

How the procedure is done

Neuroablation is now primarily done with percutaneous techniques (using a needle through the skin) and imaging (computed tomography, or CT) to help the neurosurgeon identify the precise location of the targeted nerve fibers (see Figure 3). The patient is sedated to be comfortable during the procedure, but is awake so that the neurosurgeon can ask the patient what he or she feels when different areas of the nerve are stimu-

lated. These questions help ensure that the precise nerve fibers are identified. Once the needle is in the right position, a very small electrode is inserted through it and is used to heat the needle tip, which destroys fibers that carry pain signals.

These neuroablation procedures are usually short, sometimes taking only 15 to 30 minutes, and the patient typically requires hospital observation for less than 24 hours. Often the patient can go home the same day. The risk of complications is low. Because the nerve fibers are destroyed, the procedure is permanent. Pain relief is often immediate, although it is possible that it requires some time to take effect. Pain control can range from several months to years or longer, allowing patients to reduce the amount of pain medication they take and to enjoy more activities with a better quality of life.

FIGURE 3
NEUROABLATION



CORDOTOMY

Cordotomy is done to manage pain that is on one side of the body, at or below the shoulder, and the procedure sometimes achieves complete pain relief (see Figure 2). Even if there are other areas of pain, if one of those painful areas is causing a significant problem and is entirely on one side of the body, cordotomy may be considered. Usually, no other function is affected by the procedure, other than perceiving pain (and sometimes hot and cold). On occasion, the patient reports an “odd” sensation in the treated area that is not painful and usually resolves in a few days or weeks. After the procedure, patients can usually go home after a few hours of observation in the hospital.

MYELOTOMY

Myelotomy is done to disconnect the nerve fibers within the spinal cord that carry pain information from the organs of the abdomen and pelvis, as well as the sacrum (base of the spine). This procedure can be of benefit to people with pain from cancer in the pancreas, liver or ovaries, as well as pain in the rectal, vaginal or perineal area. Side effects are uncommon and can include unsteadiness when walking, urinary retention and leakage of spinal fluid. If these occur, they usually resolve over a few days or weeks.

RADIOSURGICAL HYPOPHYSECTOMY

With radiosurgical hypophysectomy, radiation is used to target the pituitary gland, which is located in the middle of the head, behind the nose. Although the mechanism of action remains unknown, for many years, ablation of the pituitary gland has been effective in relieving pain related to a tumor that has spread (metastasized) to bone. The most common side effects are fatigue for a week or two and, rarely, hormonal changes that can require additional medication. Pain relief has been almost immediate in most patients. ■

ADDITIONAL RESOURCES

▶ **Center for the Relief of Pain**

<http://centerforthereliefofpain.org/neurosurgical-procedures-palliative-care/cordotomy-brochure>

Cordotomy Brochure

<http://centerforthereliefofpain.org/neurosurgical-procedures-palliative-care/myelotomy-brochure>

Myelotomy Brochure

▶ **Medtronic:** www.medtronic.com/patients

What is a Neurostimulator?

▶ **St. Jude Medical, Power Over Your Pain:** www.poweroveryourpain.com

How Does Neurostimulation Work?

INTEGRATIVE ONCOLOGY APPROACHES

▲ **Integrative oncology addresses** symptom control with therapies other than pain medications or procedures. These therapies historically have not been part of mainstream Western medicine. They belong to a group of therapies called complementary and alternative therapies, which are used by as many as 40 percent of people with cancer. However, it is essential to understand the difference between “complementary” and “alternative.” Complementary therapies are used to control symptoms and are used in combination with traditional cancer treatments; in contrast, alternative therapies are used instead of traditional cancer treatment, with the hope that they will cure the disease. Integrative oncology includes only complementary therapies that studies have shown to be beneficial and safe. It does not include alternative therapies.

The most commonly used integrative therapies for cancer-related pain include mind-body therapies, acupuncture, and manipulative and body-based therapies.

MIND-BODY THERAPIES

The mind-body connection is real and can be powerful. With mind-body therapies, the brain, mind and body interact to promote health and well-being. These therapies have been found to be beneficial for people with cancer by improving quality of life, which can help reduce feelings of pain. Mind-body

therapies include mindfulness meditation, guided imagery, yoga, tai chi and qigong.

ACUPUNCTURE

Acupuncture is the Chinese art of placing special needles in certain parts of the body; sometimes heat or electric pulses are applied to the needles. Studies have shown that acupuncture is effective in reducing pain in some people with cancer, and the therapy is generally safe.

MANIPULATIVE AND BODY-BASED THERAPIES

Manipulative and body-based therapies include massage therapies of various techniques, such as Swedish massage, shiatsu, tui na, reflexology, Ayurvedic massage, lymphatic drainage and myofascial release (see Table 1). These therapies, especially Swedish massage and reflexology, have reduced pain in people with cancer when used as one part of a pain management plan.

CHOOSE THERAPIES WISELY

Complementary therapies are safe when they are provided by certified and/or licensed professionals who have experience working with people who have cancer. Talk to your doctor or another member of your treatment team for a referral to a reputable professional.

Beware of advertisements for diets or supplements that claim to help cure your cancer or relieve your cancer-related pain. These products have not been subjected to the rigorous scientific study that is necessary to ensure they are safe and effective for people with cancer. Talk to your doctor or other

CHOOSING COMPLEMENTARY THERAPIES CAREFULLY

- ▶ Find out what scientific studies have been done on the safety and effectiveness of the therapy.
- ▶ Discuss the therapy with your doctor or other member of your treatment team before making a decision.
- ▶ Choose a complementary therapy practitioner as carefully as you would choose a doctor. Use only licensed and/or certified practitioners who have experience with people with cancer.
- ▶ Research dietary supplements or herbal products to make sure they do not interact with medications you take.
- ▶ Beware of terms like “scientific breakthrough,” “miracle cure,” “secret ingredient,” or “ancient remedy.”
- ▶ Consult only reputable sources of information (see Additional Resources).
- ▶ Tell your doctor about all the therapies you use.

member of your treatment team before starting any special diets or taking any vitamin or herbal supplements.

Choosing complementary therapies can help you take a more active role in your care. Many of them are also effective at reducing stress and anxiety, which can help you cope with pain. But remember the importance of choosing safe therapies (see above). In addition, remember that these therapies are best used in combination with an established treatment plan, not instead of traditional treatment. ■

TABLE 1

TYPES OF MESSAGES

Massage type	Description
Ayurvedic massage	The entire body is vigorously massaged with large amounts of warm oil and herbs.
Lymph drainage therapy	An extremity with lymphedema is massaged to move excess fluid toward alternative pathways for drainage.
Myofascial release	Pressure is applied to areas in the foot, hands and ears that correspond to other parts of the body.
Shiatsu	Pressure is applied with the finger, thumb, palm, elbow or knee to specific areas of the body.
Swedish massage	Massage given with a combination of kneading, rolling, vibrational, percussive and tapping movements, with the application of oil.
Tui na	Massage given with pressing, rubbing, waving, shaking, percussion or manipulation; can be applied to be light and soothing or strong and invigorating.

ADDITIONAL RESOURCES

- ▶ **American Cancer Society:** [www.cancer.org/Complementary and Alternative Methods and Cancer](http://www.cancer.org/Complementary_and_Alternative_Methods_and_Cancer)
- ▶ **American Tai Chi and Qigong Association:** www.americantaichi.org
- ▶ **Associated Bodywork & Massage Professionals:** www.massagetherapy.com/glossary/index.php
- ▶ **National Cancer Institute:** www.cancer.gov/about-cancer/treatment/cam
- ▶ **National Certification Commission for Acupuncture and Oriental Medicine:** www.nccaom.org
- ▶ **National Institutes of Health, Office of Dietary Supplements:** <http://ods.od.nih.gov>
- ▶ **Office of Cancer Complementary and Alternative Medicine (National Cancer Institute):** http://cam.cancer.gov/health_patients.html
- ▶ **Society of Integrative Oncology:** <http://integrativeonc.org/patients/what-is-integrative-oncology>
- ▶ **Yoga Alliance:** www.yogaalliance.org

REHABILITATION CARE

▲ **Rehabilitation care is an** important part of overall cancer care. Health care professionals work as a team to provide rehabilitation care to help patients improve their physical strength, increase their ability to care for themselves and manage pain and other symptoms (see box). The team is led by a physiatrist, a doctor who is an expert in nerves, muscles and bones; physiatrists treat injuries and illnesses that affect how you move.

Cancer rehabilitation care is most often given after cancer treatment, but it can also be given before. When it's given before treatment, the rehabilitation team can help you build strength so that your body is better prepared

to handle treatment. This can help reduce the level of pain you experience during or after treatment. Rehabilitation care given before cancer treatment is called “pre-habilitation.”

When given after cancer treatment, the rehabilitation team will teach you exercises that will help your body recover from surgery or improve the function of muscles and tissues damaged by radiation treatment or chemotherapy. These exercises may cause some discomfort in the beginning, but over time, your body will become stronger, and this discomfort will pass. Gaining muscle strength can also help control other cancer-related pain.

GOALS OF REHABILITATION

The goal of cancer rehabilitation is to help people with cancer move more easily and with less pain. Rehabilitation care starts with

TIP | FROM OUR ADVISORY BOARD



▲ Dr. Brian Bruel

“Oncologists love and care for their patients — and feel responsible for them — but they’re focused on the cancer itself. An oncologist is like a quarterback who can delegate to a team of specialists to help those with cancer.”



THE CANCER REHABILITATION TEAM

→ **The cancer rehabilitation team can include a wide range of health care professionals who work together to help people with cancer cope with changes resulting from cancer and its treatment, with a focus on gaining physical strength and carrying out routine activities. The team members who are most often involved in care that can help reduce pain are the following.**

Physiatrist — a doctor who treats injuries and illnesses that affect how people move.

Rehabilitation nurse — a nurse who helps people with cancer improve their ability to care for themselves.

Physical therapist — a health care professional who helps patients do exercises that will improve their physical strength, their ability to move, and their balance. Physical therapists may also use ultrasound methods to help control some types of pain.

Occupational therapist — a health care professional who helps increase patients’ comfort, function and safety while do activities important to them.

Psychologist — a doctor who has expertise in the mind and behavior who can help you manage psychological distress related to cancer, including coping with pain.

Lymphedema therapist — a health care professional who helps manage the discomfort and other symptoms associated with lymphedema (a buildup of fluid in an arm or leg from damage to lymph nodes during cancer treatment).

an evaluation of how well you perform specific activities. The team will assess how well you can move and take care of daily activities. The team will also talk with you about what specific goals you have and will develop a plan to help you reach those goals. This plan will be tailored to your specific needs and goals. The team will work with you to make sure that your goals are realistic — if you set too a high a goal, you may become frustrated if you don’t achieve it, which can make you less motivated.

REHABILITATION AND PAIN MANAGEMENT

Cancer rehabilitation is focused on restoring function and movement, which will help in managing pain. For example, range-of-motion exercises not only help restore function after mastectomy, but they can help alleviate pain. In addition, physical therapists can help you learn about how applying heat and/or cold can help alleviate pain and they are also skilled in providing treatments such as electrical stimulation, hydrotherapy, traction and massage. (See page 14 to learn more about the various types of massage.)

SPEAK UP

Despite the importance of cancer rehabilitation, many patients are not referred to this valuable resource. If your doctor does not talk to you about rehabilitation, don’t be afraid to raise the issue. You deserve to have all the options available to help you get through each day with as much comfort as possible. ■

ADDITIONAL RESOURCES

- ▶ **American Academy of Physical Medicine and Rehabilitation:** www.aapmr.org
What is a Physiatrist?
- ▶ **American Society of Clinical Oncology:** www.cancer.net
Rehabilitation
- ▶ **LIVESTRONG Foundation:** www.livestrong.org
Rehabilitation After Cancer

ADVOCACY & FINANCIAL RESOURCES

CANCER EDUCATION

Academy of Oncology Nurse Navigators.....	www.aononline.org
Alex's Lemonade Stand Foundation for Childhood Cancer.....	www.alexslimonade.org
American Cancer Society.....	www.cancer.org
American Society of Clinical Oncology.....	www.cancer.net
Association of Community Cancer Centers.....	www.accc-cancer.org
CANCER101.....	www.cancer101.org
CancerCare.....	www.cancercares.org
CancerGuide.....	www.cancerguide.org
CancerQuest.....	www.cancerquest.org
Centers for Disease Control and Prevention (CDC).....	www.cdc.gov
The Gathering Place.....	www.touchedbycancer.org
GetPalliativeCare.org.....	www.getpalliativecare.org
Global Resource for Advancing Cancer Education (GRACE).....	www.cancergrace.org
The Hope Light Foundation.....	www.hopelightproject.com
LIVESTRONG Foundation.....	www.livestrong.org
National Cancer Institute.....	www.cancer.gov
National Comprehensive Cancer Network (NCCN).....	www.nccn.org
National LGBT Cancer Network.....	http://cancer-network.org
OncoLink.....	www.oncolink.org
Oncology Nursing Society.....	www.ons.org
PearlPoint Cancer Support.....	www.pearlpoint.org
Pine Street Foundation.....	www.pinestreetfoundation.org
R.A. Bloch Cancer Foundation, Inc.....	www.blochcancer.org
Scott Hamilton CARES Foundation.....	www.scottcares.org
Union for International Cancer Control.....	www.uicc.org/declaration/sign-declaration
U.S. National Library of Medicine.....	www.nlm.nih.gov
Wellness Place.....	www.wellnessplace.org

CAREGIVERS & SUPPORT

4th Angel Mentoring Program.....	www.4thangel.org
Bloch Cancer Hotline.....	800-433-0464
Buddy Kemp Cancer Support Center.....	www.novanthealth.org/home/services/cancer/support-advocacy/buddy-kemp-cancer-support-center.aspx
CanCare.....	www.cancare.org
CANCER101.....	www.cancer101.org
Cancer Action.....	www.canceractionkc.org
Cancer and Careers.....	www.cancerandcareers.org
CancerCare.....	www.cancercares.org
Cancer Connection.....	www.thecancerconnection.org
Cancer Hope Network.....	www.cancerhopenetwork.org
Cancer Information and Counseling Line.....	800-525-3777
Cancer Really Sucks!.....	www.cancerreallysucks.org
Cancer Support Community.....	www.cancersupportcommunity.org
Cancer Support Community Open to Options counseling program.....	888-793-9355
Cancer Survivors Network.....	http://csn.cancer.org
Cancer Wellness Center.....	www.cancerwellness.org
Caregiver Action Network.....	www.caregiveraction.org
CaringBridge.....	www.caringbridge.org
Center to Advance Palliative Care.....	www.capc.org
The Children's Treehouse Foundation.....	www.childrenstreehousefdn.org
Cleaning For A Reason.....	www.cleaningforareason.org
Cooking with Cancer.....	www.cookingwithcancer.org
Cuddle My Kids.....	www.cuddlemykids.org
Family Caregiver Alliance.....	www.caregiver.org
Fighting Chance.....	www.fightingchance.org
Friend for Life Cancer Support Network.....	www.friend4life.org
The Gathering Place.....	www.touchedbycancer.org
Guam Cancer Care.....	http://guamcancercares.org
Guide Posts of Strength Inc.....	www.cancergps.org
The Hope Light Foundation.....	www.hopelightproject.com
I Can Cope.....	www.cancer.org/treatment/supportprogramsservices/onlinecommunities/participateinacancereducationclass/icancopeonline
Imerman Angels.....	www.imermanangels.org
The LGBT Cancer Project - Out With Cancer.....	www.lgbtcancer.org
LIVESTRONG Foundation.....	www.livestrong.org
LivingWell Cancer Resource Center.....	www.livingwellcrc.org
Lotsa Helping Hands.....	www.lotsahelpinghands.com
MyLifeLine.org Cancer Foundation.....	www.mylifeline.org

PearlPoint Cancer Support.....	www.pearlpoint.org
Strike Out Cancer.....	www.strikeoutcancer.com
SupportGroups.com.....	www.supportgroups.com
Turning Point.....	www.turningpointkc.org
Visiting Nurse Associations of America.....	www.vnaa.org
Vital Options International.....	www.vitaloptions.org
Walk With Sally.....	www.walkwithsally.org
Well Spouse Association.....	www.wellspouse.org
Wellness Place.....	www.wellnessplace.org
weSPARK (Cancer Support Center).....	www.wespark.org
Wonders & Worries.....	www.wondersandworries.org

COMPLEMENTARY PROGRAMS & ALTERNATIVE MEDICINE

Believe Big.....	www.believebig.org
The Center for Mind-Body Medicine.....	www.cmbm.org
Kansas City Healing Touch.....	www.kansascityhealingproject.org
National Center for Complementary and Alternative Medicine.....	www.nccam.nih.gov
Office of Cancer Complementary and Alternative Medicine.....	www.cancer.gov/cam
Society for Oncology Massage.....	www.s4om.org
Stewart's Caring Place: Cancer Wellness Center.....	www.stewartscaringplace.org
Touch, Caring and Cancer.....	www.PartnersInHealing.net

FINANCIAL ASSISTANCE

American Cancer Society.....	www.cancer.org
BenefitsCheckUp.....	www.benefitscheckup.org
Bringing Hope Home.....	www.bringinghopehome.org
CancerCare.....	www.cancercares.org/financial
Cancer Financial Assistance Coalition.....	www.cancerfac.org
The CHAIN Fund.....	www.thechainfund.com
Genentech Access Solutions.....	www.genentech-access.com/patients, 866-249-4918
HealthWell Foundation.....	www.healthwellfoundation.org
Hope Lodge.....	www.cancer.org/treatment/supportprogramsservices/hopelodge/index
Medicare.....	www.medicare.gov
National Coalition for Cancer Survivorship.....	www.canceradvocacy.org/resources/health-insurance
NeedyMeds.....	www.needymeds.com
Partnership for Prescription Assistance.....	www.pparx.org
Patient Access Network Foundation.....	www.panfoundation.org
Patient Advocate Foundation.....	www.patientadvocate.org
Patient Services Inc.....	www.patientservicesinc.org
The Pins for Pauly Foundation Inc.....	www.pinsforpauly.org
RxAssist.....	www.rxassist.org
RxHope.....	www.rxhope.com
Social Security Administration.....	www.ssa.gov
The Social Security Disability Resource Center.....	www.ssdrc.com
State Health Insurance Assistance Programs.....	www.shiptacenter.org
Stupid Cancer.....	www.stupidcancer.org

MENTAL HEALTH SERVICES

American Psychosocial Oncology Society Helpline.....	866-276-7443
--	--------------

NUTRITION

American Cancer Society.....	www.cancer.org
CancerCare.....	www.cancercares.org
Food for Life Cancer Project.....	www.pcrm.org/health/cancer-resources
LIVESTRONG Foundation.....	www.livestrong.org
OncoLink.....	www.oncolink.org
PearlPoint Cancer Support.....	www.pearlpoint.org

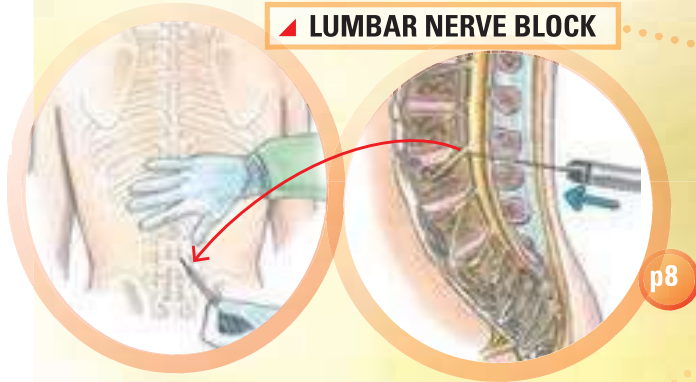
PAIN MANAGEMENT

Advanced Pain Management.....	www.apmhealth.com
American Chronic Pain Association.....	www.theacpa.org
American Pain Foundation.....	www.painfoundation.org
American Society of Regional Anesthesia and Pain Medicine.....	www.asra.com/page/46/treatment-options-for-chronic-pain
Cancer Pain Research Consortium.....	www.cancerpainresearchconsortium.org
LIVESTRONG Foundation.....	www.livestrong.org
National Cancer Institute.....	www.cancer.gov
National Coalition for Cancer Survivorship.....	www.canceradvocacy.org
National Foundation for the Treatment of Pain.....	www.nih.gov
Pain Doctor.....	https://paindoctor.com
Pallimed.....	www.pallimed.org/2014/09/the-role-of-neurosurgical-interventions.html
The Resource Center of the Alliance of State Pain Initiatives.....	www.trc.wisc.edu
U.S. Pain Foundation.....	http://uspainfoundation.org

RELIEVING CANCER-RELATED PAIN

▲ There are many options for relieving and managing cancer-related pain. Some common ways to provide relief include pain medications, rehabilitation and mind-body therapies. In addition, many other specialized techniques are shown here. Anyone struggling with cancer-related pain should discuss these with their medical team.

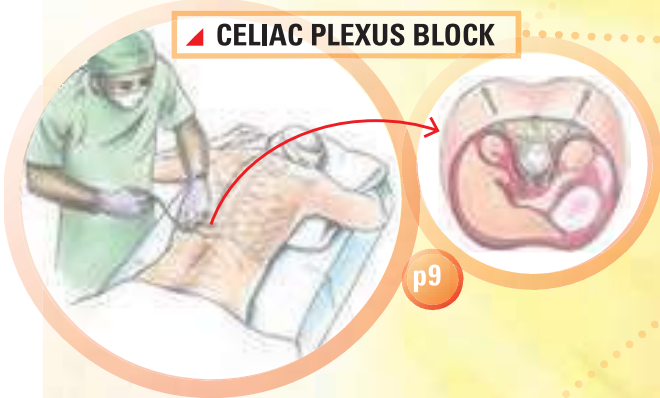
▲ LUMBAR NERVE BLOCK



▲ VERTEBROPLASTY



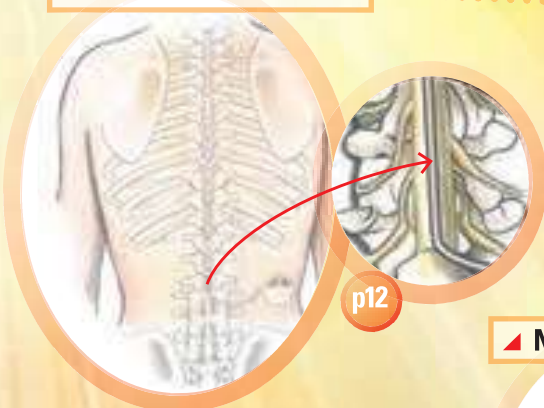
▲ CELIAC PLEXUS BLOCK



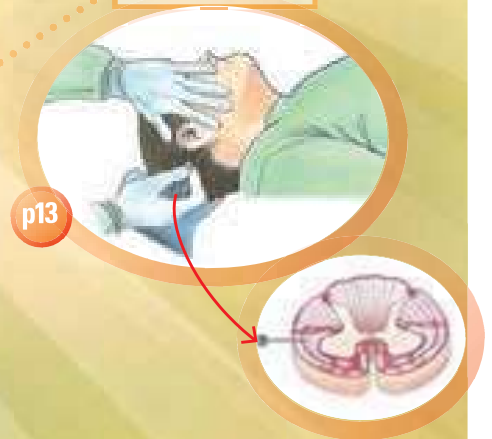
▲ TARGETED DRUG DELIVERY



▲ NEUROSTIMULATION



▲ CORDOTOMY



▲ NEUROABLATION



*This patient education guide
was produced with support from:*

