



# Pain Primer

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## What is Pain?

Pain is the sensation of discomfort, distress or agony that results from the stimulation of specialized nerve endings. Pain is the body's way of telling the brain that something is wrong. The brain receives pain "messages" via chemical neurotransmitters emitted at the injury site and traveling up through the spinal canal. Our interpretation of and response to pain is the result of the pain messages combining with emotions and mental processes.

The body has natural pain relievers, called "endorphins," which can block pain messages from reaching the brain. Chemicals and your emotional state can also affect your endorphin level, which explains why people sometimes do not experience pain or have increased feelings of pain when they are extremely angry, frightened or worried. On the other hand, positive thinking, mental imagery or deep relaxation can ease pain in some cases.

## How is Pain Treated?

Because pain is a complex combination of physical, chemical and emotional components, it often requires several approaches to successfully treat and manage it. Pain management ranges from over-the-counter and prescription medications, to non-pharmacologic medical interventions, and a host of alternative and holistic approaches.

Over-the-counter pain medications include: 1. Acetaminophen--effective for mild to moderate pain; reduces fever with no risk of developing Reye's syndrome; gentler on stomach than aspirin; 2. Aspirin--effective for pain, fever; may cause stomach irritation; 3. Non-steroidal anti-inflammatory drugs--effective for minor to moderate pain and inflammation; 4. Naproxen sodium--also effective for minor to moderate pain and inflammation; 5. Topical pain reliever creams and ointments.

Prescription pain medications include stronger non-steroidal anti-inflammatory drugs (including cyclooxygenase [COX-2] inhibitors), narcotics, antidepressants, and local and topical anesthetics. Continuous surgical-site pain relief (local anesthesia via a pain pump) involves giving a constant infusion of a local anesthetic medicine at a safe and slow flow rate directly into the surgical site. Pain relief is experienced directly at the incision site without the side effects of narcotics.

Some of the other approaches to treating pain include physical therapy, lifestyle changes, ice or cold therapy, hypnosis, holistic approaches (acupuncture, acupressure, biofeedback, cranial sacral therapy, homeopathy, hydrotherapy, massage, meditation, reflexology), chiropractics, electrical stimulation, trigger point injections, nerve blocks, epidural steroid placement, spinal cord stimulators, intrathecal

pumps and patient-controlled analgesia.

There is no one right approach to the treatment of pain for each individual. However, there is growing evidence that pain is best managed using a combination of approaches or pain relief options, also known as multimodal therapy for pain relief. This involves the use of multiple pain relief options, with or without narcotics, including analgesics from different drug classes, regional or local techniques and non-drug strategies.

### **Preemptive Analgesia/Memory of Pain**

A new concept in acute pain therapy is preemptive analgesia. This concept holds that pain can be imprinted on the nervous system increasing the response to subsequent pain and producing the sensation of continuous pain long after surgery. During surgery your body is responding and becoming more sensitized to pain even though you don't feel anything under general anesthesia. As such, the timing of surgical pain medicine is very important. One approach is to provide some type of local anesthetic in combination with general anesthetics, to numb the surgical site during surgery so you wake up with pain control already working.

See the "[Post-Surgical Pain Relief Options](#)" chart in this toolkit for more details.

### **Commonly Asked Questions**

#### **1. What is the most effective pain medication for me?**

The best medication for you is determined by your physician based on your situation and symptoms. For managing routine aches and pains, acetaminophen, aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) are helpful. For neuropathic (chronic) pain you will most likely need prescription medication. For post-surgical pain relief see the "[Post-Surgical Pain Relief Options](#)" chart in this toolkit for more details.

#### **2. Does my body have any natural pain-relieving mechanisms?**

Endorphins are chemicals in the body that affect pain by blocking the relay of pain messages to the brain. Both emotions and chemicals alter the amount of endorphins, and depending on your mood and mental state, pain messages can be slowed, strengthened or stopped entirely.

#### **3. I find it difficult to describe my pain to my health care professional, and I really want him to understand what I am going through so he can give me proper treatment. What should I do?**

There are four characteristics of pain that you should communicate to your health care professional. Try keeping a diary about the following: the pattern of the pain (how it started; when it occurs and what makes it feel better); area or location of the pain; intensity of the pain (think of a rating scale from 1 to 10); nature of the pain (what does it feel like--such as stabbing, burning, dull--and how does it make you feel--such as tired, exhausted, sick, afraid, anxious).

#### **4. I have had persistent pain for several months. What is going on?**

What started out as acute pain may become a more long-term situation known as chronic pain. Basically, there is ongoing pain signal input to the nervous system and pain is actually becoming a disease process. You should see your health care professional right away for treatment.