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 musculoskeletal tissues (bone, joint, muscle, and connective tissue). Common causes of somatic pain in cancer

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

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

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.

S

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

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 n

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