

Introduction:

Appropriate pain assessment and management is critical to improving the quality of life and health status of this population.

Pain management in cancer patients is a difficult and ongoing challenge. With the appropriate use of therapeutic approaches, approximately 97% of patients with cancer pain should have excellent pain control, but cancer pain is unfortunately undertreated worldwide. A recent review of 40 years of literature found that 62% of patients with advanced or metastatic cancer reported pain. Fifty-nine (59%) percent of patients currently undergoing chemotherapy report pain, and one-third of patients still experience pain after completing chemotherapy. Adequate access to opioids is a major barrier to pain management in some parts of the world, but even in areas where opioids are available, pain is common among cancer patients and has a significant impact on clinical outcomes. The presence and severity of pain have important clinical implications, as pain as a variable contributing to health-related quality of life (HRQOL) factors provides prognostic information on survival. Furthermore, the experience of pain can have a positive or negative effect on patient outcomes. Poor communication between health care professionals and patients regarding pain control can lead to poor patient satisfaction. Poor pain control is also associated with increased psychological distress and decreased social activity and social support.

Pain Management:

After a comprehensive pain assessment is completed, a complex pain management plan can be implemented. One of the first steps in pain management is to set appropriate expectations for the patient. The cause of pain affects expected outcomes, pain intensity, and improvement in functional status. For example, local tumor burden and pain from acute fractures can be expected to improve with disease treatment in a predictable manner, whereas chronic neuropathy follows a very different course over time. Setting appropriate expectations improves patient satisfaction and adherence to treatment. There are many acceptable treatment options for patients. These include over-the-counter pain relievers, non-opioid prescription medications, interventions, complementary therapies, and systemic opioids.

Non-Opioid:

Opioids are the main cause of moderate to severe cancer-related pain, but some non-opioid

treatments are available for patients. These include pharmacological and non-pharmacological strategies.

Acetaminophen:

Acetaminophen can be used as first-line therapy for patients with mild cancer who do not need or are hesitant to take opioids. The maximum plasma concentration occurs in approximately **35-60 minutes**, and the range of daily doses varies with age and liver function. Some prescriptions include acetaminophen and opioids in the same pill for ease of administration. However, a systematic review of the evidence on the combination of acetaminophen and opioids found no benefit for the addition of acetaminophen in 4 of 5 studies. It is worth noting that the study that showed the benefits of acetaminophen used a daily dose of **5 grams**, which is higher than the recommended daily dose, and followed patients for only four days. Therefore, patients may be started on acetaminophen for mild pain, but if adequate analgesia cannot be achieved with acetaminophen alone, physicians should adjust regimens for more optimal pain control. Immediate switching to an opioid should be considered. Additionally, the use of acetaminophen in tumor populations is limited by the need for close monitoring of hepatotoxicity, particularly in patients with liver disease, and fever in neutropenic patients. Drugs in this class have maximum daily doses and numerous safety considerations (eg, bleeding, pre-existing kidney damage, risk of developing kidney damage in patients with multiple myeloma, increased risk of hypertension). There is conflicting evidence about the benefits of adding NSAIDs to opioids, with some studies showing that the combination is beneficial, but other studies showing that combining NSAIDs and opioids with both classes of drugs, compared with Use alone shows little or no difference.

Adjuvants:

Adjuvants are drugs used to manage pain that may have an additive effect in combination with opioids or as monotherapy for the management of neuropathic pain. Neuropathic pain affects approximately 20-40% of cancer patients and often causes sensory rather than motor impairment. CIPN occurred within 30 days of chemotherapy and by 6 months, 30% of patients were still affected by CIPN. Importantly, no medication is recommended to prevent the development of CIPN. Therefore, given the prevalence and chronicity of CIPN, it is important to understand how to treat it. Clinicians are seeking ways to maximize non-opioid use and minimize long-term opioid use in patients who may live with chronic pain syndrome for decades in the absence of antineoplastic disease. Two common adjunctive treatments include antidepressants and anticonvulsants.

Opioid:

To safely and effectively manage cancer pain with opioids, clinicians must understand the basic pharmacology of opioids, be able to adjust doses of immediate- and extended-release opioids, and understand what to expect from opioid therapy. It is important to be able to predict and treat side effects

Opioid Pharmacology:

The cornerstone of proper opioid management is an understanding of basic opioid pharmacology. There are three main opioid receptors in the body: mu, kappa, and delta receptors. Receptor genetic variation is one factor that contributes to variation in responses to opioids within and between individuals. With the exception of immediate-release transmucosal fentanyl, typical oral immediate-release opioids produce peak pain within **65 to 90 minutes** and approximately 4 hours in patients with normal renal and hepatic function. Helping patients understand how much pain they can expect from each drug. Dosing and preparation for maximum analgesic effects can create appropriate expectations of outcomes in pain management and can also be used to strategically prescribe analgesics when necessary. You can also teach your patient how to use it. For example, if the patient needs to participate in physical therapy, or if a specific activity is known to exacerbate pain, it is recommended to wait approximately 1 hour before engaging in that activity to ensure the greatest potential. Patients to use immediate-release opioids so that you can adequately control the pain at that time.

Choosing Opioids in Non-Taking Patients:

For patients whose pain is not adequately controlled with over-the-counter pain relievers, doctors may use a step 2 or step 3 opioid (eg, morphine, hydromorphone, or oxycodone). Immediate-release oral morphine may be more effective in relieving cancer pain than conventional step 2 opioids when used at an appropriate starting dose in drug-naive patients. Practical considerations such as cost, availability of opioids in pharmacies, appropriate insurance coverage, and route of administration should be considered when choosing an opioid.