Cancer Care Ontario

Symptom Management Algorithm

Pain in Adults with Cancer

Ontario
Cancer Care Ontario

Screening with ESASr and Performing Clinical Assessment

1. ESASr

ESASr is a valid and reliable symptom screening tool which can be used to identify a patient's pain level on a scale from 0-10. In many patients the ESASr pain scores may suggest the following: 1-3 = Mild Pain, 4-6 = Moderate Pain, and 7-10 = Severe Pain. ESASr scores should not be considered in isolation.

Whenever pain is endorsed at any level, further assessment is required to understand the ESASr scores meaning and impact. The following **Pain Assessment Acronym** should be used to help determine the best pain management approach.

2. Adapted Pain Assessment Acronym: OPQRSTUV (adapted from Fraser Health[1])

Onset	When did it begin? Is it new? How long does it last? How often does it occur?
Provoking/ Palliating	What/ who brings it on? What/who makes it better? What/ who makes it worse?
Quality	What does it feel like? Can you describe? Examples provided below: **Nociceptive** • Sharp, aching, throbbing **Neuropathic** • Shooting, burning, tingling, painfully numb • Allodynia/hyperalgesia
Region/ Radiation	Where is it? Does it spread anywhere?
Severity	What is the intensity of this symptom? Right now? At best? At worst? On average?
Treatment	What medications or treatments are you currently using? What medications have you tried in the past for this, and how well did they work? Do you/did you have any side effects from the medications/treatments?
Understanding/ Impact on you	What do you believe is causing this symptom? How is this symptom affecting you/your level of functioning and/ or your family?
Values	What is your goal for this symptom? What is your comfort goal or acceptable level for this symptom? Are there any other views or feelings about this symptom that are important to you and your family?

3. Additional Areas for Assessment

Physical assessment (focus on the area of pain to determine cause of pain)

- Site and number of pains, intensity and severity of pains, timing of pains, etc.[2]

Pertinent history (risk factors)

- Analgesic drug history,[2] multiple cancer mechanisms,[3] premorbid psychiatric conditions[4] etc.

Psychosocial and spiritual assessment

- Assess for psychosocial or spiritual distress, coping deficits, i.e. psychogenic effects.

Risks for addictions

- History of alcohol or drug abuse, family history of alcohol or drug misuse, etc.[5]

Please see page 4.

Mild Pain

- Generally tolerated by the patient and does not interfere with quality of life
- Patient can be easily distracted from the pain
- Generally does not interfere with activities of daily living (ADLs)

Moderate Pain

- Patient states they cannot manage pain
- Pain is interfering with quality of life
- Patient feels it is difficult to concentrate because of pain
- Hard to distract from the pain
- Pain is interfering with function and ADL's

Severe Pain

- Patient is in acute distress or discomfort
- Patient is completely focused on pain
- Patient is unable to complete activities
- Pain dominates quality of life
- Pain onset is sudden and acute
- Acute exacerbation of previous levels
- Pain may present at a new/ different site

Types of Pain

1. Neuropathic Pain (burning, shooting and stinging in nature)

- The choice of antidepressant or anticonvulsant should be based on concomitant disease, drug therapy, drug side effects, and drug-drug interactions.[6]
- First line treatment for neuropathic pain includes tricyclic antidepressants (e.g., amitriptyline, desipramine, nortriptyline or imipramine), anticonvulsants (e.g., gabapentin or pregabalin) or duloxetine, with careful monitoring of adverse effects. The choice of agent should be guided by individual risk factors. Avoid tricyclic antidepressants in the elderly.
- Offer a choice of nortriptyline, duloxetine, gabapentin or pregabalin as initial treatment for neuropathic pain. Individual risk factors should also be considered when treating neuropathic pain.
- If the initial treatment is not effective or is not tolerated, consider a different agent, and consider switching again if the second and third drugs tried are also not effective or not tolerated.
- If oral agents are ineffective, consider a neuroablative procedure if possible.

2. Nociceptive Pain

- Nociceptive pain is inflammatory pain where pain arises from chemical or natural stimuli from damaged tissue.[7]
- Nociceptive pain often responds well to analgesics, including nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids.[8]
- It is important to keep in mind that cancer patients will generally experience a combination of neuropathic and nociceptive pain,[8] and that chronic, poorly-treated nociceptive pain may acquire neuropathic characteristics and require neuropathic adjuvants.

3. Intracranial Pressure

- Patients with primary brain tumours and/or brain metastases often develop vasogenic edema and increased intracranial pressure.[9]
- Corticosteroid therapy is a necessary pre-requisite to embarking on radiotherapy prior to and following surgery - particularly in patients whose brain tumours exert a significant mass effect.[9]
- Similarly, management of edema and intracranial pressure with corticosteroids forms an integral aspect of treatment in the postradiotherapy phases of care.[9]
- When there is significant intracranial pressure, measures may be required until corticosteroids take effect. These include elevation of the head on the bed, fluid restriction, mannitol, diuretics and hyperventilation.
- The recommended maximum dose is 16mg daily of dexamethasone, administered in four equal daily doses for symptomatic patients following biopsy or surgical resection.

4. Pain related to Bone Metastases

- Patients who have pain from bone metastases (not at risk of pathological fracture) should be offered palliative radiotherapy.[10] A single 8 Gy fraction is recommended for uncomplicated bone metastases.[11]
- Suspected metastatic spinal cord compression requires immediate treatment with high-dose dexamethasone and imaging by MRI. Confirmed spinal cord compression requires immediate consultation with a neurosurgeon and radiation oncology.

Important Points when Considering Pharmacological Interventions

- Pain can have nociceptive and neuropathic elements; we refer to this as "mixed" pain. Neuropathic descriptors suggest the need for an adjuvant analgesic.
- Patient education on opioid therapy should take place before initiating treatment. Risks, benefits, contraindications, safe storage, disposal, diversion reduction, as well as myths and misconceptions should be discussed. It is also important to review side effects and the length of these effects when initiating therapy in order to reduce compliance failure.
- Breakthrough pain can often be effectively managed with immediate-release opioids.
- Where possible, the long acting and breakthrough opioid should be the same type of opioid. An exception exists for fentanyl transdermal patches as buccal or intranasal short-acting options can be costly.
- Pain regiment should be reassessed on a regular basis. The titration of the long acting opioid should be based on the total amount of opioid use in 24 hours including breakthrough dosing.
- As a general guide, the safest breakthrough dose should be approximately 10% of the total daily opioid dose. The oral breakthrough frequency can vary from q1 to q2 hour prn.
- Fentanyl transdermal patches may be used for those with stable severe pain on a stable opioid dose, or those with swallowing difficulties or intractable nausea and vomiting.[6] Do not start fentanyl transdermal patches on opioid naïve patients or patients with uncontrolled pain.
- Opioids should be used with caution for patients who have liver dysfunction.
- Currently, there is insufficient evidence to recommend medical cannabis for first-line management of cancer related chronic pain. However, evidence suggests it is worthy of consideration as an adjuvant analgesic or in the management of refractory pain conditions.[12] At this time, there is insufficient evidence for the use of cannabinoids in acute cancer pain.

*Although there is evidence to support cannabinoids as an adjuvant analgesic or in the management of refractory pain conditions, there is a lack of research on best practice for dosing and administration. Despite this, CCO is committed to sharing best practice in this area as new evidence emerges.

Adverse effects of opioids:

- Many opioid-naïve patients will develop nausea, drowsiness or vomiting when starting opioids. Tolerance to these side-effects usually occurs within 5-10 days. Patients starting an opioid for moderate to severe pain should have access to an antiemetic if required.[6] The majority of patients taking opioids for moderate to severe pain will develop constipation. Little or no tolerance normally develops to constipation. The most common prophylactic treatment for preventing opioid-induced constipation is a combination of stimulant (senna or bisacodyl) and osmotic laxatives (lactulose or PEG 3+350).[6] A bowel management plan should be implemented when starting opioid treatment.
- In the presence of reduced kidney or liver function, all opioids should be used with caution and doses and/or frequencies may need to be altered to avoid opioid toxicity such as nausea, sedation, subtle agitation, intermittent confusion, and increased myoclonus. In those with reduced kidney or liver function, a palliative care specialist can be consulted for advice on opioid treatment.

For patients already on methadone:

- Methadone requires a license to prescribe. Check for significant drug interactions before prescribing any drug to a patient on methadone.[13]

For patients at-risk of addiction:

- Physical, psychological and social factors may compromise the management of cancer pain in patients with a history of substance abuse.[14]
- Clinicians should assess the potential risks and benefits when initiating long-term use of opioids and clearly understand terminology such as tolerance, dependence, addiction and abuse.[12]
  - **Tolerance** is a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects over time.[15]
  - **Dependence** is a state of adaptation that is manifested by a drug class with specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug and/or administration of an antagonist.[15]
  - **Addiction** is characterized by behaviours that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm and craving.[15]
  - **Abuse** is the recurrent use of alcohol or other drugs that causes clinically and functionally significant impairment, such as health problems, disability and failure to meet major responsibilities at work, school or home.[16] It is rarely applicable to chronic pain patients unless their opioid use is erratic.[17]
- Clinicians should incorporate a universal precautions approach to minimize abuse, addiction and adverse consequences of opioid use such as opioid-related deaths[12]. Patients should undergo a risk assessment to measure the likelihood of aberrant drug-related behaviour[5]. Patients should be regarded as high risk if the patient[5]:
  - Has history or family history of alcohol or drug misuse
  - A major psychiatric disorder
  - Patient's cancer is associated with heavy alcohol use or smoking
  - Current heavy smoking
  - Young age
  - History of mobile accidents, chronic unemployment, poor support system[5]
- For patients with a history of substance abuse or opioid/drug addiction, or any patient felt to be at risk of addiction, it is recommended that physicians attain a Written Care Treatment Agreement when initiating opioid therapy[12].

Consider Non-Pharmacological Interventions as Appropriate

- Patient and family education
  - General pain management education such as provision, revision and teaching of the Patient Symptom Management Guides or other patient and family education materials should be provided to assist with pain management.
- Patients may be referred to one or more of the following to optimize pain management:

Referral Options:

Radiation Oncology/ Bone Metastases Clinic
- For assistance in pain management in patients with bone metastases

Palliative Care Services
- For early access to specialized palliative services that can help with pain and symptom management strategies
- This may be different than acute, chronic or transitional pain teams

Referral to Home Care Services
- For patients who need support and further education/ monitoring of pain and a management plan

Occupational and/or Physical Therapy (Health Shared Services Ontario or private insurance if available)
- For patients experiencing pain OT/PT services can aid in pain control
- Treatment may include assistive devices, activity modification, exercise and ways to move toreduce pain

Interventional Anesthesia
- For patients who do not experience satisfactory pain relief with first-line or second-line approaches interventional pain management strategies may be appropriate
- Treatment helps with nerve blocks and celiac plexus blocks
- Vertebroplasty/kyphoplasty

Orthopedic Surgeons

Patients with bone metastases at risk of fracture treatment may include:
- Fracture stabilization, joint replacement
- Vertebroplasty/ kyphoplasty can be used to increase stability and reduce pain

Complementary Therapies
- May aid in some additional pain relief in patients.
- Treatment may include massage therapy , aromatherapy, music therapy, reflexology, acupuncture, transcutaneous electrical nerve stimulation, reiki, and hypnotherapy, although evidence is variable for these therapies

Pain Map: Pain in Cancer Patients

Mild Pain

Treatment with Non-Opioids

- Acetaminophen, adjuvant analgesics and NSAIDS should be considered at the lowest effective dose.
- The need for ongoing or long term treatment should be reviewed periodically; if there is no significant response in one week drugs should be stopped.
- Meperidine and pentazocine should not be used.
- Long term use of NSAIDs requires gastric mucosa protection.
- There is insufficient evidence to recommend bisphosphonates for bone pain management.

Moderate Pain

Treatment for Opioid Naïve Patients

- Morphine starting dose is usually 5mg PO 4h with 2.5-5mg PO q1h prn for breakthrough pain. For elderly or frail patients, consider a starting dose of 2.5mg PO q4h.
- Hydromorphone starting dose is 1mg PO q4h with 0.5 to 1mg PO q1h prn for breakthrough pain. For elderly or frail patients consider a starting dose of 0.5 mg PO q4h.
- Oxycodone starting dose is 2.5 mg or one half tablet PO q4h, with 2.5 mg or one half tablet PO q4h prn for breakthrough. The lowest dose oxycodone tablets available, either in combination with acetaminophen or alone, contain 5mg of oxycodone. This is equivalent to approximately 5 to 10mg of oral morphine.

Severe Pain

Treatment for Opioid Naïve Patients

- Oral: Morphine 5 to 10 mg PO q4h and 5mg PO q1h prn or hydromorphone 1 to 2 mg PO q4h and 1 mg PO q1 to q2h prn.
- Subcutaneous/Intravenous: Morphine 2.5 to 5 mg SC/IV q4h & 2.5 mg q30min SC/IV prn or hydromorphone 0.5 to 1 mg SC/IV q4h & 0.5 mg SC/IV q30min prn.

Pain Crisis

Pain Crisis can occur at any time.

- A severe pain crisis requires prompt use of analgesics, adjuvant therapies, reassurance and a calm atmosphere.
- Consider a consultation to palliative care or cancer pain specialist
- If IV access is present, and the person is opioid naïve, give stat morphine 5 to 10 mg IV q10min until pain is relieved;
- If IV access is present and the patient is taking oral opioids, convert the PO dose to IV, and administer IV q15min until pain is relieved. Monitor carefully.
- If IV access is not present and the patient is opioid naïve, give stat morphine 5-10 mg subcutaneous q30min until pain is relieved.
- If IV access is not present, and the patient is opioid tolerant, convert the PO dose to subcutaneous, and administer q15min until pain is relieved. Monitor carefully.
- Titrate dose by 25% every 1 - 2 doses until pain is relieved.
- Do not try to manage a severe pain crisis with a long-acting opioid.

Treatment with Opioids (opioid naïve or opioid tolerant)

- For mild to moderate pain, a weak or lower potency opioid could be given in combination with a non-opioid analgesic.
- If pain is not controlled with these combinations, go to "Moderate Pain - Treatment with Opioids."

Treatment with Opioids

If the patient is taking an opioid…

- Oral administration should be used over other routes.
- As an immediate release preparation with q4h dosing, increase the regular and breakthrough doses by 25% from the starting dose, q24-q48hs, if pain uncontrolled. Monitor side effects.
- As a sustained release opioid, increase this dose by 25%. Change the breakthrough dose to 10% of the total 24h dose, either q1 to 2h prn PO or q30 min prn subcutaneous.
- Make frequent assessments and adjustments to the opioid dose until the pain is better controlled.
- Once patients have achieved stable pain and analgesic usage on oral morphine, oxycodone or hydromorphone, they should have their medication converted to a sustained or controlled release formulation given q12h for ease of administration. The short acting breakthrough dose is usually 10% of the total daily dose given at a frequency of q1 to 2h prn
- If pain is not well controlled despite multiple breakthrough doses, consider poor absorption, opioid induced hyperalgesia, or the need for adjuvants or non-pharmacologic interventions.

Treatment with Opioids

- If the patient is taking an opioid with q4h dosing, increase the regular and breakthrough doses by 25%. Ensure that the breakthrough doses are 10-15% of the daily dose. Ensure that the frequency of the breakthroughs are q1h prn if PO and q30min prn if subcutaneous.
- If the patient is taking a sustained release opioid, increase this dose by 25%, and change the breakthrough doses accordingly.
- Adjust the regular and breakthrough opioid dose every 24h to 48h to reflect the previous 24h total dose received.
- If unmanageable opioid-limiting adverse effects are present (e.g. nausea, drowsiness, myoclonus), consult a palliative care service to assist with rotating to another opioid.
- If there is difficulty getting the pain under control consider a consultation to palliative care.

Follow-up and ongoing monitoring should take place at all pain levels

If pain remains unrelieved despite the approaches outlined above, request the assistance of a palliative care consultation team.

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