

Practice Points:

Chronic Pain

Millions of Americans suffer from chronic pain and the impact economically is greater than \$60 billion annually due to loss of wages, decreased productivity, and medical expenses.¹⁹ Chronic pain is generally defined as pain that persists for an extended period of time. Depending upon the source, the time frame is classified as pain continuing anywhere from greater than 1 month to beyond a 3 to 6 month time period.^{4,12,17,18} Other terms for chronic pain, such as persistent pain, chronic nonmalignant pain, and chronic benign non-neoplastic pain can be found in other various sources.^{4,7,18} Many experts in the area of pain feel many of the terms are out of date as the amount of evidence related to chronic pain expands. There is becoming a greater awareness and use of the term “persistent pain” as preferential terminology as there is a more positive attitude and connotation surrounding patients who have a diagnosis of chronic pain.^{4,18}

According to the North American Nursing Diagnosis Association (2005), chronic pain is defined as “unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain); sudden or slow onset of any intensity from mild to severe, constant or recurring without an anticipated or predictable end and a duration of greater than 6 months”.¹⁵ This definition includes the sensory and emotional aspect of patients inflicted with chronic pain which can be helpful when diagnosing and treating patients. If pain is not treated and managed effectively, there are many harmful effects that could result, including physical, psychosocial, financial, and the patient’s overall quality of life.¹⁷

Pain in itself is the most frequent reason that people visit their primary care physician. Most frequent types of chronic pain include headaches (most frequent) and back/neck pain. Osteoarthritis is the most common arthritic condition associated with chronic pain, followed by rheumatoid arthritis. Other diagnoses that are frequently associated with chronic pain include gout, diabetic peripheral neuropathy, postherpetic neuralgia, polyneuropathies, complex regional pain syndrome (formerly referred to as reflex sympathetic dystrophy), plexopathy, fibromyalgia, myofascial pain (e.g. neck pain related to whiplash), chronic abdominal pain (e.g. Crohn’s disease, irritable bowel syndrome, chronic pancreatitis), sickle cell disease, and pain related to cancer.^{7,14}

Special Populations

Pediatrics

Chronic pain is present in a small percentage of the pediatric population. Untreated pain in pediatrics can lead to significant emotional and social consequences and may lead to the development of chronic pain as an adult and other health issues. Parents also suffer negative effects, such as lost wages and the emotional strain due to caring for their child. Thorough evaluation, taking into consideration developmental stages is important in diagnosing and effectively treating and managing children. The comprehensive pain evaluation includes the same principles as an adult evaluation, in addition to a typical pediatric history (medical-surgical history, childhood history, developmental milestones, social history, and stressful events). The use of pain scales can be effective in pediatrics as long as the appropriate tool is utilized for the age. The FACES Scale consists of 6 faces from smiling to tearful and is reliable and valid for use in younger children¹⁶. CRIES can be utilized in the neonate population and FLACC is reliable in children ages 2 months to 7 years. The Numeric Rating Scale can be utilized in older children (ages 7-12 to adolescents) when there is an increased ability with abstract thought and comfort with numbers.⁶ Treatment strategies of chronic pain in children can be determined from the assessment and evaluation findings. It is important to address the provoking and causal factors leading to the chronic pain and a multimodal approach is more effective than a single approach. These treatments may include systemic and/or regional pharmacological interventions (dosed for pediatrics), cognitive-behavioral strategies, behavioral techniques, family interventions, or non-pharmacological interventions (e.g. massage, TENS, acupuncture, physical therapy, occupational therapy). When medications are utilized, the oral route is preferred in children. For pediatric patients with refractory or complex pain, referral to a pediatric pain management expert or specialist should be made.¹

Geriatrics

As with pediatrics, geriatrics are another special population where certain factors need to be considered with assessing and managing chronic pain. If cognitive impairment is present, there is the potential for the under reporting of pain by the patient or by the caregiver and healthcare professional leading to the under treatment of pain. This being said, it is important to assess this patient population taking into consideration if cognitive impairment is present. A valid method of assessing pain in older adults encompasses the hierarchy of pain assessment which starts with patient self-report, then potential causes of pain (acute and chronic), then direct observation of pain behaviors, followed by surrogate report and behavioral changes, and finally a response to an analgesic trial.⁹ For verbal self-report by the patient, the most reliable

and sensitive pain scale in this population is the Verbal-Descriptor Scale (VDS). For patients with severe cognitive impairment, dementia, or Alzheimer's disease, other tools may be helpful in the assessment of pain. These include the Checklist of Nonverbal Pain Indicators (CNPI) and the Pain Assessment in Advanced Dementia (PAINAD).⁶

Treatment of pain in older adults include using non-pharmacological modalities and pharmacological agents unless there are any contraindications; however, consideration needs to be given if there are other underlying comorbidities, polypharmacy, or physiological impairments (e.g. decreased renal or liver function) when choosing analgesic agents. Propoxyphene should not be used in the elderly due to its complex pharmacokinetics and pharmacodynamics.²

Risk Factors

Risk factors for chronic pain are multifactorial. Underlying pathophysiological conditions (e.g. low back pain, diabetes, fibromyalgia, polyneuropathies, etc.) can lead to chronic pain conditions in patients.^{8,14} Other risk factors which may precipitate a person with underlying pathophysiology include psychiatric diagnoses and psychological disorders.¹⁰ Inadequate analgesia (including preemptive) for patients undergoing surgery could lead to increased peripheral sensitization and wind-up of the central sensitization due to the injury.¹⁹

Recommended for Practice

What is best practice in assessing and managing chronic pain?

Chronic Pain Assessment

In the clinic setting, a comprehensive physical exam should be completed. Depending upon the nature of the pain, further diagnostics (including x-rays, MRIs, CTs, neurophysiological studies, laboratory tests) may need to be completed to determine cause. Then a thorough pain assessment should be completed. For patients who have already had some treatment of their chronic pain, it is important to capture information related to the pain history and previous medications that were trialed, as well as the outcome.^{6,10,12}

When assessing chronic pain, it is important to include tools that assess more than just the intensity of pain if in a clinic setting. Valid tools that assess pain intensity include the Visual Analog Scale (VAS), Numeric Rating Scale (NRS)/Numeric Pain Intensity (NPI), and the Verbal Descriptor Scale (VDS) and are practical in the acute care setting.¹⁶ Use of one of these scales in conjunction with a tool that captures functionality and quality of life will provide a more indicative picture of the severity of the chronic pain. Some examples of more comprehensive tools include the McGill Pain Questionnaire¹³, the Brief Pain Inventory (BPI)¹⁶, the West Haven-Yale Multidimensional Pain Inventory, and the Pain Outcomes Questionnaire.¹² The main advantage of these tools is that they capture information related to the intensity of the pain, there is assessment of psychosocial/behavioral components related to chronic pain, and the impact of chronic pain in the patient's life and function can be determined. However, the main disadvantages are the time they take to complete and that they are obtained through self-report and interview so there may be issues with use on cognitively impaired patients.^{6,12}

Chronic Pain Interventions

Select the most appropriate analgesics for the patient, taking into account the nature of the pain (acute and/or chronic, nociceptive and/or neuropathic), pain intensity, potential for medication toxicity depending upon analgesic chosen and patient's underlying physiology (age, renal impairment, hepatic impairment, gastrointestinal status), overall condition, concurrent pharmacotherapeutics, prior or current response to medications, patient's insurance status of insured, underinsured, or uninsured and cost of medications, and the setting of the care and treatment. A step-wise approach starting with non-opioid analgesics and adjuvants (antidepressants and anticonvulsants) is recommended for pharmacological management of chronic pain.¹⁸

Acetaminophen, aspirin, and selective (COX-2) and non-selective nonsteroidal anti-inflammatory drugs are recommended and effective for the treatment of mild pain and can be utilized as adjuvant analgesics unless contraindicated for certain types of pain or other disorders.^{10,11,18} Effective treatment with the use of tramadol has been proven in osteoarthritis, fibromyalgia, and neuropathic pain.¹¹

Recommended for Practice (continued)

For patients that fail adequate trials of aspirin, acetaminophen, and NSAIDs and use of adjuvant medications and combination therapies, opioid analgesics are generally the next line of treatment as long as the practitioner determines the patient is an appropriate candidate.⁷

For patients requiring opioid therapy, pharmacological management will need to be monitored closely.²⁰ Therapeutic trials of opioids may need to be completed to determine patients' responses to the medications.

In the clinic setting, it is important to provide a written copy of the treatment plan to patients, families, and care providers. This allows for active involvement and the promotion of decision making capability with the pain management plan. Depending upon assessment and reassessment of the patient's outcome, the plan may need to be adjusted. If this occurs, it is important to document the new plan and communicate it to the patient, family, and care providers.¹⁸

A multidisciplinary team approach is supported by the evidence when managing a patient with chronic pain.¹⁰

For patients with pharmacological management of pain, it is recommended to anticipate and monitor for common medication side effects (e.g. constipation, sedation, postural hypotension, nausea/vomiting, and confusion). For those on opioid therapy, prophylactic treatment for constipation is highly recommended unless contraindicated.¹⁸

If there is underlying concern for a patient who has been unresponsive to a treatment plan, who has multiple pain sources, has a mixed nature of pain (acute and/or chronic, nociceptive and neuropathic), or a history of substance abuse, consider obtaining a consult for a pain specialist or pain management expert.¹⁸

Assessing for depression and suicidal potential should always be done when evaluating patients with chronic pain. There is a higher rate of patients with chronic pain having underlying depressive disorders than with the general population. Having a baseline assessment of these factors can be vital in determining effectiveness of interventions, safety issues, and responses to future treatments.⁷

For patients with chronic pain who are admitted to the acute care setting, it is important to reconcile medications upon admission so that current treatments are continued while in the hospital.

Likely to be Effective

For adults with chronic pain, there is good evidence that supports treatment with physical modalities such as transcutaneous electrical nerve stimulation (TENS), heat/cold application, pressure/vibration, acupuncture, exercise, and massage. Evidence also supports cognitive behavioral strategies (e.g. meditation, improving coping skills, prayer, and relaxation techniques such as imagery, music, and humor) in managing chronic pain.^{12,18} Non-pharmacologic modalities should not substitute pharmacological therapies but can be used adjunctively in achieving more effective pain management.¹⁸⁶

Evidence for the effectiveness of long term high dose use (greater than 6 months) of opioids to reduce pain and increase functional status for patients with chronic pain is variable. Better evidence exists for the use of transdermal fentanyl and sustained-release morphine. Oxycodone has less supportive evidence and hydrocodone and methadone have even less evidentiary support.^{11,20}

Effectiveness Not Established

Depending upon the nature of the pain and underlying pathophysiology as with back pain, surgical interventions alone for relief of chronic pain lacks convincing evidence.¹⁰

Not Recommended for Practice

Due to the complexities of chronic pain, there is little in the literature regarding what is not recommended for practice. The use of meperidine is not recommended for the treatment of pain due to the toxic buildup of the metabolite normeperidine which can cause seizures and dysphoria and there is no reversal agent for meperidine toxicity.¹⁸ Use of propoxyphene in the elderly is not recommended due to its complex pharmacokinetics and pharmacodynamics and due to the build-up of its metabolite, nor-propoxyphene, which is a non-opioid cardiotoxic metabolite. Alternative agents should be considered.²

The treatment and management of patients with chronic pain is individualized so therapies may vary significantly and include a range of modalities. Treatments that are proven beneficial in clinical trials have better outcomes and ineffective treatments should be avoided.¹¹ Negative sequelae can result from improperly addressing or treating chronic pain so the neglect of the diagnosis of chronic pain could be viewed as improper treatment.

References

- 1 American Pain Society. (2010). Pediatric chronic pain. Retrieved July 10, 2010, from <http://www.ampainsoc.org/advocacy/pediatric.htm>
- 2 Barkin, R.L., Barkin, S.J., & Barkin D.S. (2006). Propoxyphene (dextropropoxyphene): A critical review of a weak opioid analgesic that should remain in antiquity. *American Journal of Therapeutics*, 13, 534-542.
- 3 Chou, R., Fanciullo, G.J., Fine, P.G., Adler, J.A., Ballantyne, J.C., Davies, P., et al. (2009). Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. *Journal of Pain*, 10, 113-130.
- 4 Cox, D.S., & Karapas, E.T. (2009). Taxonomy for pain management nursing. In B. St. Marie (ed.), *Core curriculum for pain management Nursing* (2nd ed., pp. 9-25). Dubuque, IA: Kendall Hunt Professional.
- 5 CPM Resource Center. (2009). Clinical practice guideline: Chronic pain. Retrieved July 10, 2010, from <http://swift/xa/cpg/>
- 6 D'Arcy, Y. (2009). Pain Assessment. In B. St. Marie (ed.), *Core curriculum for pain management nursing* (2nd ed., pp. 217-234). Dubuque, IA: Kendall Hunt Professional.
- 7 Dunajcik, L. (1999). Chronic nonmalignant pain. In M. McCaffery & C. Pasero (Eds.), *Pain: Clinical manual* (2nd ed., pp. 467-521). St. Louis: Mosby.
- 8 Elliott, J.E., & Simpson, M.H. (2009). Persistent pain management. In B. St. Marie (ed.), *Core curriculum for pain management nursing* (2nd ed., pp. 381-459). Dubuque, IA: Kendall Hunt Professional.
- 9 Herr, K., Coyne, P.J., Key, T., Manworren, R., McCaffery, M., Merkel, S., Pelosi-Kelly, J., & Wild, L. (2006). Pain assessment in the nonverbal patient: Position statement with clinical practice recommendations. *Pain Management Nursing*, 7, 44-52.
- 10 Institute for Clinical Systems Improvement (ICSI). (2008). Assessment and management of chronic pain. Retrieved June 15, 2010, from http://www.guidelines.gov/summary/summary.aspx?doc_id=12998&nbr=006693&string=chronic+AND+pain+AND+management
- 11 Kroenke, K., Krebs, E.E., & Bair, M.J. (2009). Pharmacotherapy of chronic pain: a synthesis of recommendations from systematic reviews. *General Hospital Psychiatry*, 31, 206-219.
- 12 McLennon, S.M. (2005). Persistent pain management. Retrieved June 15, 2010, from http://www.guidelines.gov/summary/summary.aspx?doc_id=8627&nbr=004807&string=persistent+AND+pain+AND+management
- 13 Melzack, R. (2005). The McGill Pain Questionnaire: From description to measurement. *Anesthesiology*, 103, 199-202.
- 14 Menefee Pujol, L.A., Katz, N.P., & Zacharoff, K.L. (2007). *The PainEdu.org manual: A pocket guide to pain management* (3rd ed.). Newton, MA: Inflexxion.
- 15 North American Nursing Diagnosis Association International (2005). *NANDA nursing diagnoses: Definitions & classification, 2005-2006*. Philadelphia: Author.
- 16 Pasero, C., & McCaffery, M. (2011). *Pain assessment and pharmacologic management*. St. Louis: MP: Mosby Elsevier.
- 17 Pasero, C., Paice, J.A., & McCaffery, M. (1999). Basic mechanisms underlying the causes and effects of pain. In M. McCaffery & C. Pasero (Eds.), *Pain: Clinical manual* (2nd ed., pp. 15-34). St. Louis: Mosby.
- 18 Registered Nurses Association of Ontario. (2007). Assessment and management of pain. Retrieved July 1, 2010 from http://www.rnao.org/Storage/29/2351_BPG_Pain_and_Supp.pdf
- 19 Ruzicka, D.L. (2009). Benefits of proper pain management. In B. St. Marie (ed.), *Core curriculum for pain management nursing* (2nd ed., pp. 103-120). Dubuque, IA: Kendall Hunt Professional.
- 20 Trescott, A.M., Helm, S., Hansen, H., Benyamin, R., Glaser, S.E., Adlaka, R., Patel, S., & Manchikanti, L. (2008). Opioids in the management of chronic non-cancer pain: An update of American Society of the Interventional Pain Physicians' (ASIPP) guidelines. *Pain Physician*, 11, S5-62.

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