CHAPTER 4
POSITIONING THERAPY BY COMPREHENSIVE PAIN ASSESSMENT

Treatment strategies for chronic pain may involve a primary therapy directed against the etiology of the pain and 1 or more specific analgesic therapies (table 7). A comprehensive pain assessment provides the information necessary to determine the feasibility and appropriateness of primary therapy and create a therapeutic strategy focused on pain relief, improved function, and enhanced quality of life. In the absence of comparative studies of single or combined therapies, the selection of 1 or more treatments usually is a matter of clinical judgment. In some cases, a single therapy, such as an analgesic medication, meets the needs of the patient. If this approach proves inadequate, or the assessment indicates a degree of complexity unlikely to be optimally treated by one approach alone, the clinician must promote a multimodality strategy, the details of which may vary from patient to patient or evolve over time in the individual.

The decision to undertake a trial of opioid therapy is challenging, given the paucity of studies that have evaluated or compared outcomes. To some extent, positioning of therapy is based on conventional practice, but this has been evolving during the past 2 decades and there is no clearly defined standard of care in most cases.

The positioning of opioid therapy, therefore, is fundamentally a clinical judgment based on an understanding of the evolving nature of clinical practice, a rapidly changing body of medical literature pertaining to risks and benefits, the specific information gleaned from a comprehensive patient assessment, and an appraisal of the clinician's own skills in the use of this approach. Given the great variability in the populations with chronic pain, the most suitable guideline for positioning opioid therapy involves a general strategy based on a series of questions that should be considered by the clinician (table 8).

Conventional practice

It is useful in discussing the positioning of opioid therapy to consider cancer pain first. A worldwide consensus has evolved concerning the utility of opioid therapy in cancer pain management,

Table 7. Categories of pain treatments

Category	Examples
Pharmacotherapy	
Nonopioid drugs	Acetaminophen, nonsteroidal anti-inflammatory drugs
Adjuvant analgesics	Antidepressants, anticonvulsants
Opioids	Morphine, oxycodone, fentanyl, methadone, oxymorphone, hydromorphone
Rehabilitative approaches	Modalities (heat, cold), physical therapy, occupational therapy
Psychologic approaches	Cognitive techniques (biofeedback, hypnosis, relaxation), behavior therapy, other psychotherapies
Injection therapies and anesthesiologic approaches	Trigger point injections, spinal injections, neural blockade, neuraxial infusion
Neurostimulatory approaches	Transcutaneous electrical nerve stimulation, spinal cord stimulation
Surgical approaches	Cordotomy, neuroablation
Complementary and alternative medicine approaches	Acupuncture, chiropractic therapy, massage, nutritional approaches and nutraceuticals, energy therapies
Lifestyle changes	Weight loss, exercise

Table 8. Strategy for appropriate positioning of opioid therapy for chronic pain

Consider a trial of opioid therapy for any patient with chronic or frequently recurrent pain of moderate to severe intensity, on the basis of responses to the following questions:

1. What is conventional practice for pain of this type?
2. Are opioids likely to work well?
3. Is the patient at relatively increased risk of side effects by virtue of medical comorbidities or treatments?
4. Are there other available therapies that might be considered in lieu of an opioid trial, for which there is evidence of the same or better efficacy at no greater risk?
5. Are there therapies that would be appropriate to try before opioid therapy or that should be undertaken in tandem with a trial of opioid therapy?
6. Is the patient likely to manage opioid therapy responsibly?
7. Does this patient have a pain problem for which opioid therapy could be administered with a likelihood that the treatment strategies employed are within the clinician's knowledge and skills? If not, could the clinician prescribe the therapy with the help of a consultant, or should referral be considered?

and this provides an informative backdrop for decision making in other populations. Specifically, pharmacotherapy is widely considered the mainstay approach to management of cancer pain, and opioid therapy specifically is considered the standard of care for management of moderate to severe chronic pain. This approach became accepted after the dissemination of a broad paradigm for drug selection by a committee of the World Health Organization in the mid 1980s. Surveys of cancer patients treated according to this paradigm have concluded that opioids can provide adequate pain control for more than three quarters of these patients.

Many studies have found that cancer pain is undertreated despite the acceptance of opioid therapy. Populations at relatively increased risk of undertreatment include women, minority populations, and persons with a history of substance abuse. Efforts to educate clinicians as a means to lessen undertreatment have been ongoing for many years. Progress has been made, but more needs to be done.

As a result of a positive experience in the treatment of cancer pain, a consensus also has evolved that opioid therapy should be considered a mainstay for treatment of chronic pain associated with other life-threatening illnesses. Studies have shown that advanced AIDS is similar to metastatic cancer in the prevalence and variety of chronic pain syndromes. Opioid therapy for moderate to severe chronic AIDS-related pain is preferred, notwithstanding the challenges of this approach in patients with a history of drug abuse. Again, safe and effective therapy in this population requires skills in the assessment and management of substance abuse.

In contrast to the use of opioids for treatment of cancer pain or pain associated with other serious illnesses, the role of long-term opioid therapy for most other chronic pain conditions has not achieved widespread consensus. Nonetheless, much has changed during the past 20 years. Most notably, there is now widespread agreement within the international community of pain specialists that opioids can yield highly favorable responses in selected patients with chronic pain. Pain specialists accept the view that some patients with chronic pain of virtually any type may respond to opioid therapy in a manner identical to the cancer pain population. In the United States, consensus documents from several professional societies, including the American Pain Society, the American Academy of Pain Medicine, and the American Society of Addiction Medicine, endorse this view.

Nevertheless, use of opioid therapy for management of chronic nonmalignant pain continues to be ill-defined and controversial.

Unfortunately, there is limited evidence of long-term efficacy or safety from controlled trials, few data confirming a positive effect on function or quality of life, and very little information about the risks of misuse, abuse, or addiction among different opioid-treated populations. There also are no validated methods for selecting patients who are likely to benefit or to take the medications responsibly over a period that may extend to many years.

Yet, pain specialists have accumulated a large amount of clinical experience, which is supported by the available data and strongly endorses the view that opioid therapy should be tried in selected patients with chronic pain. The decision to proceed requires a detailed assessment of the patient, an understanding of the existing data pertaining to the potential for pain relief and the risk of adverse outcomes (including misuse, abuse, and addiction), and the skills to undertake the approach in a manner that optimizes benefit (table 9).

Effectiveness and risk

Many studies have evaluated opioid therapy for chronic nonmalignant pain. Controlled clinical trials have established the efficacy of different opioids in a variety of pain syndromes, including neuropathic pains. For example, placebo-controlled trials of several weeks' duration have confirmed the efficacy of oxycodone in populations with painful osteoarthritis and low back pain. Studies that evaluated treatment over a period of many weeks have confirmed that morphine is more effective than a tricyclic antidepressant (and both were more effective than placebo) for postherpetic neuralgia and oxycodone is more effective than placebo for painful diabetic neuropathy. A randomized, open-label study that extended over a year documented a modest benefit from morphine over conventional therapy in patients with varied chronic pain syndromes, particularly improvements in the psychologic domain. Other long-term, open-label studies showed continued benefit with a modest or no dose increase as well as tolerable side effects for a subset of patients receiving fentanyl or oxycodone.

The results of these studies should be interpreted with caution, because study methodology and duration of treatment may not apply to usual clinical scenarios. Most important, there are relevant selection criteria for studies, such as no overt history of substance abuse, that may limit the generalizability of the results.

It is also important to recognize that earlier literature pertaining to opioid therapy for chronic pain, which largely originated from pain treatment centers, documented the potential for negative outcomes associated with treatment. These outcomes included more severe disability, less effectiveness of rehabilitative therapy, and drug misuse.

Table 9. Guidelines for management of long-term opioid therapy

If, on the basis of answers to the questions posed in table 8 (page 29), a patient appears to be a candidate for opioid therapy, the following guidelines provide a foundation for initiation and ongoing reassessment of potentially long-term therapy.

1. If the evaluation raises concerns about the appropriateness of therapy or a suitable way to monitor therapy, consider referral to a pain management program or addiction medicine specialist for advice before initiating therapy.
2. A single clinician who has reviewed all medical records should take primary responsibility for opioid prescriptions.
3. Educate patients about opioid therapy and document the consent discussion, which might cover:
   - Need for monitoring and adherence to instructions
   - Information about physical dependence and addiction
   - Potential for side effects (eg, cognitive impairment, constipation)
4. Implement opioid therapy according to recommendations summarized in chapter 5, page 40.
5. Titrate the opioid dose as appropriate over the first several weeks and periodically thereafter as described in chapter 5. If a patient requires repeated dose escalations to maintain adequate pain control, reevaluate the pain syndrome and patient and determine whether opioid treatment remains appropriate.
6. Although improvement in function should be continually stressed, accept meaningful partial analgesia as the appropriate goal of therapy. Emphasize attempts to capitalize on improved analgesia by gains in function. Consider opioid therapy to be only one of multiple modalities to be used.
7. Reassess patients with no substantial prior opioid exposure who do not achieve at least partial analgesia at relatively low initial doses of an opioid. This response failure raises questions about the potential treatability of the pain syndrome with opioids.
8. Consider providing patients access to a "rescue" dose for breakthrough pain. Alternatively, consider allowing the patient to take 1 or 2 extra doses on a day of increased pain, which must be followed by an equal reduction of doses on subsequent days.
9. Carefully assess aberrant drug-related behaviors. Some cases require tapering and discontinuation of opioid therapy, and others may appropriately continue therapy within highly structured guidelines. Consider consultation with an addiction medicine specialist.
10. At each encounter, thoroughly assess and document the following:
    - Comfort (degree of analgesia)
    - Opioid-related side effects
    - Functional status (physical and psychosocial)
    - Existence of aberrant drug-related behaviors

The available literature thus suggests a spectrum of outcomes associated with opioid therapy. Although treatment may become a problem in some disabled patients, a subpopulation of patients

with chronic nonmalignant pain appears to attain at least partial relief from opioid analgesics for a prolonged period, without development of opioid toxicity, clinically significant tolerance, or abuse behaviors. Some patients who experience pain relief have significant improvement in functional status, but others do not. Although opioid responsiveness can vary with characteristics of the patient or pain syndrome, no subgroup of patients with chronic pain appears to be inherently resistant to this therapy.

Risk of adverse pharmacologic outcomes

The risk of major organ dysfunction and the incidence of persistent side effects are 2 major considerations that must be taken into account when prescribing opioids to patients with chronic nonmalignant pain. Subtle neuropsychologic impairment is a particularly important potential side effect, because its presence could undermine concurrent rehabilitative efforts.

Major organ toxicity after exposure to opioid analgesics has not been observed among cancer patients or patients receiving methadone maintenance. Pulmonary edema has been reported in several dying cancer patients who were receiving high doses of an opioid, but this phenomenon is not relevant to the routine treatment setting. A variety of dysimmune effects have been reported in animal models, but human data are yet minimal and studies also have demonstrated immunosuppressive effects from unrelieved pain. In sum, there is no evidence that long-term opioid therapy produces major organ dysfunction.

In contrast, reversible side effects are common during opioid therapy. Acute administration of an opioid produces changes in the central nervous system, hypothalamic-pituitary axis, peripheral vasculature, gastrointestinal tract, urinary tract, and skin. These actions may produce side effects such as nausea, constipation, mental clouding or confusion, urinary retention, or itch. With long-term opioid administration, tolerance develops at different rates to each effect. On the basis of clinical observations, constipation is the most common opioid side effect over the long term; tolerance to constipation may develop very slowly or not at all. Cognitive impairment is commonly observed after acute administration of opioids in opioid-naïve patients or dose escalation in patients receiving chronic therapy. However, these effects typically wane with stable long-term therapy. In studies of cancer patients, cognitive impairment is generally not problematic after a few weeks of opioid treatment, and several studies have confirmed that the ability to drive is preserved in most patients during long-term therapy. In fact, one study

suggested that unrelieved pain was more likely to contribute to impaired driving skills than was opioid treatment.

In a small proportion of patients, cognitive impairment may persist. Given the high prevalence of polypharmacy and significant medical comorbidities in the population with chronic pain, it is likely that the problem actually is multifactorial in many patients. More research is needed to clarify this issue, and the potential for cognitive impairment must be evaluated when opioids are employed in the clinical setting.

Risk of addiction

The potential for misuse, abuse, and addiction is the most significant issue to address in the assessment of chronic opioid therapy for nonmalignant pain. This concern is ubiquitous in all clinical settings but has had the greatest impact on the management of this population. Overall, the literature provides evidence that the outcomes of drug abuse and addiction are rare among patients who receive opioids for a short period (ie, for acute pain) and among those with no history of abuse who receive long-term therapy for medical indications. The risk should not be assumed to be nil, however, and it may vary with specific characteristics of the patient. Assessing the risk of addiction, administering therapy in a manner consistent with the level of risk, and responding appropriately to the possibility that problems are developing are fundamental elements to safe and effective use of opioid therapy and are discussed later in this volume.

Patient assessment

All patients with chronic pain should undergo a comprehensive pain assessment that includes thorough medical history taking, physical examination, and confirmatory laboratory and radiographic procedures, if appropriate. The assessment should be used to characterize the pain and prioritize other physical and psychosocial problems that may influence pain therapy or be amenable to primary treatment. It permits the development of a treatment strategy that addresses the major clinical issues and facilitates decision making about the role of opioid therapy.

Characterizing the pain complaint

Because pain is inherently subjective, patient self-report is the "gold standard" for assessment. The information elicited from the patient should focus on:

- Temporal features (onset, daily pattern, and course)
- Location (primary sites and patterns of pain radiation)

- Severity
- Quality
- Associated factors that exacerbate or relieve the pain

Other relevant information that should be collected includes details about medical and surgical conditions (related or unrelated to the pain), history of persistent pain, previous pain treatments, and prior use of licit drugs (including alcohol, tobacco, and over-the-counter and prescription medicines) and illicit drugs.

Clarifying etiology, pathophysiology, and pain syndrome

The history, examination findings, and results of laboratory or imaging studies provide the data necessary to characterize the patient's pain. Identifying the etiology, syndrome, and pathophysiology of pain is extremely useful, because it may inform judgments about underlying organic processes, suggest the need for further evaluation, guide the selection of treatments, and indicate prognosis.

A discrete etiology for the pain may clarify the nature of the disease and suggest a primary therapy. An etiology that appears sufficient to explain the pain may or may not be evident. In some cases, an etiology may be identified that appears to be one factor among others contributing to the pain, and in other cases, an appropriate evaluation yields no clear evidence of a disease process capable of sustaining the pain. When pain appears to be disproportionate to any identifiable pathologic process, it usually is real (that is, truly experienced) to the patient. The clinical challenge is to interpret the nature of the pain in the absence of objective findings. In some cases, there is evidence that the pain is sustained by some functional disturbance in the nervous system (eg, neuropathic pains, headache), and in others, there is evidence that the pain is predominantly related to psychologic factors. These processes can coexist. If no reasonable inference can be drawn about the cause of the pain, the problem should be labeled idiopathic.

Inferences about the putative mechanisms that may be sustaining the pain are linked to the search for responsible etiologies and are valuable in the assessment of pain. Although in many cases pathophysiologic labels cannot be proven and undoubtedly oversimplify very complex processes, they are now widely accepted in clinical practice. Additional evaluation by behavioral medicine experts (eg, psychologist, psychiatrist) and rehabilitation experts (eg, physiatrist, physical therapist, occupational therapist) with training in chronic pain, if possible, can be very helpful in providing important supplementary information, concurrent diagnoses, and comanagement strategies.

Pain with a predominating organic contribution can be described as nociceptive or neuropathic. Nociceptive pain is pain that is perceived to be commensurate with tissue damage associated with an identifiable somatic or visceral lesion. Such pain originating from somatic structures (somatic pain) is usually well localized and described as sharp, aching, throbbing, or pressure-like. Nociceptive pain arising from visceral structures (visceral pain) is generally more diffuse and is often described as gnawing or cramping when due to obstruction of a viscus and as aching, sharp, or throbbing when due to disturbance of organ capsules or mesentery. Pain caused by tumor invasion of bone and pain due to degenerative changes in joints are examples of nociceptive pain. If interventions that improve the peripheral nociceptive lesion are feasible, these types of pains usually respond. For example, radiotherapy often can eliminate pain from a bony metastasis, and joint replacement usually can alleviate severe joint pain from destructive arthritis. This type of pain also generally responds well to nonsteroidal anti-inflammatory drugs and opioids.

Neuropathic pain refers to syndromes that may be related to aberrant somatosensory processing in either the peripheral or central nervous system. There are many subtypes and, presumably, varied mechanisms are involved. These pains are disproportionate to any nociceptive lesion identified during the evaluation and may be described with words such as abnormal, unusual, strange, or unfamiliar compared with the patient's experiences with tissue-injury pain (a phenomenon termed dysesthesia). The diagnosis of neuropathic pain may suggest the use of selected types of analgesic medications or other pain-relieving interventions.

Pain that is inferred to be predominantly related to psychologic processes has been termed psychogenic. Greater specificity can be attained using an accepted taxonomy, such as the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition text revision (*DSM-IV-TR*), of the American Psychiatric Association. It is important to emphasize that these diagnoses imply that the pain is truly experienced but is best explained by psychiatric disease. A complaint of pain that is factitious, or even feigned, is possible but appears to be extremely rare in clinical practice. Both the patient and the clinician are best served if the clinician believes the patient and then exercises skill and judgment in assessing the problem and developing an appropriate treatment strategy.

Syndrome identification is another important element in the assessment of pain. The cancer literature has highlighted its importance. In one survey, an unrecognized organic lesion was discovered in 64% of cancer patients with pain, which led to the

use of primary therapy (ie, antineoplastic drugs or antibiotics) in almost 20%. Likewise, recognizing a neuropathic pain syndrome may lead to an intervention that might not be considered otherwise, such as neurectomy for a painful neuroma or sympathetic nerve blocks for suspected sympathetically maintained pain.

Clarifying pain-related impact and comorbidities

Pain assessment should focus on disturbances in varied domains that link in some direct way to the pain or present as relevant comorbidities. The domains that should be explored are those that contribute to quality of life (table 10). For the patient with

Table 10. Dimensions of quality of life

Dimension	Examples of concerns
Physical well-being	• Other physical symptoms (eg, fatigue, nausea, constipation, anorexia, itch) • Sleep quality • Performance status, "up time," and ability to perform activities of daily living, household activities, and vocational and recreational activities • Specific impairments (eg, paresis) • Practical needs
Psychologic well-being	• Mood and psychologic symptoms • Coping • Past and present psychiatric disorders • Personality variables • Body image • Intimacy or sexuality
Social well-being	• Interpersonal contacts • Social support • Family integrity • Marital relationship
Spiritual or religious	• Meaning of disease • Involvement with church
Role functioning	• Ability to work • Ability to perform housekeeping tasks • Ability to maintain role in family
Relationship with healthcare providers	• Access and trust
Financial	• Cost of care • Lost wages • Other responsibilities

chronic nonmalignant pain, the details of this assessment also should provide a measure of the patient's overall disability.

Among the most medically important historical elements to clarify as part of the history taking of pain are substance use and abuse. History taking should explore both the specific pattern of licit and illicit drug use and any relationship between these behaviors and the pain.

Conclusion

Comprehensive assessment of pain and comorbidities is an essential foundation for the selection of a treatment strategy targeted to improve comfort and functioning in order to provide a better quality of life. Just as treatment of tissue injury alone may not reduce pain sustained by other nonnociceptive factors, a therapeutic approach focused solely on pain may not meaningfully benefit a patient whose suffering is caused by other disturbances.

Ultimately, the clinical judgment to explore the value of opioid therapy rests on the accuracy of this comprehensive assessment. Over time, it is only by assessment and reassessment that the clinician can continue to be reassured that opioid therapy is in the patient's best interest and is being used as part of a treatment strategy that optimizes the likelihood of a favorable long-term outcome.

Suggested readings

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