

KEY POINTS

- Pain is transmitted in pathways involving the peripheral and central nervous systems.
- Specific neurology is used to characterize pain and pain syndromes.
- There is a high rate of psychiatric co-morbidity in patients with chronic pain.
- Psychiatric treatment can be effective for pain and the psychiatric co-morbidity of pain.
- Multisystem and multidisciplinary treatment facilitates provision of the highest quality care for chronic pain.

OVERVIEW

Pain, as described by the International Association for the Study of Pain (IASP), is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.” This chapter will describe the physiological aspects of pain transmission, pain neurology, and pain assessment, discuss the major classes of medications used to relieve pain, and outline the diagnosis and treatment of psychiatric conditions that often affect patients with chronic pain.

EPIDEMIOLOGY

Psychiatric co-morbidity (e.g., anxiety, depression, personality disorders, and substance use disorders [SUDs]) affects those with both non-cancer-related and cancer-related pain. Epidemiological studies indicate that roughly 50% of those in the general population with chronic non-oncological pain also have depression or an anxiety disorder.¹ Similar rates exist in those with cancer pain. In older populations, 50% to 60% of pain patients have co-morbid psychopathology, including personality, personality traits. The personality (i.e., the characterization of a comprehensive component of cognitive affect has been termed neuroticism, which may be best described as “a general personality maladjustment in which patients experience anger, disgust, sadness, anxiety, and a variety of other negative reactions.”² Frequently, in pain clinics, self-

adaptive expressions of depression, anxiety, and anger are grouped together as dimensions of negative affect, which have an adverse impact on the response to pain.³

Rates of substance dependence in chronic pain patients are also elevated relative to the general population, and several studies have found that 15% to 20% of chronic pain patients have a co-morbid substance (e.g., alcohol, drugs or prescription medications) dependence disorder.⁴ Prescription opiate addiction is a growing problem that affects approximately 1% of those who have been prescribed opiates for chronic pain (although post-synthetic opiates are lacking). Other chapters in this textbook focus more specifically on SUDs. This chapter will concentrate on those with affective disorders and substance disorders in the setting of chronic pain.

While many chronic pain patients continue and will have difficulty achieving total, a *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition, Text Revision (DSM-IV-TR)* diagnosis of somatization disorder per se, it has frequently encountered by those who have patients with chronic pain. The DSM-IV TR accounts for this distinction by classifying the somatization component of a pain disorder into several categories (such as pain disorder associated with psychological factors, pain disorder associated with psychological factors and a general medical condition, and somatization disorder).

PATHOPHYSIOLOGY OF PAIN TRANSMISSION

Direction of nocice signals (i.e., nociception) starts with the activation of peripheral nociceptors (leading to nociception) or with the activation of nociception in bodily organs (leading to nociception).

These inputs stimulate the nociception by the liberation of substance P (SP) from primary afferent neurons, which then binds with the nociceptors, a process called peripheral sensitization. Subsequently, these nociceptors send signals to the spinal cord, and to cell bodies in the dorsal root ganglia (Figure 16-1). These different types of nociceptors are involved in the transmission of pain from the site to the dorsal horn,