



- **Fact Sheet No. 13**

Management of Pain in Patients First Presenting With Chronic Pain After Surgery

Often underdiagnosed, chronic postsurgical pain (CPSP) is common and affects patients' quality of life. (Kehlet et al.) (Niraj et al.) The overall incidence is estimated in the range of 20 percent to and 50 percent of postsurgical patients, and severe disabling pain after surgery is estimated in the range of 2 percent to 10 percent.

The etiology of CPSP is not fully elucidated, but it involves biological, psychological, and social factors. Risk factors for the development of chronic pain after surgery include preoperative chronic pain, young age, genetic susceptibility, psychological issues, cognitive factors, surgical nerve injury, and the severity of acute pain immediately after surgery. (Chapman et al.) (Kehlet et al.)

CPSP is so common that it has been reported essentially after every type of surgical operation, and distinct names have been given for each specific syndrome; e.g., postmastectomy pain or post-thoracotomy pain (Merskey & Bogduk). Sharing this information with patients may prove reassuring in showing them they are not alone, that their symptoms are believed, and that health-care professionals have substantial clinical experience assessing and treating their particular problem.

Patients first presenting with CPSP should undergo a thorough clinical assessment to confirm the suspected diagnosis and identify underlying mechanisms of pain. Multiple domains of pain should be assessed, including severity, quality, location(s), and temporal characteristics. Other important clinical domains such as physical and emotional functioning and quality of life also should be assessed.

The following questions may help to confirm the diagnosis:

- Has the pain developed after a surgical procedure?
- Is the possibility excluded that the pain is continuing from a preexisting problem?
- Has the pain persistent for more than three months?
- Can other causes of the pain be excluded, such as an infection or recurrence of a malignancy?

CPSP can be expressed as a combination of different clinical types of pain, such as neuropathic, nociceptive, referred, or visceral.

- Neuropathic pain is the most common type of CPSP.
- The use of screening tools (e.g., DN4, painDETECT, NPQ, LANSS) based on verbal pain descriptors alone or combined with a targeted clinical examination, can be helpful to identify neuropathic pain as the principal or secondary component of CPSP. (Haanpää et al.)

As is the case with other chronic pain syndromes, CPSP, once entrenched, may be multifaceted and challenging to reverse. In addition, the typical comorbidities of chronic pain often develop, such as sleeping and mood disorders. (McCrae)

Prevention remains the key to decreasing the health burden of CPSP. (Kehlet et al.) Therefore, intensive postoperative follow up and early management on the part of a specialist may be beneficial for postoperative patients presenting with the first signs of new or recurrent pain. A referral to a multidisciplinary pain program should be considered in selected patients.

The multimodal approach to pain management of CPSP is driven rather by the underlying mechanisms and the comorbidity of the pain. Although the evidence base for many of its components is limited, these can provide symptomatic pain relief in individual patients. Such approaches may include the following:

- Patient education and supported self-management
- Pharmacological management
 - Careful regular, scheduled reassessment of pain relief and side effects are necessary to guide pharmacotherapy
 - First line anti-neuropathic medication (Attal et al.)(Finnerup et al.)
 - Tricyclic antidepressants (e.g. amitriptyline, nortriptyline)
 - Serotonin-noradrenaline reuptake inhibitors (SNRIs such as duloxetine and venlafaxine)
 - Gabapentin and pregabalin
 - Topical lidocaine
 - Topical capsaicin
 - Strong opioids should only be prescribed with great caution after evaluation of the risk-benefit ratio
- Interventional approaches such as target-specific injections and neurostimulation/modulation
- Physical therapies
- Psychologically based interventions, such as cognitive behavioral therapy
- Vocational counselling

Patients with CPSP should be informed that they are at risk of developing new chronic pain after future surgery or trauma. The patient and his or her health-care providers should be cautioned against unnecessary and inappropriate surgery. Furthermore, the preoperative identification of

possible risk factors and aggressive multimodal perioperative analgesia is indicated in case of future surgical procedures or after trauma.

REFERENCES

- Attal N, Bouhassira D. Pharmacotherapy of neuropathic pain: which drugs, which treatment algorithms? *Pain*. 2015 Apr;156 Suppl 1: S 104-14.
- Chapman CR, Vierck CJ. The transition of acute postoperative pain to chronic pain: an integrative overview of research on mechanisms, *Journal of Pain* 2016 doi:10.1016/j.jpain. 2016.11.004
- Finnerup NB, Attal N, Haroutounian S, McNicol E, Baron R, Dworkin RH, Gilron I, Haanpää M, Hansson P, Jensen TS, Kamerman PR, Lund K, Moore A, Raja SN, Rice AS, Rowbotham M, Sena E, Siddall P, Smith BH, Wallace M. Pharmacotherapy for neuropathic pain in adults: a systematic review and meta-analysis. *Lancet Neurol*. 2015 Feb;14(2):162-73
- Haanpää M, Attal N, Backonja M, Baron R, Bennett M, Bouhassira D, Cruccu G, Hansson P, Haythornthwaite JA, Iannetti GD, Jensen TS, Kauppila T, Nurmikko TJ, Rice AS, Rowbotham M, Serra J, Sommer C, Smith BH, Treede RD: NeuPSIG guidelines on neuropathic pain assessment. *Pain* 152:14-27, 2011
- Kehlet H, Jensen TS, Woolf CJ. Persistent postsurgical pain: risk factors and prevention. *Lancet*. 2006; 367: 1618-25
- Macrae WA. Chronic post-surgical pain: 10 years on. *Br. J Anaesth*. 2008; 101: 77-86
- Merskey H, Bogduk N (eds). *Classification of Chronic Pain*, 2nd ed. Seattler: IASP Press, 1994.
- Niraj G, Rowbotham DJ. Persistent postoperative pain: where are we now? *Br. J Anaesth*. 2011; 107: 25-29
- Scottish Intercollegiate Guidelines Network (SIGN). Management of chronic pain. Edinburgh: SIGN; 2013. (SIGN publication no. 136). [December 2013]. Available at www.sign.ac.uk

AUTHORS

Bart Morlion, MD, PhD, DESA
Director of the Leuven Center for Algology & Pain Management
University Hospitals Leuven, KU Leuven, Belgium
Hon. Assoc. Professor, University of Groningen, Netherlands

Daniel B. Carr, MD, DABPM, FFPMANZCA (Hon)
Professor of Public Health and Community Medicine
Professor of Anesthesiology and Medicine
Founding Director, Tufts Program on Pain Research, Education and Policy
Boston, Mass., USA



© Copyright 2017 International Association for the Study of Pain. All rights reserved.

IASP brings together scientists, clinicians, health-care providers, and policymakers to stimulate and support the study of pain and translate that knowledge into improved pain relief worldwide.

REVIEWERS

Didier Bouhassira, MD, PhD
Centre d'Évaluation et de Traitement de la Douleur
Hôpital Ambroise Paré
Boulogne-Billancourt, France

Prof. dr. Guy Hans
Professor of Anesthesiology
University of Antwerp
Antwerp, Belgium

About the International Association for the Study of Pain®

IASP is the leading professional forum for science, practice, and education in the field of pain. [Membership is open to all professionals](#) involved in research, diagnosis, or treatment of pain. IASP has more than 7,000 members in 133 countries, 90 national chapters, and 20 Special Interest Groups.

As part of the Global Year Against Pain After Surgery, IASP offers a series of Fact Sheets that cover specific topics related to postsurgical pain. These documents have been translated into multiple languages and are available for free download. Visit www.iasp-pain.org/globalyear for more information.



© Copyright 2017 International Association for the Study of Pain. All rights reserved.

IASP brings together scientists, clinicians, health-care providers, and policymakers to stimulate and support the study of pain and translate that knowledge into improved pain relief worldwide.