

## Investigating Acute and Chronic Pain after Bariatric Surgery

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**Abstract :** Obesity is a worldwide epidemic and is recognized as a chronic disease. Pain in the obese individual is a multidimensional issue. An increase in BMI is positively correlated with pain incidence and severity, especially in central obesity where individuals are twice as likely to have chronic pain. Both obesity and chronic pain are also associated with mood disorders. Pain is worse among obese individuals with depression and anxiety. Bariatric surgery provides patients with an effective solution for long-term weight loss and associated health problems. However, not much is known about acute and chronic pain after bariatric surgery and its contributing factors, including mood disorders. Nurse practitioners (NPs) at one large multidisciplinary bariatric surgery centre led two studies to examine acute and chronic pain and pain management over time after bariatric surgery. The purpose of the initial study was to examine the incidence and severity of acute and chronic pain after bariatric surgery. The aim of the secondary study was to further examine chronic pain, specifically looking at psychological factors that influence severity or incidence of both neuropathic and somatic pain as well as changes in opioid use. The initial study was a prospective, longitudinal study where patients having bariatric surgery at one surgical center were followed up to 6 months postop. Data was collected at 7 time points using validated instruments for pain severity, pain interference, and patient satisfaction. In the second study, subjects were followed longitudinally starting preoperatively and then at 6 months and 1 year postoperatively to capture changes in chronic pain and influencing variables over time. Valid and reliable instruments were utilized for all major study outcomes. In the first study, there was a trend towards decreased acute post-operative pain over time. The incidence and severity of chronic pain was found to be significantly reduced at 6 months post bariatric surgery. Interestingly, interference of chronic pain in daily life such as normal work, mood, and walking ability was significantly improved at 6 months postop however; this was not the case with sleep. Preliminary results of the secondary study indicate that pain severity, pain interference, anxiety and depression are significantly improved at 6 months postoperatively. In addition, preoperative anxiety, depression and emotional regulation were predictive of pain interference, but not pain severity. The results of our regression analyses provide evidence for the impact of pre-existing psychological factors on pain, particularly anxiety in obese populations.

**Keywords :** bariatric surgery, mood disorders, obesity, pain

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