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# A Randomized Controlled Trial of Clinical Hypnosis as an Opioid-Sparing Adjunct Treatment for Pain Relief in Adults Undergoing Major Oncologic Surgery

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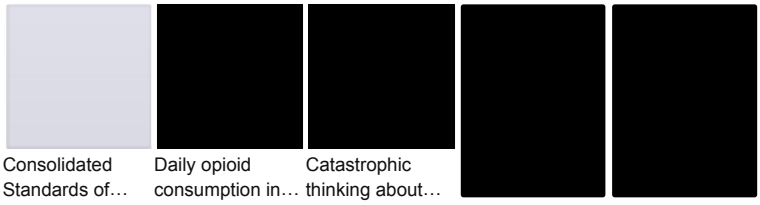
Abstract and Figures

Clinical hypnosis is an effective strategy for managing acute pain in the surgical setting. However, the opioid sparing effects of clinical hypnosis are not as well understood. This pre-registered (NCT03730350) randomized, controlled trial (RCT) examined the impact of clinical hypnosis, pre- and post-surgery, on opioid consumption during hospitalization as well as on measures of pain intensity, pain interference, depressed mood, anxiety, sleep, and pain catastrophizing. Participants (M = 57.6 years; SD = 10.9) awaiting oncologic surgery were randomized to treatment-as-usual (n = 47) or hypnosis (n = 45). Intent-to-treat analyses were conducted using linear mixed effects modeling. A significant Group × Time interaction, F(6, 323.34) = 3.32, p = 0.003, indicated an opioid sparing effect of clinical hypnosis during the acute postoperative period. Hypnosis also protected against increases in pain catastrophizing at one-week after surgery, F (1, 75.26) = 4.04, p = 0.048. A perioperative clinical hypnosis intervention had a sparing effect on opioid consumption in-hospital after major oncologic surgery. These findings extend the efficacy of clinical hypnosis as an adjunct tool for perioperative pain management.



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# A Randomized Controlled Trial of Clinical Hypnosis as an Opioid-Sparing Adjunct Treatme for Pain Relief in Adults Undergoing Major Oncologic Surgery

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**Abstract:** Clinical hypnosis is an effective strategy for managing acute pain in the surgical setting. However, the opioid sp effects of clinical hypnosis are not as well understood. This pre-registered (NCT03730350) randomized, controlled trial (I examined the impact of clinical hypnosis, pre- and post-surgery, on opioid consumption during hospitalization as well as on mea of pain intensity, pain interference, depressed mood, anxiety, sleep, and pain catastrophizing. Participants (M = 57.6 years; SD = awaiting oncologic surgery were randomized to treatment-as-usual (n = 47) or hypnosis (n = 45). Intent-to-treat analyses conducted using linear mixed effects modeling. A significant Group × Time interaction, $F(6, 323.34) = 3.32$, $p = 0.003$, indicate opioid sparing effect of clinical hypnosis during the acute postoperative period. Hypnosis also protected against increases in catastrophizing at one-week after surgery, $F(1, 75.26) = 4.04$, $p = 0.048$. A perioperative clinical hypnosis intervention had a sp effect on opioid consumption in-hospital after major oncologic surgery. These findings extend the efficacy of clinical hypnosis a adjunct tool for perioperative pain management.

**Keywords:** clinical hypnosis, oncologic surgery, postoperative opioid use, postoperative pain, pain catastrophizing

## Introduction

The prevalence of long-term, high-dose opioid use for pain is a key factor in the current opioid public health cri Opioid use for acute pain after surgery is part of standard care; however, some patients who use opioids for post-surg pain may ramp up to high opioid doses and subsequently have difficulty weaning back down. Furthermore, patients are taking opioid medication prior to surgery and also have a history of anxiety and/or depression, are at increased ris prolonged use and substantial increase in opioid doses after surgery.[2–4]

Given the current concern over opioid use for pain management, psychological pain management options, suc clinical hypnosis, are being revisited. Hypnosis is established with

> an induction procedure to enhance responsiveness and reduce peripheral awareness followed by delivering suggestions with a specific sociocultural context to guide participants to experience cognitive, sensory, motor, or perceptive alteraions.[5]

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... A physician may also assess the patient and propose the opportunity to participate in a multidisciplinary pain care program, which may include medications, physiotherapy, and psychological counselling. For some patients, medical and psychological (e.g., clinical hypnosis [29, 30]) treatment may begin in the hospital prior to discharge. ...

... Both groups showed an overall reduction in pain, pain interference, pain catastrophizing, anxiety and opioid use by their last TPS visit [12,31]. A recent study by the TPS psychology team also demonstrated that clinical hypnosis had an opioid sparing effect during the acute postoperative period and protected against increases in pain catastrophizing at oneweek after surgery [29]. Furthermore, in a study of the effectiveness of the MMP app, individuals who used the app reported lower anxiety and greater reduction in pain catastrophizing compared to a group of patients who did not use the app [36]. ...

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... Additionally, hypnosis was associated with a protective effect against the increase in pain catastrophizing scores one week after surgery. These findings suggest that clinical hypnosis can be a valuable tool in the perioperative management of pain, potentially reducing the need for opioid analgesics and mitigating negative psychological responses to pain (24). ...

... The sample size (N = 92) estimate was based on a power analysis of daily morphine equivalents in milligrams, postsurgery, which was the primary outcome of the main RCT (24). The present study's sample size was deemed suitable for analyses, as according to Quintana (27), samples between N = 61 to N = 233 are sufficient to achieve 80% power in detecting moderate to large effect sizes in HRV. ...

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... Medical hypnosis, alone or in combination with cognitive behavioral therapy, has shown promising results as a therapeutic technique for the control of anxiety, depression, smoking cessation, weight loss, and inflammatory bowel disease [8]. Moreover, the use of hypnosis has been shown to enhance post-operative recovery, to shorten the length of hospital stay, and to reduce the use of opioid and non-opioid medications [8] [9] [10][11]. ...

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... Hypnosis also protected participants against the negative effects of increases in catastrophic thinking about pain that the TAU participants exhibited 1 week after surgery. 19 One month after surgery, HF-HRV was significantly higher in the clinical hypnosis group than the TAU group and in the latter, but not the former, group HF-HRV decreased significantly from before surgery to 1 month after surgery. 18 Taken together, these findings indicate that among patients undergoing oncological surgery, provision of perioperative clinical hypnosis over-and-above TPS treatment reduces in-hospital opioid consumption and suggests that hypnosis may mitigate the adverse effects surgery has on autonomic function, thereby contributing to improving postsurgical recovery. ...

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Introduction Clinical hypnosis has been proposed for post-surgical pain management for its potential vagal-mediated anti-inflammatory properties. Evidence is needed to understand its effectiveness for post-surgical recovery. Iin this secondary outcome study, it was hypothesized that surgical oncology patients randomized to receive perioperative clinical hypnosis (CH) would demonstrate greater ... [Show full abstract]

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Joel Katz · Abid Azam · Aliza Weinrib · [...] · Janice Montbriand

Background: Chronic postsurgical pain (CPSP) and associated long-term opioid use are major public health concerns. Aims: The Toronto General Hospital Transitional Pain Service (TPS) is a multidisciplinary, hospital-integrated program developed to prevent and manage CPSP and support opioid tapering. This clinical practice–based study reports on preliminary outcomes of the TPS psychology program, ... [Show full abstract]

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February 2019 · Canadian Journal of Pain/Revue canadienne de la douleur

Joel Katz · Aliza Z Weinrib · Hance Clarke

Background: Chronic postsurgical pain is a highly prevalent public health problem associated with substantial emotional, social, and economic costs. Aims: To (1) review the major risk factors for chronic postsurgical pain (CPSP); (2) describe the implementation of the Transitional Pain Service at the Toronto General Hospital, a multi-professional, multi-modal preventive approach to CPSP ... [Show full abstract]

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This cohort study measures opioid use between 90 days and 1 year after major surgery.. Exposure to opioids is largely unavoidable after major surgery because they are routinely used to treat postoperative pain. Nonetheless, continued long-term opioid use has negative health consequences including opioid dependence.[1] Patients and health care professionals are therefore concerned about long-term ... [Show full abstract]

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