

### Summary

- High-quality best practice guidance is lacking for interventions that are generalizable to all surgery patients to reduce the risk of acute post-surgical pain transitioning to chronic.
- Many publications recognized that control of acute post-operative pain was a primary risk factor for transition to chronic pain; however, long-term outcomes such as transition to chronic pain were not provided in supporting evidence for any acute pain management recommendations.
- Specific surgical techniques have been recommended to reduce the risk of transition from acute to chronic post-surgical pain; however, no generalizable interventions for all surgical patients have been strongly recommended within available CPGs or tested within comparative effectiveness analyses.
- Review findings suggest that little emphasis has been placed specifically upon reducing the risk of chronic post-operative pain.
- Future systematic reviews may provide a greater breadth of available evidence through inclusion of more patient conditions associated with acute pain (e.g., injury/trauma, dental).

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### What is the issue?

In 2018, the WHO and an international working group developed a definition and classification system for chronic pain, thereby advancing the recognition of chronic pain as a health condition, in its own right. Acute pain typically begins due to an identifiable antecedent (e.g., injury, surgery) and occurs for a short duration. This pain serves as a protective factor and typically responds well to analgesics, anti-inflammatories, and non-pharmaceutical modalities. When acute pain persists beyond the expected timeframe of recovery, it transitions to chronic pain. A rapid review was conducted to determine the best practices for reducing the risk of acute pain transitioning to chronic pain post-operatively.

### What was the aim of the study?

The following review question was addressed:

- What interventions do best practice guidelines, overview of reviews, overviews of guidelines, and network-meta-analyses recommend for reducing the risk of acute pain transitioning to chronic pain?

### How was the study conducted?

Ovid MEDLINE, including Epub Ahead of Print and In-Process & Other Non-Indexed Citations, and Embase Classic + Embase were searched in 2020 for clinical practice guidelines (CPGs), overviews of reviews/umbrella reviews, overviews of guidelines, and network meta-analyses (NMAs) that focused on individuals with or anticipated to have acute post-surgical pain. Studies were included if they: (1) met criteria of a high-quality CPG or systematic review; (2) were conducted or published in Canada, the USA, the UK, or Australia, or were international or European CPGs; and (3) were available in full text in either English or French. Interventions of interest included pharmacologic, psychological, physical, self-management, and multidisciplinary interventions to reduce the risk of transition from acute to chronic pain. We extracted recommendations from CPGs and conclusions from overviews and NMAs regarding interventions of interest. Extracted data were collated and synthesized, with similar recommendations and messages grouped to demonstrate where agreement existed.

### What did the study find?

- Three high-quality CPGs and six high-quality NMAs were included.
- Only one recommendation was identified that could be **generalized to all adult surgical patients** to reduce the risk of chronic post-surgical pain (IV ketamine; weak recommendation; moderate-quality evidence).
- Two other CPGs provided guidance regarding specific surgical conditions:
  - **Surgical patients with chronic opioid use** (collaborative and multidisciplinary approaches; strong recommendations with moderate-quality evidence).
  - **Patients undergoing groin hernia repair** (various surgical techniques were associated with a reduced risk of chronic pain; strong and weak recommendations with very-low- to moderate-quality evidence).
- All NMAs assessed specific surgical conditions but, generally, had inconclusive findings:
  - **Inguinal hernia repair (4 NMAs):** no statistically significant differences between any techniques regarding risk of chronic pain. The choice of the most suitable treatment should be based on individual surgeon expertise and tailored to the patient.
  - **Osteoporotic vertebral compression fracture in the elderly (1 NMA):** with limited data available, percutaneous vertebroplasty may be the best procedure to reduce the risk of chronic pain.
  - **Rotator cuff injury management in the elderly (1 NMA):** Some surgical treatments were associated with significant improvement in function and pain compared to physiotherapy alone; however, evidence regarding their comparative effectiveness is still lacking

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