

EVIDENCE-BASED MULTIDISCIPLINARY STRATEGY

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DOI: 10.52340/geoanesthesia.2026.09.12

Keywords: multimodal analgesia; postoperative pain; opioid-sparing anaesthesia; regional analgesia; fascial plane blocks; enhanced recovery after surgery (ERAS).

Background: Postoperative pain remains common despite decades of guidance; nearly half of adults experience moderate or severe pain after surgery [1]. Inadequately controlled acute pain impairs function and recovery and is a modifiable risk factor for chronic postsurgical pain, which affects approximately one in ten patients overall and occurs more frequently after selected high-risk procedures [2].

Objective: To synthesise current evidence on multimodal perioperative analgesia and present a practical, multidisciplinary framework spanning the preoperative, intraoperative, post-anaesthesia care, ward and discharge phases.

Methods: Contemporary guidelines and consensus statements, landmark mechanistic studies, systematic reviews and enhanced-recovery literature were narratively reviewed. Evidence was integrated into a framework emphasising procedure-specific analgesia, opioid-sparing strategies, local or regional techniques and continuity across clinical handoffs.

Key findings: Multimodal analgesia is grounded in nociceptive physiology. Surgical pain is generated and processed through transduction, transmission, modulation and perception and may be amplified by peripheral and central sensitisation [3,4]. Because no single intervention adequately addresses the entire pathway, combining complementary agents and techniques can improve analgesia while reducing reliance on high doses of any single drug class.

The regimen should be tailored to the procedure and patient. When not contraindicated, a practical foundation commonly includes paracetamol, an NSAID or COX-2 inhibitor, and local or regional anaesthesia when appropriate [1,5,6]. Opioids remain essential for breakthrough or severe acute pain but should be titrated as one component of the plan rather than used as its sole foundation. Selected adjuncts include ketamine for opioid-tolerant patients or when central sensitisation is a major concern, dexmedetomidine with attention to bradycardia and hypotension, and dexamethasone for antiemetic and procedure-dependent analgesic benefit [1]. Routine perioperative gabapentinoid use is not supported by a 281-trial meta-analysis showing no clinically meaningful analgesic benefit and increased dizziness and visual disturbance [7].

The 2026 American Society of Anesthesiologists guideline strongly recommends fascial plane blocks to reduce pain and/or opioid requirements during the first 24 hours after open cardiothoracic, abdominal, retroperitoneal and pelvic surgery and mastectomy; it also recommends them after minimally invasive abdominal procedures [5]. The guideline acknowledges limitations in the evidence, including methodological heterogeneity, inconsistent outcome measurement and small single-centre studies.

Effective implementation requires continuity across handoffs: preoperative risk assessment and patient education; a procedure-specific intraoperative plan; structured assessment of movement-evoked pain in

recovery and on the ward; scheduled baseline analgesia; an explicit rescue pathway; and deliberate opioid stewardship at discharge [1,6]. These elements align analgesia with enhanced-recovery goals, including mobilisation, pulmonary and gastrointestinal recovery and shorter hospital stay [8].

Conclusion: Multimodal perioperative pain management is not simply the administration of more drugs. It is the coordinated, procedure-specific and risk-adjusted use of complementary interventions across the entire surgical pathway. The persistent gap in postoperative pain relief is therefore both a pharmacological and an organisational problem, requiring multiple disciplines to work as one.

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