

# Patterns Of Intra-Operative Opioid Dosing By Anaesthesiologist; Do They Reflect Patient's Analgesic Need?

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## SUMMARY

While it is recommended to employ multimodal analgesic techniques whenever possible, often strong opioids remain the mainstay of perioperative analgesics. We conducted a pilot observation study to look into patterns and factors affecting intraoperative opioid dosing by anaesthesiologists, and compared that to postoperative opioid dosing by adult patients. We found that intraoperative opioid dosing by anaesthesiologists was not associated with patient's weight, gender nor the types of surgery. The age of the patient was weakly associated with intraoperative opioid dosing by the anaesthesiologist at a regression coefficient of -0.091 (95%CI -0.181, -0.001),  $p=0.048$ . Within the first six hours postoperatively, 33% of patients from spine surgery group actually dosed themselves more than what the anaesthesiologist did intraoperatively, 21.4% for peripheral limb surgery group and 3.2% in abdominal surgery group. Our study highlighted the possibility of under-dosing of opioids by anaesthesiologists in these subgroups and failure to apply multimodal analgesia in our daily anaesthetic care.

## INTRODUCTION

With the increasing numbers and quality of evidence, multimodal analgesia is advocated for improved perioperative pain management. Combinations of Paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs), alpha-2 adrenergic agonists, N-Methyl-D-Aspartate (NMDA) receptor antagonist, anticonvulsants and regional anaesthetic and analgesic techniques are used to achieve opioid sparing effects.<sup>1</sup> While it is recommended to employ these multimodal analgesic techniques whenever possible, often strong opioids remain the mainstay of perioperative analgesics due to limitations of skills

and equipment, concomitant anticoagulant use, availability of these opioid sparing drugs, patient's refusal and patient's underlying comorbidities. In these instances, adequate dosing of perioperative opioids to achieve adequate postoperative pain relief is important. Poorly controlled postoperative pain is a risk factor for chronic persistent postsurgical pain, heightens psychological distress, impairs functional rehabilitation and leads to poorer overall outcomes.<sup>2</sup>

There are many studies that compare different intraoperative and postoperative analgesic techniques in surgical setting, their analgesic effects and side effects profile. But few studies compared intraoperative opioids dosing and their effects on postoperative pain. It would be interesting to look into the patterns and factors affecting intraoperative opioid dosing by anaesthesiologists, and compared that to postoperative opioid dosing by patients.

## STUDY OBJECTIVES

- a. To compare the postoperative opioid dosing by patients via patient-controlled analgesia (PCA) technique to the intraoperative opioid dosing by anaesthesiologists.
- b. To study the patterns and factors which affect the intraoperative opioids dosing by anaesthesiologists.

## METHODS

This was a pilot observational study of four weeks' duration, which also constituted a part of a more comprehensive quality assurance project at hospital level in an attempt to observe and identify possible causes of inadequate postoperative pain management. All adults patient who were prescribed patient-controlled analgesia (PCA) with