

Persistent opioid use after arthroplasty

The prevalence of long-term opioid use is increasing worldwide, principally in the United States, but also in Australia. Stark et al published a large study identifying the prevalence and predictors of opioid use postoperatively in a cohort of private patients from an Australian metropolitan hospital¹. In a subgroup of 364 orthopaedic patients, persistent opioid use at 90 days was reported in 13.7% of non-spinal surgery cases. This figure is concerning as relatively short-term prescribing may be leading to unintended longer-term opioid use in these patients. While acute pain services are well developed in most tertiary hospitals, opioid prescribing and monitoring following discharge is usually left in the hands of surgeons and general practitioners with little oversight from pain specialists.

In our smaller study from a single private metropolitan hospital we sought to determine the prevalence of opioid use at 90 days postoperatively in patients undergoing elective primary unilateral total hip or knee arthroplasty. After obtaining approval from the hospital's research ethics committee (Ethics number HPH499) and written informed consent, we asked patients to complete a questionnaire designed by a multidisciplinary team. The operations were performed by one of two experienced consultant surgeons with a standard posterolateral approach for hip arthroplasty and medial parapatellar approach for knee arthroplasty. The primary anaesthetic technique for both was central neuraxial block (spinal anaesthesia, bupivacaine 0.5%, no additives) combined with propofol-based sedation. Analgesia consisted of high-volume local anaesthetic infiltration (100 ml of ropivacaine 0.2%) and oral multimodal analgesia including paracetamol, meloxicam, pregabalin, and tapentadol. In addition, total knee arthroplasty patients received a continuous adductor canal catheter infusion for three to five days (ropivacaine 0.2% at 6 ml per hour). All patients received education regarding opioid use, multimodal analgesic regimens and opioid tapering post-discharge. This included formal preoperative education and informal bedside discussions while an inpatient, followed up with written guidelines on discharge.

One hundred and sixty-five consecutive patients were included. Ninety-three patients responded, 39 male and 54 female, predominantly American Society of Anesthesiologists physical status 2 with a mean age of 66 years and mean body mass index of 30 kg/m². Fifty-two patients had undergone a primary total hip arthroplasty and 41 had a primary total knee arthroplasty. Eleven patients were taking opioid analgesia preoperatively, and the remaining 82 were not taking any opioid medication ('opioid naïve'). At three months postoperatively three of 82 (3.6%) opioid naïve patients were still taking opioids. Five of 11 patients (45%) who required opioids preoperatively remained on opioids.

Our relatively small single-centre prospective observational study showed a low prevalence of persistent opioid use in opioid naïve patients and a reduction in chronic opioid users. This compares favourably with the paper from Stark et al. However, our study had significant limitations. The number of participants was low, as was the response rate, which may have introduced bias with the potential for patients still on opioids reluctant to respond. While we collected data on risk factors for persistent opioid use, our study was underpowered to identify specific risk factors. Stark et al noted anxiety, attendance at a preoperative clinic and high self-reported pain scores at 90 days as identifiable risk factors. In a much larger study from the United States, Namba et al analysed almost 24,000 patients undergoing knee arthroplasty and listed 14 additional risk factors. In this study they noted that 60% of patients used opioids before surgery and 41.2% continued to do so three months after surgery². These figures may not reflect the cohort of cases we deal with in a private hospital setting in Australia.

Although we cannot draw any conclusions from our small study we would support the important work done by Stark et al and advocate identifying persistent opioid use at 90 days as an important metric of postoperative outcome. As noted by Pratt in the accompanying editorial of Stark's study a whole range of strategies are recommended including the use of opioid risk screening tools, education, opioid reduction strategies and defined interventions to reduce the risk of persistent opioid use³. These are all worthy aims but it is not clear how we can achieve these goals in the setting of a private hospital. Our single institution performs approximately 2,400 joint replacements per annum and currently we have no defined coordinated strategy for dealing with persistent opioid use after surgery. Nationally there were 108,073 hip and knee arthroplasties performed in 2016. The majority of these (60%–70%) were performed in private hospitals and this number is increasing by 3%–4% annually⁴. Extrapolating this data using Stark's prediction of ~13.7% persistent opioid use after surgery we can estimate that joint arthroplasty may be generating at least 10,000 new persistent opioid users every year. At the very least we would advocate identification and monitoring of the prevalence of persistent opioid use postoperatively across more hospitals with greater data sharing between institutions. Multimodal strategies to deal with this problem are clearly required but as to how, and by whom these services can be delivered particularly in the private hospital setting remains unanswered.

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