Improving the management of postoperative pain

AUTHOR Mandy Layzell, RGN, MA, is acute pain nurse, Acute Pain Service, Poole Hospital NHS Trust, Dorset.


Despite developments in knowledge of pain control, many patients still experience unnecessary postoperative pain. This article reports on an audit of postoperative pain and its management in one trust. The results led to the development of a new system using standard prescriptions to empower nurses to manage patients’ pain.

In 1997 the Audit Commission proposed a standard that fewer than 20 per cent of patients should experience severe pain after surgery, ideally reducing to fewer than five per cent by 2002 (Audit Commission, 1997).

However, current evidence suggests that, in spite of the introduction of acute pain teams and improved techniques for managing pain, a significant number of patients still experience moderate to severe pain after surgery (Taverner, 2003).

Apart from the emotional distress that acute pain causes there can be serious physiological consequences for patients in the immediate postoperative period (Tan et al, 1999). Poorly managed postoperative pain, among other factors, has also been shown as a predictive factor for the development of chronic pain after surgery (Perkins and Kelet, 2000).

Despite advances in pain management techniques and increased nursing knowledge, many patients are still waking up in the recovery room in severe pain. More than one-quarter of patients who responded to a national survey of NHS inpatients reported being in pain all or most of the time in hospital, and delays in receiving analgesia of more than 30 minutes were experienced by six per cent (Picker Institute, 2002).

Pain management

Griep (1992) identified the ‘knowledge deficit’ of professionals as the most prevalent cause of poor pain management, with poor prescriptions by doctors and inadequate administration by nurses being key issues. Teaching on pain control for medical students in the past has been poor, with an average of 3.5 hours being delivered during a four-year course (Marcer and Deighton, 1988). More recently Clarke et al (2003) reported that little has changed and medical house officers receive 1–5 hours of formal training in pain management. Inappropriate attitudes and beliefs among both doctors and nurses have also been shown to affect pain management (Clarke et al, 1996; Lasch et al, 2002). In addition, there are many patient barriers to good pain management that should be acknowledged and addressed by staff (Carr, 1997).

The public have a high degree of confidence in the ability of nurses and doctors to treat their pain but little understanding about postoperative pain and the methods available to treat it (Scott and Hodson, 1997). Junior doctors are often the first to be called to review patients in acute pain or when complications arise in relation to analgesia. As prescribers, their knowledge and skills in pain management are important for both the patient in pain and the nurse who is responsible for alleviating the patient’s pain.

The Oxford league table of analgesics has provided health professionals with a wealth of information about the efficacy of a range of analgesics in order to help manage acute pain (Oxford Pain Research Trust, 2002). The evidence presented suggests that effective relief can be achieved with non-opioid drugs such as NSAIDs and paracetamol. However, limited data is available on the efficacy of opioids in acute pain other than for injected morphine.

Recovery nurses are on the frontline when it comes to pain management and relieving pain in the postoperative period is one of their major challenges. In practice, local recovery ward experience suggests there might be significant delays in achieving satisfactory analgesia and delays...
in discharge due to inadequate prescribing of analgesia. An audit was therefore conducted to identify the delays patients were experiencing and the reasons why.

**Method**
Data was collected in the main theatre suite recovery ward during a five-week period on all postoperative adult patients who reported a verbal pain score of three or more out of 10 on waking (0 = no pain and 10 = unbearable pain). Patients having epidural or spinal analgesia were excluded from the study. The data collected included:
- Type of surgery;
- Analgesia received during operation;
- Time of first pain score;
- Whether the nurse had to obtain additional prescription/s from the anaesthetist;
- Analgesia administered in recovery;
- Whether the patient required a PCA;
- Time when pain score was <3/10 and the patient was fit to be returned to the ward.

**Results**
The total number of patients cared for in recovery ward during the audit period was 258; this figure included routine and emergency surgery. The number of patients reporting a pain score of more than 3/10 on waking was 122 (47 per cent) and patients experiencing a higher pain score of more than 5/10 was 101 (39 per cent) (Table 1).

For 20 per cent of all patients, the recovery nurse had to spend time chasing the anaesthetist for further prescriptions of analgesia and 17.5 per cent of these prescriptions were for morphine. Patients where a prescription was readily available achieved a pain score of less than 3/10 in an average of 34 minutes. Patients for whom further prescriptions for analgesia had to be obtained after admission to the recovery ward achieved pain score of less than 3/10 after an average of 60 minutes (Table 2).

**Discussion**
This audit has shown that high proportions of patients are waking from general anaesthesia in pain and a substantial number are in moderate to severe pain. In line with the recommendations made by the Audit Commission (1997), it is clear that improvements in postoperative pain management are required. The audit data clearly shows that if recovery staff have adequate prescriptions to act upon patients’ pain quickly, the time taken for the patient to reach a reasonable pain score is halved. This inadequate prescribing by anaesthetists causes unnecessary suffering and potentially harmful effects for patients. Interestingly, the audit has highlighted that in almost 20 per cent of cases the nursing staff had to ask the anaesthetist for opioids to reduce patients’ pain scores. This implies that the anaesthetist has given inadequate analgesia intra-operatively or perceives that the type of surgery performed is relatively painless. This suggests that a lack of knowledge and misconceptions in opioid use in pain management still exist (Mann, 2003).

The need for nurses to spend time chasing anaesthetists, who in some circumstances had left the department, for further analgesia resulted in:
- Valuable patient contact time being lost;
- Patients experiencing longer periods of severe pain;
- A delay in returning patients to their ward;
- Overloading the recovery ward and slowing down the flow of operating lists.

This loss in time is crucial when achieving targets on surgical waiting lists is a priority.

**The solution**
The solution being implemented across all surgical and trauma wards is the introduction of a preprinted sticky label for prescription charts. The nurse is provided with a range of drugs in a variety of routes to manage the patient’s pain and potential side-effects.

Patients being admitted for elective surgery normally see the nurse and doctor at the pre-clerk ing appointment, when the doctor discusses medication with the patient and identifies whether any drugs are inappropriate or contraindicated. At this stage the doctor will make alterations to the prescription and sign and date the chart. For patients admitted with traumatic injuries, labels are available in the A&E department. All wards have a supply of labels for any patient admitted as an emergency. Anaesthetists also review the prescription preoperatively.

The prescription label includes a dose of intravenous morphine that nurses can give if required. This addresses the problem raised in the audit where a significant number of prescription requests were for morphine. All nurses in the trust are given training, education and assessment for administering intravenous opioids with guidance from an algorithm (Fig 1, p36). This enables them to promptly and safely treat severe, acute pain.

**Table 2. Time Taken to Achieve Pain Score of <3/10**

<table>
<thead>
<tr>
<th></th>
<th>Average time</th>
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<tbody>
<tr>
<td>Adequate prescription</td>
<td>34 minutes</td>
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<tr>
<td>Inadequate prescription</td>
<td>60 minutes</td>
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**Key words**
Clinical audit ■ Pain management ■ Anaesthetic nursing

**References**
This empowering initiative has provided the nursing staff with adequate ‘tools’ to manage patients’ pain swiftly and effectively. Time saved by both recovery and ward nursing staff can be spent giving better care for patients.

**Staff survey**

As this initiative involved a large number of medical and nursing staff and departments a satisfaction survey was undertaken to discover their views. The feedback was positive and a large percentage of staff stated that this initiative did make a difference to their practice. The key points from the survey suggest that:

- Patient care has been improved, due to time saved chasing doctors to change prescriptions;
- Patients no longer have to wait for analgesia;
- Nurses are empowered to manage patients’ pain effectively by having a range of drugs to administer and also anti-emetics and laxatives to deal with side-effects of the analgesia;
- Idiosyncratic and often inappropriate prescribing has been reduced, leading to improved care;
- Junior doctors are relieved of the ‘burden of prescribing’ (doctor’s own words used);
- The label has been described as a useful guide for junior – and senior – doctors in prescribing evidence-based analgesia;
- Suggestions were made for other areas within the hospital to implement this initiative to improve prescribing.

**Conclusion**

If improvements are to be made in postoperative pain management for all patients there must be equality and consistency. A team approach to improving postoperative pain management is essential and all members should be working towards the same goal. Nurses working in the recovery room need to be given the necessary tools, training, education and guidelines to do their job well.

For too long many patients have been subject to inconsistent and ad hoc prescribing of analgesia. In the light of available current evidence, managing acute pain should be relatively easy and problems should be few. This simple approach of implementing a standard prescription label should improve the postoperative experience for the majority of routine surgical admissions.

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**FIG 1. ALGORITHM FOR ADMINISTERING MORPHINE IV (MORPHINE = 1MG/ML)**

- Pain score 6–10
  - Sedation score: <2
  - Respiratory rate: >8
  - Systolic BP: >100
  - Temperature: >35
  - Patient <70 years old:
    - Pain score = >6
      - Give 1ml
    - Pain score = >8
      - Give 2ml
  - Patient ≥70 years old:
    - Pain score = >6
      - Give 0.5ml
    - Pain score = >8
      - Give 1ml
- Pain score 6–10
  - Sedation score: >2
  - Respiratory rate: <8
  - Systolic BP: <100
  - Temperature: <35
  - Seek advice from doctor

- Pain score 6–10
  - Reassess pain score after 3 minutes