

**Project Aims:**

To assess and improve the delivery of perinatal analgesia.

**Introduction:**

Pain and fatigue are the most common problems reported by women in the early postpartum period (1). Pain can interfere with a woman's ability to care for herself and her infant and inadequate analgesia can lead to anxiety and depression (2). Furthermore, untreated pain is associated with greater opioid use, inappropriate over-the-counter medication and development of persistent pain (3).

Both pharmacological and non pharmacological therapies are important components of postpartum pain management and a stepwise multimodal approach is recommended by the National Institute for health and Care Excellence (NICE), specifically, following a spontaneous delivery:

- Paracetamol first line and the addition of a non steroidal anti-inflammatory (NSAID) if required (4).

Recommendations from the Royal College of Anaesthetists suggest that following a caesarean section (CS):

- Regular paracetamol and NSAID should be prescribed where not contraindicated (5).

**Methodology:**

The baseline audit (n=32) of a three cycle quality improvement project assessed key indicators and concordance with national guidelines and recommendations (5). These included:

- Use of opioid for neuroaxial techniques;
- Analgesia regimes prescribed post-delivery;
- Pain scores day 1 post-delivery;
- Satisfaction with day 1 analgesia;
- Side effects; and
- Postnatal pain assessments.

Data was collected by patient interview and correlation with the electronic noting system.

**Baseline Audit Results**

Findings requiring improvement (tables 1 & 2):

- 35.4% of patients following a CS or instrumental delivery had no regular NSAID prescribed despite no contraindication.
- 93.75% satisfaction with day 1 post-operative analgesia.
- No or inadequate analgesia prescribed following a midwife led birth.
- 50% had pain scores documented, however, upon clarification these assessments did not correlate with patients actual pain scores.
- Further discussion with senior midwives revealed there was no requirement for midwives to assess pain scores postnatally.

**Interventions:**

**First Improvement Cycle:** At the time of obtaining the baseline results, a new cohort of anaesthetic trainees were due to start working in obstetrics. A reminder regarding best practice was disseminated to all consultants and this message was cascaded down to new trainees as well as a written reminder on the anaesthetic handover whiteboard.

**Second Improvement Cycle:** A new policy was introduced which advised:

- regular paracetamol to be prescribed by midwifery staff postnatally;
- regular postnatal pain assessments [*Note, only accurately documented pain scores were recorded as complete on the 2<sup>nd</sup> round data collection.*]; and
- A recommended pathway for patients with high pain scores.

**Table 1: Audit Results**

	Baseline	1 <sup>st</sup> Cycle	2 <sup>nd</sup> Cycle
Neuroaxial Opioid	100%	100%	100%
Average pain score (1 – 10)	3.3	3.3	3.5
Average pain score (SVD)	1.1	1.0	2.8
Average pain score (CS or instrumental)	4.0	4.5	3.9
Maternal satisfaction	93.8%	<b>100%</b>	<b>100%</b>
Frequency of side effects	25%	45%	38%
Post natal pain assessments	50%*	NA*	<b>90.6%</b>

**Table 2: Specific analgesia regimes**

	Baseline	1 <sup>st</sup> Cycle	2 <sup>nd</sup> Cycle
<b>Midwife led delivery</b>			
Paracetamol	96.9%	95%	100%
Regular	<b>25%</b>	50.6%	63.7%
As required	71.9%	44.4%	36.4%
Any NSAID	37.5%	22.2%	45.5%
Any opioid	100%	88.9%	91%
<b>CS or instrumental delivery</b>			
Paracetamol	100%	100%	100%
Regular	81.2%	100%	76.2
As required	18.8%	0%	23.2%
NSAID	<b>67.7%</b>	100%	90.4%
Regular	<b>64.6%</b>	100%	90.4%
As required	3.1%	100%	0%
Any opioid	94%	100%	100%

**Results:**

**First improvement cycle demonstrated:**

- 100% had a regular NSAID prescribed by an anaesthetist.
- 100% patient satisfaction.
- Incidence of analgesia related side effects increased from 25% to 45%.

**Second cycle demonstrated:**

- Over 90% of patients continued to have a regular NSAID prescribed by an anaesthetist.
- 100% patient satisfaction.
- 90.6% of patients had accurately documented postnatal pain assessments.
- A 39% increase of midwife led prescribing of regular paracetamol.

**Discussion:**

**Study limitations:** A small sample size impacts on reliability. This can notably be seen in average pain scores where an anomalously high score can significantly skew the data. However, a three cycle audit does go some way to control for this and predictable trends were observed.

A retrospective audit regarding pain score documentation is also problematic as the documentation may not accurately reflect all conversations between midwife and patient.

**Future work:** A new policy is currently being approved which will allow the self-administration of analgesics on obstetric wards. This includes an eligibility criteria, description of the analgesics and adjuncts (e.g. laxatives) and a self administration chart. It is hoped this policy will ensure this project provides a sustainable lasting improvement in perinatal analgesia.

**Conclusion:**

This project highlights the provision of basic analgesia and monitoring of pain levels can easily be substandard, but that simple interventions can significantly improve perinatal care.

**References:**

- 1.American College of Obstetricians and Gynaecologists. Committee Opinion No. 742. Obstetrics and Gynaecology 2018; 132; 252-253.
- 2.UK Medicines Information. Can opioids be used for pain relief during pregnancy? UKMi; 2014 (Updated 2017) [https://www.sps.nhs.uk/articles/can-opioids-be-used-for-pain-relief-during-pregnancy/]. Accessed Feb 2019.
- 3.Bisson DL, Newell SD, Laxton C, on behalf of the Royal College of Obstetricians and Gynaecologists. Antenatal and Postnatal Analgesia. Scientific Impact Paper No. 59. BJOG 2019;126:115–24.
- 4.National Institute for health and Care Excellence. Postnatal care up to 8 weeks after birth. Clinical Guidance 37; 2006.
- 5.Colvin J, Peden C. Raising the Standard: a compendium of audit recipes. 3<sup>rd</sup> ed. London: Royal College of Anaesthetists; 2012.

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