



High-dose ibuprofen may reduce post-procedural pain following IUD insertion: an observational study across reproductive and sexual health clinics in Queensland, Australia

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Background

Non-steroidal anti-inflammatory drugs are commonly used as part of a multi-modal analgesic approach to intrauterine device (IUD) insertion.¹

Whilst high dose (**1600 mg**) ibuprofen has demonstrated efficacy and safety in medication termination of pregnancy,² **no** dose >800 mg has been evaluated in IUD insertion.³

Methods

This was a prospective, non-randomised observational pre-post study. Patients undergoing IUD insertion were recruited from **five non-government sexual and reproductive health clinics** in Queensland, Australia between Jul 2025 - Jan 2026.

Ethics approval was obtained via JCU’s HREC (25H-0039).

Aims

- 1 To compare **pain outcomes** between 400 mg and 1600 mg ibuprofen cohorts
- 2 To compare **patient experiences** between 400 mg and 1600 mg ibuprofen cohorts

Results

Sixty-five patients included in ibuprofen analysis (400 mg, n=39; 1600 mg, n=26).

Post-procedural pain lower in 1600 mg ibuprofen cohort when compared to 400 mg cohort, with a median difference of 2 cm on a 10 cm VAS:

- Statistically significant reduction ($p=0.005$)
- Exceeded the minimal clinically important difference (MCID) for acute pain

This occurred despite significantly higher use of **adjunct analgesia** in the 400 mg group compared with the 1600 mg group:

- 1 g paracetamol 48.7% vs 15.4% ($p=0.002$)
- Local anaesthetic spray or gel 59.0% vs 30.8% ($p=0.042$)

No significant difference between groups for other pain and patient experience outcomes.

Conclusions

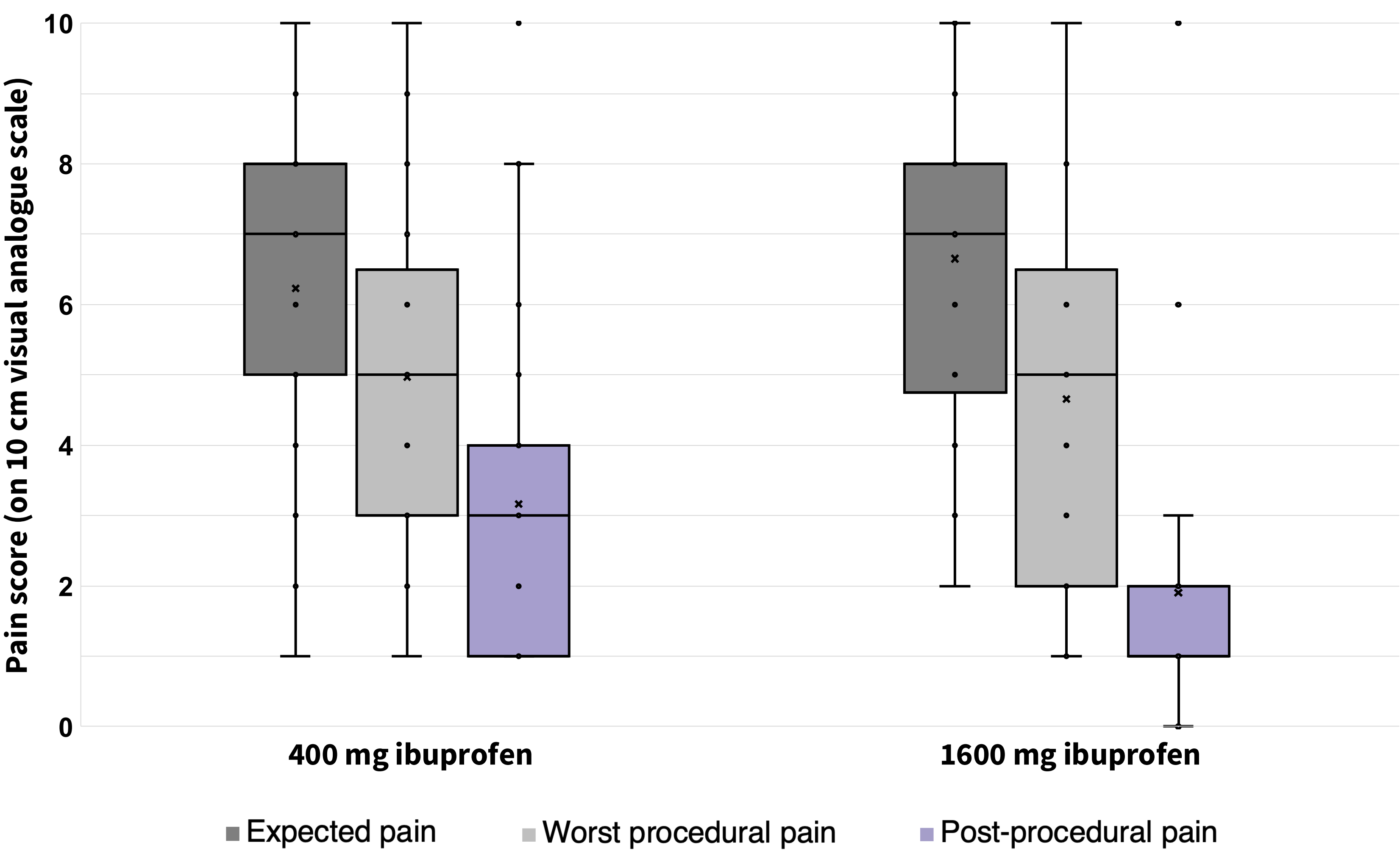
In our observational, non-standardised or randomised study, we observed a **statistically and clinically significant reduction** in post-procedural pain with 1600 mg ibuprofen use when compared to 400 mg ibuprofen, despite higher adjunct analgesia use in the 400 mg cohort.

Our findings support further evaluation of 1600 mg ibuprofen efficacy in IUD insertion. Conclusions are limited by study design, sample size and voluntary participation.

Patients were asked to complete a **voluntary** 18-question online survey in the 30 minutes after IUD insertion, including:

- Demographics, obstetric and gynaecological history
- Analgesia including ibuprofen use and dose
- Pain outcomes, measured on a 10cm visual analogue scale
- Patient experience outcomes.

Pain, by Ibuprofen Dose (Median, [IQR])



Outcomes, by Ibuprofen Dose (Median, [IQR])

Outcome	400 mg (n=39)	1600 mg (n=26)	p value
Expected pain	7.0 [5.0-8.0]	7.0 [4.0-8.0]	0.447
Pre-procedural anxiety	1.0 [1.0-2.0]	1.5 [1.0-2.0]	0.593
Worst procedural pain	5.0 [3.0-7.0]	5.0 [2.0-6.0]	0.535
Post-procedural pain	3.0 [1.0-4.0]	1.0 [1.0-2.0]	0.005
Satisfaction with analgesia	4.0 [4.0-5.0]	5.0 [4.0-5.0]	0.478
Likelihood to recommend	5.0 [4.0-5.0]	5.0 [4.0-5.0]	0.498

References

1. Hofmann G, Hoover K, Riley K. Pain management for in-office uterine and cervical procedures: ACOG Clinical Consensus No. 9. *Obstet Gynecol.* 2025;146(1):161-177. doi:10.1097/aog.0000000000005911
2. Reynolds-Wright JJ, Woldetsadik MA, Morroni C, Cameron S. Pain management for medical abortion before 14 weeks' gestation. *Cochrane Database Syst Rev.* 2022;5(5):Cd013525. doi:10.1002/14651858.CD013525.pub2
3. Bolic MS, Ainsworth J, Heal C, Drever N. The effectiveness of non-steroidal anti-inflammatory drugs for pain relief during outpatient intrauterine device insertion: a systematic review and meta-analysis. *Aust N Z J Obstet Gynaecol.* 2026;66(3):e70156. doi:10.1111/ajo.70156