

## Intro and Background

- Lidocaine is a local anesthetic medication that blocks voltage-gated sodium channels. It is commonly used to induce numbness in target tissues by inhibiting the transmission of nerve signals.
- Paracervical block is frequently used to alleviate pain during several outpatient gynecologic procedures, such as intrauterine device (IUD) placement, endometrial biopsy, and cervical biopsy.
- There is growing evidence that lidocaine spray can reduce procedural pain with lower risk of harm, bleeding, and vasovagal symptoms associated with injected lidocaine.

## Aims and Hypothesis

- The purpose of this review is to investigate the efficacy of lidocaine spray versus paracervical block administered prior to gynecological procedures.
- **Hypothesis:** Administering lidocaine spray is preferable for minimizing patient discomfort compared to cervical block.

## Acknowledgements

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## Methods

### PubMed Search Parameters

- “Pain management”
- “Lidocaine spray”
- “IUD”
- “Cervical biopsy”
- “Endometrial biopsy”

### Inclusion Criteria

- Randomized control trials
- Articles published between 2014 and 2024

12 articles met inclusion criteria and were utilized for interpretation.

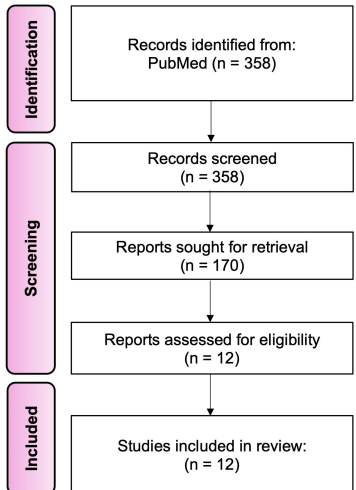


Figure 1: Study selection diagram.

## Key Findings

Significant insights from the analyzed studies include that:

- Lidocaine spray showed a significant reduction in pain with less side effects when compared to paracervical block\*.
- Lidocaine spray offers a non-invasive, convenient, and comfortable option for local anesthesia during IUD insertion.
- Patient reports of pain levels were shown to be significantly **higher** than estimates from providers.

\*The only exception noted was prior to endometrial biopsy.

## References

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Lidocaine Spray	Paracervical Block
<ul style="list-style-type: none"> <li>• Difficult to localize to treatment area</li> </ul>	<ul style="list-style-type: none"> <li>• Invasive</li> <li>• Risk of nerve injury</li> <li>• Painful</li> </ul>

Table 1: Limitations of lidocaine spray versus paracervical block.

## Conclusion

Patients that receive pain control before gynecological procedures experience less pain and discomfort during the process. However, the data reveals discrepancies in the effectiveness of lidocaine spray compared to cervical block, highlighting the need for further research.

## Future Directions

In 2024, the CDC updated recommendations for provision of medications for IUD placement:

- Lidocaine (paracervical block or topical) for IUD placement “might be useful for reducing patient pain”
- The agency did **not** specifically advise clinicians to use it

The lack of a standardized approach to pain management before gynecological procedures can lead to variability in patient care. Despite this update, there are still **no strict guidelines** for approaching pain management for IUD placement, cervical biopsy, or endometrial biopsy, leaving it up to the individual clinician.

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