

Endometriosis: To Excise or Ablate- A Systematic Review

Kayla Morris

Department of Health Sciences
Carroll College, Helena, Montana.

Introduction

Endometriosis is when endometrial tissue exists outside the uterus.¹ Upwards of 10% of all women² and 50% of fertility challenged women³ have endometriosis. In addition to this, over 70% of female chronic pelvic pain symptoms are caused by endometriosis.³

Symptomatic endometriosis can present as dysmenorrhea, non-cyclic pelvic pain, dyspareunia, cycle-linked dyschezia and dysuria.⁴ Chronic pelvic pain, defined as pain for six or more months that is severe enough to cause functional disability or lead to medical care is the primary symptom of endometriosis.⁵

The causes of endometriosis are unknown, however some risk factors have been identified.² A first degree relative with endometriosis correlates with a 3-9 fold increased risk of developing endometriosis.² Additional risk factors include early onset of menarche and extended menstrual cycles.² Treatments include hormonal suppression, pain relievers, and surgery, with surgery being the only confirmed diagnostic tool.⁶ Endometriosis is a chronic disease requiring lifelong management, with estimated economic impacts exceeding \$20 billion in the United States yearly.³

Two surgical approaches are available as treatment for endometriosis: excision and ablation. In cases of deep infiltrating endometriosis (DIE) surgical excision is required to completely treat the disease.⁷ In milder cases of endometriosis, ablation therapy is simpler and quicker, although often considered less effective.⁷ Excision cuts out 100% of the disease, while ablation cauterizes the surface of endometriosis lesions.⁷

The goal of this research project was to review whether surgical excision or ablation have better outcomes with regards to reducing pain. This information is helpful to physicians and patients when determining proper treatment for endometriosis.

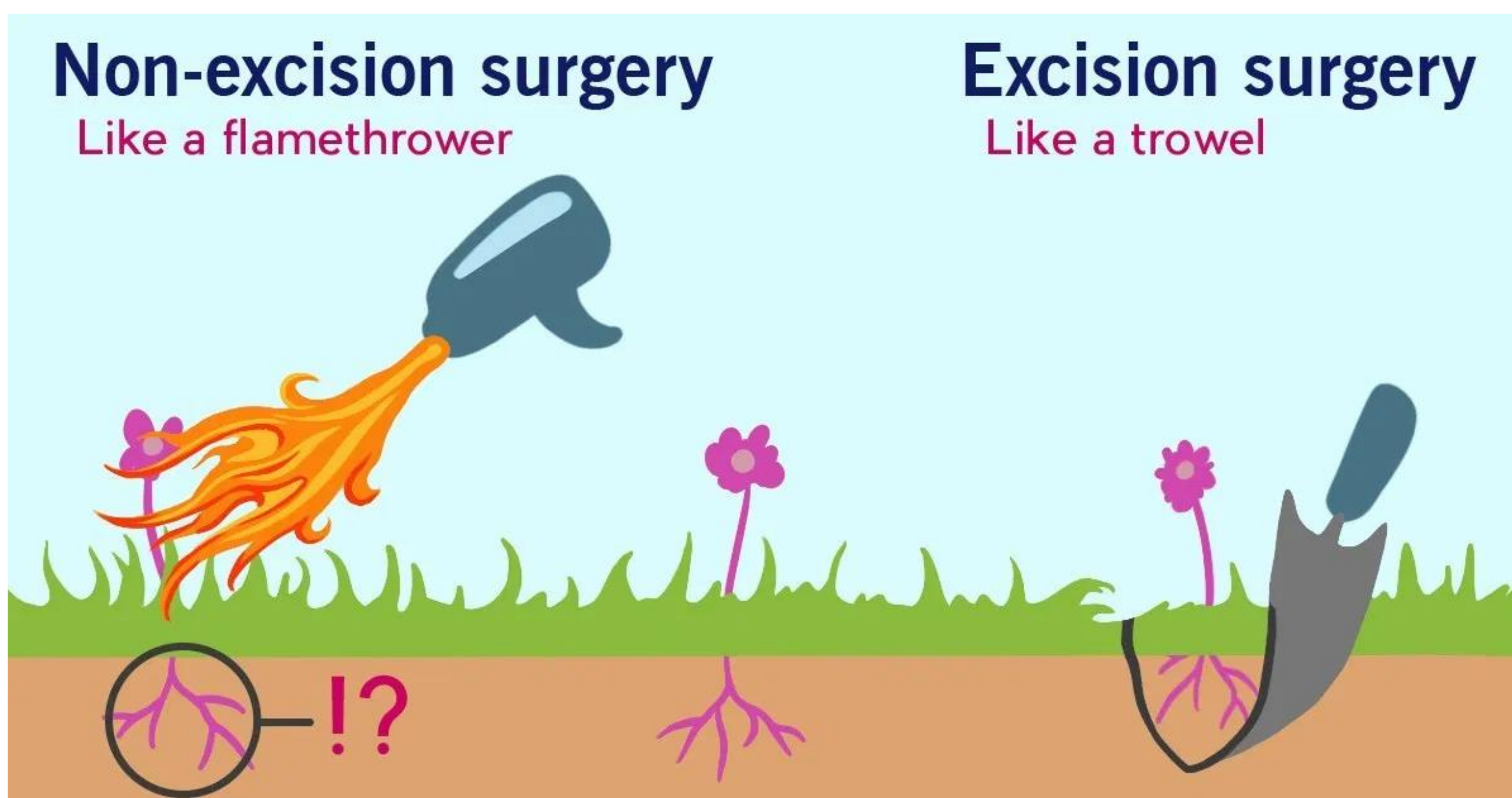


Fig 1. Visual comparison of ablative versus excision techniques

Methods

Information was gathered in September 2019 for this systematic review via PubMed, CINAHL, and JMIG. Advanced searches were used using keywords Endometriosis; Excision; Ablation; Fulguration; Pain; Laparoscopy; and Surgery. Forty-five articles were found, and narrowed down to eight relevant papers after duplications, inadequate study types, and foreign languages were removed. These studies were a mix of retrospective(1), prospective(6), cohort(2), randomized double blind(1), controlled trials(1), and randomized observational studies(1).

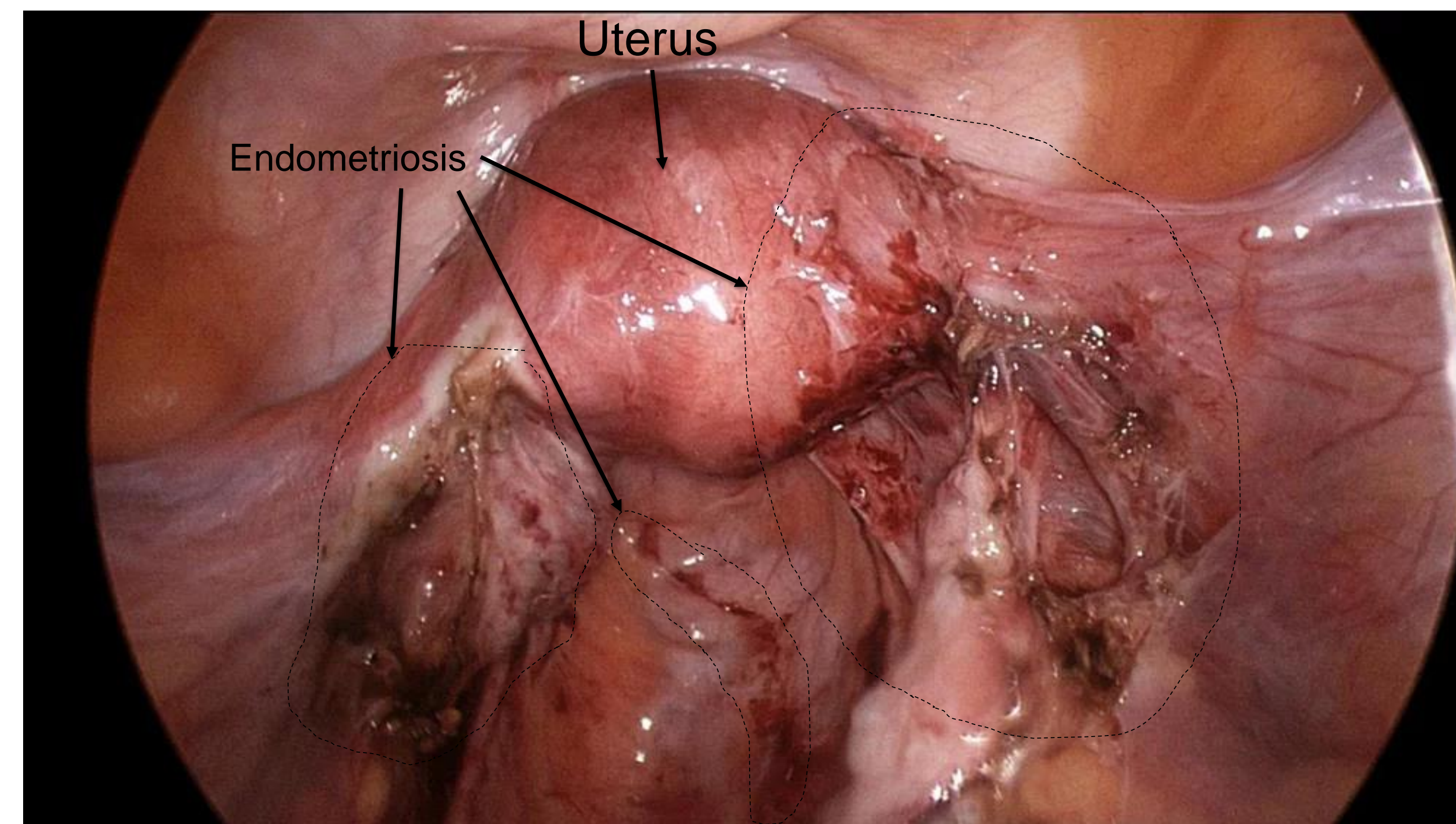


Fig 2. Surgical photo of endometriosis

Results

- Seven of eight studies reviewed, showed a significant reduction of pain and superior outcomes with surgical excision compared to ablation.
- The single outlier had study limitations, including small sample size and no histological evidence to confirm endometriosis.⁸
- The studies done by Hidaka et al.⁹ and Haeley et al.¹⁰ directly compared excision with ablation. Haeley et al. found Laparoscopic excision patients on average had less abdominal pain 5 years post-surgery than ablation patients($p=0.03$).¹⁰ Hidaka et al. showed similar results with a greater reduction of pain in the excision group compared to the ablation group($p < 0.0001$).⁹ The studies done by M. Laguerre et al.¹¹, Garry et al.¹², Byrne et al.¹³, Yeung et al.¹⁴ and Wood et al.¹⁵ looked at the effectiveness of surgical excision.
- All studies showed significant pain reduction following excision.

Discussion

- The findings of this systematic review suggest that laparoscopic excision is the most effective treatment option for symptomatic endometriosis. These findings are consistently supported by 7 out of the 8 studies reviewed. These results are supported by an earlier review published in 2017.¹⁶ In the studies reviewed, excisional surgery had a higher reduction in pain scale points, longer pain free duration, and the most significant outcomes regarding pain reduction, compared to ablation.
- Strengths of this literature review include multiple types of studies, in multiple settings. This variability reduces the likelihood of bias.
- The primary limitation of this review related to the lack of endometriosis studies; restricting the ability to directly compare excision to ablation on a large scale. Most studies incorporated small sample sizes. Few studies were on the effectiveness of ablation alone, less directly comparing ablation and excision. Last, ablation studies did not include pathological diagnosis of endometriosis tissue, due to tissue damage that results during the process of ablation.
- Excision is considered the preferred treatment for endometriosis care. Results suggest that complete surgical excision of endometriosis is the most effective form of treatment.¹⁴ When endometriosis is properly excised, endometriosis is less likely to recur, fertility is preserved, and symptoms are reduced and frequently eliminated. Future research in this field should directly compare ablation and excision of histologically confirmed endometriosis

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Image detail from The Endo-Graphic, copyright Sarah Soward 2017, <https://sarahsoward.com/blogs/blog/the-endo-graphic>

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