Endometrial Ablation

Effective: December 1, 2022

Next Review: October 2023
Last Review: October 2022

IMPORTANT REMINDER

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

DESCRIPTION

Endometrial ablation involves ablation or destruction of the endometrium using a variety of techniques to treat menorrhagia in women who fail standard therapy.

MEDICAL POLICY CRITERIA

I. Endometrial ablation, with or without hysteroscopic guidance, may be considered medically necessary when the clinical records document all of the following criteria (I.A. - D.) are met:

A. There is a diagnosis of abnormally heavy uterine bleeding in a patient who is not post-menopausal; and

B. Hysteroscopy, sonohysterography (SIS), pelvic ultrasound, or other pelvic imaging (e.g. pelvic MRI, pelvic CT) has been performed and report is provided; and

C. Clinical documentation confirms counseling regarding hormonal treatment options has been addressed (see Policy Guidelines); and

D. Endometrial sampling or dilation and curettage (D&C) has been performed or is planned according to either of the following:

1. Endometrial sampling or D&C has been performed and the histopathology report is provided, either showing absence of endometrial hyperplasia or uterine
cancer OR inadequate tissue was obtained for diagnosis; or

2. Cervical stenosis documented in the clinical record precludes endometrial sampling, and D&C is planned concomitantly with ablation procedure.

II. Repeat endometrial ablation may be considered medically necessary when all of the following (II.A. - C.) criteria are met:

A. There is a recurrent diagnosis of abnormally heavy uterine bleeding in a patient who is not post-menopausal; and
B. The initial endometrial ablation procedure was performed at least six months prior; and
C. Endometrial sampling or D&C has been performed or is planned according to either of the following:
   1. Endometrial sampling or D&C has been performed to evaluate the current abnormal bleeding episode since the previous ablation procedure, and the histopathology report is provided, either showing absence of endometrial hyperplasia or uterine cancer OR inadequate tissue was obtained for diagnosis; or
   2. Cervical stenosis documented in the clinical record precludes endometrial sampling, and D&C is planned concomitantly with ablation procedure.

III. Endometrial ablation using any technique is considered not medically necessary for all other indications not meeting the criteria in I.A.-D., or II.A.-C.

NOTE: A summary of the supporting rationale for the policy criteria is at the end of the policy.

POLICY GUIDELINES

HORMONAL THERAPY OPTIONS

Counseling regarding hormonal treatment options has occurred, or uterine intracavitary abnormality (i.e., endometrial polyps, submucosal fibroids) is found on hysteroscopy, sonohysterography, pelvic ultrasound, or endometrial biopsy/curettings and endometrial ablation is to be performed concomitantly with surgical treatment of the uterine intracavitary abnormality.

LIST OF INFORMATION NEEDED FOR REVIEW

SUBMISSION OF DOCUMENTATION

It is critical that the list of information below is submitted for review to determine if the policy criteria are met. If any of these items are not submitted, it could impact our review and decision outcome.

- Endometrial histopathological report
- Hysteroscopy, sonohysterography (SIS), pelvic ultrasound report, or other pelvic imaging (e.g. pelvic MRI, pelvic CT)
- Clinical notes which specify counseling regarding hormonal therapy in the absence of a structural abnormality
When relevant, clinical documentation of the following:
  o Counseling regarding hormonal treatment options
  o Cervical stenosis

CROSS REFERENCES

1. Gender Affirming Interventions for Gender Dysphoria, Medicine, Policy No. 153
2. Cosmetic and Reconstructive Surgery, Surgery, Policy No. 12
3. Reconstructive Breast Surgery/Mastopexy, and Management of Breast Implants, Surgery, Policy No. 40
4. Autologous Fat Grafting to the Breast and Adipose-derived Stem Cells, Surgery, Policy No. 182

BACKGROUND

Ablation or destruction of the endometrium is used to treat abnormal uterine bleeding in premenopausal women who fail standard medical therapy. Standard medical management typically includes a trial of nonhormonal therapy with adequate doses of nonsteroidal anti-inflammatory medication and oral tranexamic acid. If this fails, management with hormonal treatment to thin the endometrium may be tried. Hormonal treatment may include oral contraceptive pills, patch, vaginal ring, or progestin-only hormonal therapy (oral, IUD, implant, or injection). Ablation is considered a less invasive alternative to hysterectomy; however, as with hysterectomy, the procedure is not recommended for women who wish to preserve their fertility.

Techniques for endometrial ablation are generally divided into two categories:

HYSTEROSCOPIC TECHNIQUES

Hysteroscopic techniques require skilled surgeons and, due to the requirement for cervical dilation, use of general or regional anesthesia. In addition, the need for the instillation of hypotonic distension media creates a risk of pulmonary edema and hyponatremia such that very accurate monitoring of fluids is required.

The initial hysteroscopic technique involved photovaporization of the endometrium using an Nd-YAG laser. This was followed by electrosurgical ablation using an electrical rollerball or electrical wire loop. The latter technique is also known as transcervical resection of the endometrium, or TCRE. Hydrothermal ablation is another technique involving hysteroscopy.

NON-HYSTEROSCOPIC TECHNIQUES

Non-hysteroscopic techniques can be performed without general anesthesia and do not involve use of a fluid distention medium. Techniques include thermal fluid-filled balloon, cryosurgical endometrial ablation, instillation of heated saline, and radio frequency (RF) ablation.

REGULATORY STATUS

The U.S. Food and Drug Administration (FDA) indicated that endometrial devices are for use in premenopausal women with menorrhagia due to benign causes for whom childbearing is complete. FDA-approved devices for endometrial ablation include, but may not be limited to, laser therapy, electrical wire loop, rollerball using electric current, and thermal ablation using a liquid-filled balloon, microwave, electrode array, or a cryosurgical device. Examples of devices for endometrial ablation are listed below. FDA product code: MNB.
- The Genesys HTA™ system (Boston Scientific). This system involves the instillation and circulation of heated saline into the uterus using hysteroscopic guidance and includes features such as a smaller console and simplified set-up requirements, was approved by the FDA in May 2010.
- The Microwave Endometrial Ablation (MEA) system (Microsulis Medical): This delivers fixed-frequency microwave energy and may be performed in a physician’s office but does require use of the hysteroscope.
- The ThermaChoice® device (J&J Ethicon Gynecare): This device ablates endometrial tissue by thermal energy heating of sterile injectable fluid within a silicone balloon. Endometrial ablation will only work when there is direct contact between the endometrial wall and the fluid-filled balloon. Therefore, patients with uteri of abnormal shape, resulting from tumors such as myomas or polyps, or large size, due to fibroids, are generally not considered candidates for this procedure.
- The NovaSure® impedance-controlled endometrial ablation system (Hologic®): The system delivers RF energy to the endometrial surface. The device consists of an electrode array on a stretchable porous fabric that conforms to the endometrial surface.
- Her Option™ Uterine Cryoablation Therapy™ system (American Medical Systems): The system consists of, in part, a cryoprobe that is inserted through the cervix into the endometrial cavity. When cooled, an ice ball forms around the probe, which permanently destroys the endometrial tissue. Cryoablation is typically monitored by abdominal ultrasound.

**EVIDENCE SUMMARY**

**SYSTEMATIC REVIEWS**

Several published systematic reviews have evaluated the accumulated evidence for endometrial ablation. These reviews address both first-generation techniques (laser ablation, electrical wire loop, rollerball, or vaporizing electrode procedure) and second-generation techniques (newer techniques that generally do not require hysteroscopy such as balloon ablation, microwave ablation, and electrode ablation).

Bergeron (2020) performed a systematic review and meta-analysis of the efficacy and safety of endometrial ablation or resection compared with the levonorgestrel intra-uterine system (LNG-IUS) in the treatment of premenopausal women with heavy menstrual bleeding. A total of 13 randomized controlled trials met inclusion criteria. The meta-analysis identified no significant differences between groups for subsequent hysterectomy, satisfaction, quality of life, amenorrhea and treatment failure. Based on data from 10 studies, there was a statistically significant difference between groups for side effects, which were less common in the endometrial ablation/resection group (RR = 0.52, 95% CI 0.37 to 0.71, p<0.001, I²=0%). There was significant heterogeneity between studies for mean age of the included population (p=0.01). When age was limited to 42 years or younger, there was higher risk of subsequent hysterectomy for the endometrial ablation/resection group compared to the LNG-IUS group (RR=5.26, 95% CI 1.21 to 22.91, p=0.03, I²=0%).

In 2018, an updated Cochrane systematic review and meta-analysis compared the efficacy and safety of different endometrial ablation techniques. The review included RCTs that compared ablation techniques and assessed amenorrhea and patient satisfaction.
A total of 28 studies with 4,287 premenopausal women were eligible for the review. Five of the trials compared two “first generation” ablation methods (laser ablation, electrical wire loop, rollerball, or vaporizing electrode procedure) to one another and five trials compared “second generation” techniques to one another. Fifteen trials compared first- to second-generation procedures. Eighteen trials had adequate randomization methods, but in most trials blinding was not performed or was not reported. Of the studies that compared among second generation techniques, three described triple blinding and two described double blinding.

The investigators also conducted a meta-analysis that combined studies comparing first- and second-generation techniques. A pooled analysis of 12 studies (total n=2,085) did not find a significant difference in the rate of amenorrhea at one year (OR 0.94; 95% CI 0.74 to 1.20). Eleven studies (total n=1,690) reported satisfaction rates at one year, and there was not a significant difference between first- and second-generation techniques (OR 1.00; 95% CI, 0.97 to 1.02). Pooled analysis of adverse effects did not find any significant differences in the rate of perforation (eight studies), endometritis (four studies), or hemorrhage (four studies) using first-versus second-generation ablation techniques. Rates of fluid overload (three studies) and cervical lacerations (seven studies) and hematometra (five studies) were significantly higher with first-generation techniques than with second-generation techniques.

The authors of the Cochrane review concluded that, overall, the existing evidence suggests that success rates and complications profiles of second-generation techniques compare favorably with the first generation hysteroscopic techniques.

In 2011, the Health Technology Assessment (HTA) program in the U.K. conducted a meta-analysis of individual patient data from RCTs evaluating second-line treatments for menorrhagia. They identified data on 2,448 women from 14 trials comparing first- and second-generation endometrial ablation devices and data on 1,127 women from seven trials comparing first-generation devices to hysterectomy. A limitation of the review is that individual patient data were not available for approximately 35% of women randomized in the trials. The most frequently measured outcome in the studies was patient satisfaction/dissatisfaction and this was used as the primary outcome of the meta-analysis. After 12 months of follow-up, 7.3% (57/454) of women treated with first-generation endometrial ablation devices and 5.3% (23/432) of women who had a hysterectomy were dissatisfied with their treatment outcome. This difference was statistically significant, favoring hysterectomy (OR 2.46, 95% CI 1.54 to 3.93, p=0.0002). Rates of dissatisfaction were similar among women treated with first-generation endometrial ablation devices (123/1,006 [12.2%]) and second-generation devices (110/1,034 [10.6%], p=0.20). The authors noted that rates of dissatisfaction were low for all treatments.

The HTA also conducted meta-analyses on several clinical outcomes. For example, when first- and second-generation endometrial ablation devices were compared, there was not a significant difference between groups in the rate of amenorrhea after 12 months. When findings from 13 studies were pooled, rates of amenorrhea were 326/899 (36%) with first-generation devices and 464/1,261 (37%) with second-generation devices (OR 1.12; 95% CI 0.93 to 1.35). There were insufficient data to conduct meta-analyses of longer-term amenorrhea rates. Similarly, the rates of menorrhagia after 12 months did not differ between groups. In a pooled analysis of 12 studies, rates were 111/899 (12.3%) with first-generation devices and 151/1,281 (11.8%) after second-generation devices (pooled OR 0.97, 95% CI 0.74 to 1.28). In addition, a pooled analysis of 6 studies did not find a significant difference in repeat endometrial ablations over 12 months after initial treatment with first-generation devices.
(4/589, 0.7%) or second-generation devices (4/880, 0.5%) (OR 0.71, 95% CI 0.17 to 2.94). The proportion of women requiring hysterectomy within 12 months after endometrial ablation did not differ significantly when first-generation devices (39/933 [4.2%]) or second-generation devices (35/1,343 [2.6%]) were used (OR 0.77; 95% CI 0.47 to 1.24 [11 studies]).

In addition to the meta-analyses of data from published studies, the HTA included an analysis of individual patient data from national databases in Scotland to evaluate long-term outcomes after hysterectomy or endometrial ablation. The investigators identified a total of 37,120 women who underwent hysterectomy and 11,299 women who underwent endometrial ablation for dysfunctional uterine bleeding between 1989 and 2006. Women who received endometrial ablation were significantly older (mean of 42.5 years) compared to those receiving hysterectomy (mean of 41.0 years). The type of endometrial ablation device could not be determined. The median duration of follow-up was 6.2 years in the endometrial ablation group and 11.6 years in the hysterectomy group. During follow-up, 962 (8.5%) women who received endometrial ablation had additional gynecologic surgery compared to 1,446 (3.9%) women who had hysterectomy; this difference was statistically significant (adjusted hazard ratio [HR]: 3.56, 95% CI 3.26 to 3.89). The most common types of additional surgery after endometrial ablation were intrauterine procedures (n=577, 5.1%) and repeat endometrial ablation (n=278, 2.5%). However, women who had initial endometrial ablation procedures were significantly less likely than those with initial hysterectomies to have surgery for pelvic floor repair (0.9% vs. 2.2%, respectively, adjusted HR 0.50 to 0.77). Women were also less likely to have tension-free vaginal tape surgery for stress urinary incontinence after endometrial ablation than after hysterectomy (0.5% vs. 1.1%, respectively, adjusted HR 0.55, 95% CI 0.41 to 0.74).

In 2012, Daniels compared first- and second-generation methods using 14 trials previously addressed in the HTA assessment.[6] A pooled analysis of these studies yielded conclusions that were similar to the HTA group, in that no significant difference in amenorrhea rates was observed with the two types of techniques (OR 0.72, 95% CI 0.52 to 1.10). In addition, three studies compared the second-generation techniques, thermal balloon ablation and bipolar radiofrequency (RF) (total n=264). A pooled analysis showed a higher rate of amenorrhea with bipolar RF (OR 4.56; 95% CI 2.24 to 9.26).

In 2013, Kroft also reported no difference in amenorrhea rates when comparing first- and second-generation methods as a treatment for menorrhagia in premenopausal women (11 randomized controlled trials[7] were included in the review). However, authors did note a decrease in complication rates (seven studies with 1272 patients, rate ratio 0.52, 95% CI 0.35 to 0.76; p<0.001), operating time (16.6 minutes three studies with 486 patients, 95% CI 12.1 to 21.2 minutes; p<0.001) and improved compatibility with anaesthesia (three studies with 558 patients, rate ratio 1.87, 95% CI 1.04 to 3.37; p=0.04) in second-generation devices compared to first-generation methods. In addition, authors reported higher rates of amenorrhea in patients treated with Novasure compared to other second-generation devices (four studies with 407 patients, rate ratio 2.60, 95% CI 1.63 to 4.14; p<0.001).

Several medium and large nonrandomized studies have reported time to surgical reoperation rates, including repeat endometrial ablation, in women who fail initial procedure.[6-10] The majority of surgical reoperations occurred at least one year after the initial procedure.

**Section Summary**
Evidence from these large systematic reviews do not demonstrate that one ablation technique is superior to another. Overall, these studies continue to report similar amenorrhea rates in first-generation and second-generation techniques.

SAFETY

In 2012, Brown published an analysis of adverse events associated with endometrial ablation procedures that were reported in the U.S. Food and Drug Administration (FDA’s) Manufacturer and User Facility Device Experience (MAUDE) database.\[11\] There were a total of 829 reported adverse events between 2005 and 2011. Nearly two-thirds of the adverse events (540 of 829, 65%) were genital tract or skin burns and 529 of these events (98%) were associated with hydrothermal endometrial ablation. The next two most frequent types of adverse events were thermal bowel injury (93 of 820, 11%) and transmural uterine thermal activity (89 of 820, 11%). Of the 182 thermal injuries, 140 (77%) were associated with radiofrequency endometrial ablation. In addition, 47 instances of sepsis or bacteremia were reported, and 43 of these cases (91%) were associated with radiofrequency endometrial ablation. There were four reported deaths, two associated with radiofrequency ablation and one each associated with thermal balloon ablation and cryoablation. Sixty-six of the 829 events (8%) occurred when endometrial ablation was performed outside of the labeled instructions for use of the procedure. The authors did not report the total number of endometrial ablations performed during this time period, therefore the proportion of procedures with adverse events cannot be determined from these data.

A 2014 study by Dood examined whether women who undergo endometrial ablation are at increased risk of endometrial cancer compared with those with abnormal uterine bleeding that is managed with medication.\[12\] The data were collected from a population-based cohort in the U.S. and included a total of 234,721 women with abnormal bleeding, 4776 of whom underwent endometrial ablation. During a median follow-up period of 4.1 years, three women with a history of endometrial ablation and 601 women who were treated medically developed endometrial cancer. There was not a statistically significant difference in endometrial cancer rates between groups (age-adjusted HR=0.61, 95% CI, 0.20 to 1.89, p=0.17). Moreover, the median time to endometrial cancer diagnosis, 237 days after ablation and 299 days with medical management, did not differ significantly between groups.

Section Summary

Adverse events have been associated with endometrial ablation procedures. Certain types of adverse events are more likely to occur with specific approaches to endometrial ablation. Due to lack of information about the total number of procedures and the number of each type of endometrial ablation procedure performed, conclusions cannot be drawn from these data about the relative safety of different types of endometrial ablation procedures.

PRACTICE GUIDELINE SUMMARY

PRACTICE COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE

In 2008, the American Society for Reproductive Medicine (ASRM) reviewed their 2006 Practice Committee report and reissued their statement on indications and options for endometrial ablation.\[13\] Conclusions were:
“Endometrial ablation is an effective therapeutic option for the management of menorrhagia.

Hysteroscopic and nonhysteroscopic techniques for endometrial ablation offer similar rates of symptom relief and patient satisfaction.

Later definitive surgery may be required in 6% to 20% of women after endometrial ablation.

Women who undergo hysterectomy after a failed endometrial ablation report significantly more satisfaction after 2 years of follow-up.

Endometrial ablation generally is more effective when the endometrium is relatively thin.

Ideally, hysteroscopic methods for endometrial ablation should be performed using a fluid monitoring system to reduce the risks and complications relating to fluid overload and electrolyte imbalance.

Nonhysteroscopic methods for endometrial ablation require less skill and operating time.”

A 2015 patient fact sheet from the ASRM states that women who meet the following criteria should not have endometrial ablation:

“Women who are pregnant, who would like to have children in the future, or have gone through menopause should not have this procedure.”[14]

**AMERICAN CONGRESS OF OBSTETRICIANS AND GYNECOLOGISTS**

The American Congress of Obstetricians and Gynecologists (ACOG) published a practice bulletin on endometrial ablation in 2007, which was later reaffirmed in 2013, 2015, and 2018.[15] ACOG made the following recommendations, as being based on good and consistent evidence:

“For women with normal endometrial cavities, resectoscopic endometrial ablation and nonresectoscopic endometrial ablation systems appear to be equivalent with respect to successful reduction in menstrual flow and patient satisfaction at 1 year following index surgery.”

“Resectoscopic endometrial ablation is associated with a high degree of patient satisfaction but not as high as hysterectomy.”

In addition, the ACOG practice bulletin regarding endometrial ablation included the following statement regarding preoperative evaluation:

“The structure and histology of the endometrial cavity should be thoroughly evaluated, both to assess for malignancy or endometrial hyperplasia and to ensure that the length and configuration is suitable for endometrial ablation. These parameters will vary depending on the technique or system used. Endometrial sampling, typically with an outpatient technique, can be used to evaluate all women for hyperplasia or malignancy, and results should be reviewed before ablation is scheduled. Women with endometrial hyperplasia or uterine cancer should not undergo endometrial ablation.”

In 2013, ACOG published committee opinion number 557 (reaffirmed in 2020) regarding the management of acute abnormal uterine bleeding (AUB) in nonpregnant reproductive-aged women.[16] Recommendations regarding laboratory testing and imaging of these patients are as follows:
“Endometrial tissue sampling should be performed in patients with AUB who are older than 45 years as a first-line test. Endometrial sampling also should be performed in patients younger than 45 years with a history of unopposed estrogen exposure (such as seen in patients with obesity or polycystic ovary syndrome), failed medical management, and persistent AUB.”

Recommendations regarding surgical management of women who do not respond to medical management of symptoms are as follows:

“Surgical options include dilation and curettage (D&C), endometrial ablation, uterine artery embolization, and hysterectomy.”

“Endometrial ablation, although readily available in most centers, should be considered only if other treatments have been ineffective or are contraindicated, and it should be performed only when a woman does not have plans for future childbearing and when the possibility of endometrial or uterine cancer has been reliably ruled out as the cause of the acute AUB.”

The 2013, ACOG practice bulletin regarding the management of abnormal uterine bleeding associated with ovulatory dysfunction (AUB-O) was reaffirmed in 2018. The following recommendation is made primarily based upon consensus and expert opinion:

“Endometrial ablation is not recommended as a first-line therapy for AUB-O. Physicians must provide thorough informed consent and adequate counseling to women with AUB-O who desire endometrial ablation.”

Furthermore, the practice bulletin recommends combined hormonal contraceptive therapy or progestin therapy, and other medical management depending upon age group and menopause status. The bulletin stresses that contraindications to combined hormonal contraceptive therapy should be excluded.

SOCIETY FOR GYNECOLOGIC SURGEONS

In 2012, the Society for Gynecologic Surgeons (SGS) published a clinical practice guideline on treatment of abnormal uterine bleeding. The guideline recommends that, in women with bleeding caused mainly by ovulatory disorders or endometrial hemostatic disorders, any of the following treatments may be chosen depending on patient values and preferences: hysterectomy, endometrial ablation, systemic medical therapies or levonorgestrel-releasing intrauterine systems. In choosing between endometrial ablation and hysterectomy, if the patient’s preference is for amenorrhea, less pain or avoiding additional therapy, hysterectomy is suggested. If the patient’s preference is for lower operative and postoperative procedural risk, and a shorter hospital stay, endometrial ablation is recommended.

SUMMARY

There is enough research to show that endometrial ablation improves overall health outcomes in women with abnormally heavy uterine bleeding who are not post-menopausal. Clinical guidelines recommend endometrial ablation for clinical scenarios that generally align with the policy criteria. Therefore, endometrial ablation may be considered medically necessary when criteria are met.
Evidence and guidelines do not support the use of endometrial ablation when policy criteria are not met. Therefore, endometrial ablation for indications or using techniques other than those specified in policy criteria are considered not medically necessary.

REFERENCES


## CODES

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*Date of Origin: September 2011*