

MEDICAL POLICY



MEDICAL POLICY DETAILS	
Medical Policy Title	UTERINE ARTERY OCCLUSION IN THE TREATMENT OF UTERINE FIBROIDS
Policy Number	4.01.04
Category	Technology Assessment
Effective Date	06/21/00
Revised Date	05/17/01, 03/21/02, 02/20/03, 02/19/04, 02/17/05, 01/19/06, 01/18/07, 01/17/08, 01/15/09, 01/21/10, 12/16/10, 12/15/11, 12/20/12, 11/21/13, 11/20/14
Archived Date	11/19/15
Edited Date	11/17/16, 11/16/17, 11/15/18
Product Disclaimer	<ul style="list-style-type: none"> • If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply. • If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit. • If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.

POLICY STATEMENT

I. Uterine artery embolization:

- A. Based upon our criteria and review of the peer-reviewed literature, uterine artery embolization (UAE), with a FDA approved embolic agent, in the treatment of symptomatic uterine fibroids and severe menorrhagia, despite an adequate trial of hormonal therapy when appropriate, has been proven to be medically effective and therefore, a **medically appropriate** treatment option.

Symptomatic uterine fibroids are those that cause acute severe pelvic pain, chronic lower abdominal pain, and/or back or bladder pressure with urinary frequency or urgency not due to urinary tract infection.

- B. UAE is generally not indicated in women who desire future pregnancy unless it is the only reasonable option for those who have failed or are not candidates for hormone therapy or myomectomy; as the results of UAE on ovarian function have not yet been fully determined.

C. **Contraindications** to UAE include:

1. Current pregnancy;
2. Pelvic inflammatory disease or active pelvic infection;
3. Contrast medium allergy when appropriate pretreatment (e.g., administration of steroids, antihistamines) has not been rendered;
4. Uncorrected coagulatory or vascular disorders;
5. Arteriovenous malformation;
6. Severe renal insufficiency;
7. Prior pelvic irradiation;
8. Ovarian, uterine, endometrial or cervical cancers or undiagnosed pelvic mass.

II. Laparoscopic uterine artery occlusion:

Based upon our criteria and review of the peer-reviewed literature, laparoscopic uterine artery occlusion (LUAO) using vascular clips or bipolar coagulation, as a treatment of uterine fibroids, has not been medically proven to be effective and is considered **investigational**.

Refer to Corporate Medical Policy #4.01.09 regarding MRI Guided Focused Ultrasonic Tumor Ablation.

Refer to Corporate Medical Policy #11.01.03 regarding Experimental and Investigational Services.

POLICY GUIDELINES

The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and thus these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

DESCRIPTION

Uterine fibroids, or leiomyomata, are benign proliferations of smooth muscle cells and fibrous connective tissue arising from the uterine muscle tissue. It is estimated that they occur in 20-50% of women of reproductive age. Arterial embolization has been used since the 1960s to control hemorrhage resulting from malignancy, trauma, surgery, and radiation.

Uterine artery embolization (UAE), or uterine fibroid embolization (UFE), involves the insertion of catheters into uterine arteries that give rise to the fibroid(s) and the injection of appropriate embolic agent (e.g., polyvinyl alcohol particles [PVA], gelfoam/gelatin sponge, acrylic microspheres) to permanently seal arterial flow. The cessation of arterial flow to the fibroid causes ischemia and infarction of the fibroid.

“Post embolization syndrome”, characterized by pain, cramping, fever, nausea and/or vomiting, is experienced by most patients. It is usually considered a benign, self-limiting condition and resolves in several days. Some women have experienced cramping and pain up to several weeks with an otherwise uncomplicated recovery.

The risks and complications of UAE include: infection due to ischemia and necrosis of the fibroid, reported incidents of ovarian failure, technical failure due to the inability to catheterize the uterine arteries, exposure to radiocontrast material and focused radiation, and the risk of arterial injuries and/or hematomas.

Other methods of treating uterine fibroids, as an alternative to uterine artery embolization, have recently been under investigation. These methods include laparoscopic occlusion of the uterine arteries using vascular clips or bipolar coagulation.

RATIONALE

Uterine artery embolization is a surgical procedure and not subject to FDA regulation. The embolic agents utilized in the UAE procedure are considered devices and are regulated by the FDA. The acrylic microspheres are the only embolic agent specifically approved by the FDA for use in UAE, although other agents have been approved for general embolization usage.

Review of the peer-reviewed, published literature regarding fertility and pregnancy outcomes after UAE suggest that successful pregnancy is possible, but that there are higher rates of miscarriage and post-partum hemorrhage compared to women who have not received treatment for intramural fibroids and higher rates of preterm delivery compared to women whose fibroids had been treated by myomectomy.

A practice bulletin, published by the American College of Obstetricians and Gynecologists (ACOG), addresses alternatives to hysterectomy in the management of leiomyomas and replaces a committee opinion addressing UAE that was most recently reaffirmed in 2014. The practice bulletin states based on long- and short-term outcomes, UAE is a safe and effective option for appropriately selected women who wish to retain their uteri. Women who wish to undergo UAE should have a thorough evaluation with an obstetrician–gynecologist to help facilitate optimal collaboration with the interventional radiologists and to ensure the appropriateness of therapy, taking into account the reproductive wishes of the patient. The practice bulletin does not address laparoscopic occlusion of the uterine arteries.

A 2007 Technology Assessment published by the Agency for Healthcare Research and Quality (AHRQ) addressing the management of uterine fibroids included an assessment of 23 studies that examined short- and long-term outcomes following UAE. Of these, 6 studies (one RCT) compared UAE with either hysterectomy or myomectomy. These studies yielded evidence of moderate strength (consistent effects but weak design) suggesting shorter procedure times and shorter lengths of hospital stay for UAE than for hysterectomy or myomectomy. However, they provided only weak evidence (either no significant differences or inconsistent direction of effect) about the impact of UAE on complications and

Medical Policy: UTERINE ARTERY OCCLUSION IN THE TREATMENT OF UTERINE FIBROIDS >

Policy Number: 4.01.04

Page: 3 of 5

symptom relief. The remaining studies were case series or cohort studies, of poor or fair quality, with sample sizes ranging from 46 to 3,140. The studies did not provide consistent definitions or time points for measuring key outcomes such as complications. The largest case series on UAE reported an in-hospital complication rate of 2.7% with a 0.6% rate of major events and a post-discharge complication rate of 26.1% with a 4.1% rate of major events. Only one study examined rates of subsequent interventions for UAE and another procedure. It reported statistically significant higher rates of subsequent interventions with UAE than with myomectomy (29% vs. 3%) in follow-up ranging from 3 to 5 years. Another study reported a subsequent intervention rate of 20% at 5 years. The value of this information is limited by the lack of comparable data for other types of treatment. Laparoscopic occlusion of the uterine arteries was not addressed in the technology assessment. (Viswanathan, et al.).

There is minimal published literature regarding laparoscopic occlusion of the uterine arteries using either vascular clips or bipolar coagulation. The published literature mainly consists of case series. There is inadequate published data to permit scientific conclusions regarding these techniques.

A systematic review and meta-analysis, published in 2014, was undertaken to evaluate the effectiveness of uterine-sparing interventions for women with symptomatic uterine fibroids who wished to preserve their uterus. Outcome measures were patient satisfaction, re-intervention and complications rates, reproductive outcomes, and hospitalization and recovery times. Five trials, involving 436 women were included; two compared uterine artery embolization with myomectomy and three compared uterine artery embolization with laparoscopic uterine artery occlusion. Indirect treatment comparison showed that myomectomy and uterine artery embolization resulted in higher rates of patient satisfaction (odds ratio 2.56, 95% credible interval 0.56-11.75 and 2.7, 95% credible interval 1.1-7.14, respectively) and lower rates of clinical failure (odds ratio 0.29, 95% credible interval 0.06-1.46 and 0.37, 95% credible interval 0.13-0.93, respectively) than laparoscopic uterine artery occlusion. Myomectomy resulted in lower re-intervention rate than uterine artery embolization (odds ratio 0.08, 95% credible interval 0.02-0.27) and laparoscopic uterine artery occlusion (odds ratio 0.08, 95% credible interval 0.01-0.37) even though the latter techniques had an advantage over myomectomy because of shorter hospitalization and quicker recovery. There was no evidence of difference between the three techniques in ovarian failure and complications rates. The evidence for reproductive outcomes was poor. The authors concluded the study's results suggest that laparoscopic uterine artery occlusion is less effective than uterine artery embolization and myomectomy in treatment of symptomatic fibroids and the choice between uterine artery embolization and myomectomy should be based on individuals' expectations and fully informed discussion. (Panagiotopoulou N, et al, 2014).

CODES

- *Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*
- ***CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.***
- *Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.*

CPT Codes

Code	Description
37243	Vascular embolization or occlusion, inclusive of all radiological supervision and interpretation, intraprocedural roadmapping, and imaging guidance necessary to complete the intervention; for tumors, organ ischemia, or infarction

Copyright © 2019 American Medical Association, Chicago, IL

HCPCS Codes

Code	Description
No specific code(s)	

Medical Policy: UTERINE ARTERY OCCLUSION IN THE TREATMENT OF UTERINE FIBROIDS >

Policy Number: 4.01.04

Page: 4 of 5

ICD10 Codes

Code	Description
D25.0-D25.9	Leiomyoma of uterus (code range)

REFERENCES

American Association of Gynecologic Laparoscopists (AAGL): Advancing Minimally Invasive Gynecology Worldwide. AAGL practice report: practice guidelines for the diagnosis and management of submucous leiomyomas. J Minim Invasive Gynecol 2012 Mar-Apr;19(2):152-71.

*American College of Obstetricians and Gynecologists. Alternatives to hysterectomy in the management of leiomyomas. Practice Bulletin #96. Obstet Gynecol 2008 Aug;112(2):387-400; reaffirmed 2014.

Barnard EP, AbdElmagied AM, Vaughan LE, et al. Periprocedural outcomes comparing fibroid embolization and focused ultrasound: a randomized controlled trial and comprehensive cohort analysis. Am J Obstet Gynecol. May 2017;216(5):500 e501-500 e511.

Barral PA, Saeed-Kilani M, Tradi F, et al. Transcatheter arterial embolization with ethylene vinyl alcohol copolymer (Onyx) for the treatment of hemorrhage due to uterine arteriovenous malformations. Diagn Interv Imaging. May 2017;98(5):415-421.

BlueCross BlueShield Association. Occlusion of uterine arteries using transcatheter embolization. Medical Policy Reference Manual Policy #4.01.11. 2017 Aug 10.

BlueCross BlueShield Association. Occlusion of uterine arteries using laparoscopic occlusion to treat uterine fibroids – archived. Medical Policy Reference Manual Policy #4.01.20. 2011 Feb 10.

*BlueCross BlueShield Association Technology Evaluation Center Assessment. Uterine artery embolization for the treatment of symptomatic uterine fibroids. 2002 Aug 17(8).

Carranza-Mamane B, et al; Reproductive Endocrinology and Infertility Committee Society of Obstetricians and Gynaecologists of Canada. The management of uterine fibroids in women with otherwise unexplained infertility. J Obstet Gynaecol Can 2015 Mar;37(3):277-88.

Dariushnia SR, et al; Society of Interventional Radiology Standards of Practice Committee. Quality improvement guidelines for uterine artery embolization for symptomatic leiomyomata. J Vasc Interv Radiol 2014 Nov;25(11):1737-47.

de Bruijn AM, Smink M, Hehenkamp WJK, et al. Uterine artery embolization for symptomatic adenomyosis: 7- year clinical follow-up using UFS-Qol Questionnaire. Cardiovasc Intervent Radiol. May 17 2017.

Gupta JK, et al. Uterine artery embolization for symptomatic uterine fibroids. Cochrane Database Syst Rev. 2014 Dec 26;12:CD005073.

Hu J, Tao X, Yin L, et al. Successful conservative treatment of cervical pregnancy with uterine artery embolization followed by curettage: a report of 19 cases. BJOG. Sep 2016;123 Suppl 3:97-102.

Jun F, et al. Uterine artery embolization versus surgery for symptomatic uterine fibroids: a randomized controlled trial and a meta-analysis of the literature. Arch Gynecol Obstet 2012 May;285(5):1407-13.

Kwon JH, Kim GM, Han K, et al. Safety and efficacy of uterine artery embolization in ectopic pregnancies refractory to systemic methotrexate treatment: a single-center study. Cardiovasc Intervent Radiol. May 01 2017.

Manyonda IT, et al. Uterine artery embolization versus myomectomy: impact on quality of life--results of the FUME (Fibroids of the Uterus: Myomectomy versus Embolization) Trial. Cardiovasc Intervent Radiol 2012 Jun;35(3):530-6.

Martin J, et al. Complications and reinterventions in uterine artery embolization for symptomatic uterine fibroids: a literature review and meta analysis. Cardiovasc Intervent Radiol 2013 Apr;36(2):395-402.

Mohan PP, et al. Uterine artery embolization and its effect on fertility. J Vasc Interv Radiol 2013 Jul;24(7):925-30.

Medical Policy: UTERINE ARTERY OCCLUSION IN THE TREATMENT OF UTERINE FIBROIDS >

Policy Number: 4.01.04

Page: 5 of 5

Panagiotopoulou N, et al. Uterine-sparing minimally invasive interventions in women with uterine fibroids: a systematic review and indirect treatment comparison meta-analysis. *Acta Obstet Gynecol Scand* 2014 Sep;93(9):858-67.

*Society of Obstetricians and Gynaecologists of Canada. SOGC clinical practice guidelines. Uterine fibroid embolization (UFE). Number 150, October 2004. *Int J Gynaecol Obstet* 2005 Jun;89(3):305-18 [<http://sogc.org/wp-content/uploads/2013/01/150E-CPG-October2004.pdf>] accessed 9/21/16.

van der Kooij SM, et al. Uterine artery embolization vs hysterectomy in the treatment of symptomatic uterine fibroids: 5-year outcome from the randomized EMMY trial. *Am J Obstet Gynecol* 2010 Aug;203(2):105.e1-13.

Vilos GA, et al. The management of uterine leiomyomas. *J Obstet Gynaecol Can* 2015 Feb;37(2):157-81.

Viswanathan M, et al. *Management of uterine fibroids: an update of the evidence*. Evidence Report/Technology Assessment No. 154. Publication No. 07-E011. Archived. Rockville, MD: Agency for Healthcare Research and Quality. 2007 Jul [<http://archive.ahrq.gov/downloads/pub/evidence/pdf/uterupdate/uterup.pdf>] accessed 9/21/16.

Zhou J, He L, Liu P, et al. Outcomes in adenomyosis treated with uterine artery embolization are associated with lesion vascularity: a long-term follow-up study of 252 cases. *PLoS One*. Nov 2 2016;11(11):e0165610.

*Key Article

KEY WORDS

Embolotherapy, Laparoscopic uterine artery occlusion (LUAO), Uterine artery coagulation, Uterine artery embolization (UAE), Uterine artery occlusion, Uterine fibroid embolization (UFE)

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

Based on our review, neither uterine artery embolization nor laparoscopic uterine artery occlusion with bipolar coagulation or vascular clips are addressed in National or Local Medicare coverage determinations or policies.