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Subject: Occlusion of Uterine Arteries Using Transcatheter Embolization

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Position Statement	Billing/Coding	Reimbursement	Program Exceptions	Definitions	Related Guidelines
Other	References	Updates			

DESCRIPTION:

Transcatheter uterine artery embolization (UAE) is a minimally invasive technique that involves the injection of small particles into the uterine arteries to block the blood supply to the uterus and uterine fibroids.

Transcatheter uterine artery embolization (UAE), also known as uterine fibroid embolization (UFE) is a minimally invasive endovascular procedure. UAE involves the use of angiographic guidance for selective catherization of the uterine arteries with injection of an embolization material to block the arteries that provide blood flow, causing the fibroid to shrink. Transcatheter uterine artery embolization has been used to treat postpartum hemorrhage.

Laparoscopic uterine artery occlusion has been investigated as an alternative to UAE. With laparoscopic uterine artery occlusion, multiple laparoscopic laser punctures of the uterine fibroid are performed in an effort to devascularize the fibroid and induce atrophy.

Several embolization devices are approved by the Food and Drug Administration (FDA) (e.g., Embosphere® Microspheres (Merit Medical, formerly BioSphere Medical), Contour® PVA (Boston Scientific), Contour SE™ (Boston Scientific), Polyvinyl Alcohol Foam Embolization Particles (Cook Inc.), HydroPearl™ Microspheres (Microvention, Inc.)).

Summary and Analysis of Evidence: An UpToDate review on “Treatment with uterine embolication” (van der Kooij) states Uterine artery embolization (UAE) was introduced for the treatment of symptomatic uterine fibroids (leiomyomas) in 1995. UAE treatment of fibroids is performed worldwide. Fibroids are a common gynecologic problem and result in symptoms that impact quality of life and may result in anemia or other adverse effects. There are many options for treatment, including hormonal therapy, hysteroscopic or abdominal myomectomy, and hysterectomy. UAE provides a minimally invasive and uterine-sparing treatment option. UAE is a treatment option for patients with symptomatic uterine leiomyomas. Ideal candidates for UAE include patients with all of the following characteristics: heavy menstrual bleeding or dysmenorrhea caused by intramural fibroids, premenopausal and no desire for future pregnancy. For patients with these characteristics, a high symptom control rate, satisfaction, and quality of life can be achieved for up to 10 years after treatment. If bulk-related symptoms (e.g., sensation of pressure in the lower abdomen, nocturia, urinary frequency, and urinary incontinence) are the only

symptoms, the efficacy of UAE is questionable. The embolization versus hysterectomy randomized trial (EMMY) showed no significant improvement compared with baseline in bulk-related complaints. Some prospective cohort studies have found, however, a significant improvement in bulk-related symptoms even in the long-term. It is also not usually used to treat infertility related to fibroids, since a desire for future childbearing is a relative contraindication. UAE is also a potential option for treatment of uterine adenomyosis, but the data are limited regarding efficacy for this indication. A literature review included 1049 patients with adenomyosis treated with UAE and reported significant improvement in symptoms in 83.1 percent of patients. Uteri with adenomyosis combined with fibroids tend to have better results than uteri with only adenomyosis. However, these were low-quality data from series with no control group. The American College of Obstetricians and Gynecologists states that the effect of UAE on pregnancy remains understudied but makes no recommendation of whether desire for a future pregnancy is a contraindication. The procedure is indicated primarily for premenopausal patients since fibroids tend to decrease in size and symptoms improve or resolve after menopause. An enlarging uterus after menopause should raise the suspicion of a malignancy and careful follow-up is warranted. UAE is also a potential option for treatment of uterine adenomyosis, but the data are limited regarding efficacy for this indication. A literature review included 1049 patients with adenomyosis treated with UAE and reported significant improvement in symptoms in 83.1 percent of patients. Uteri with adenomyosis combined with fibroids tend to have better results than uteri with only adenomyosis. However, these were low-quality data from series with no control group. Management of uterine adenomyosis is discussed in detail separately. There are limited data regarding prognostic factors to predict the effect of UAE on fibroid volume, symptoms, and need for reintervention. The largest studies did not show strong predictors, and some smaller studies have reported predictors, but these may be underpowered.

Liu et al. (2024) conducted a prospective study to compare ovarian function of women with uterine fibroids who did or did not undergo uterine artery embolization (UAE). This prospective cohort study enrolled 87 women with symptomatic uterine fibroids who underwent UAE, and 87 women with the same symptoms who did not undergo UAE but received conservative management or other treatments. The two groups were matched for age, body mass index, parity, and baseline characteristics of uterine fibroids. The primary outcome was ovarian function that was evaluated by serum levels of follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E2), and anti-Müllerian hormone (AMH), as well as ovarian reserve tests, such as antral follicle count (AFC) and ovarian volume (OV). The secondary outcome was fertility that was evaluated based on the menstrual cycle, ovulation, conception, pregnancy, and delivery. The participants were followed-up for 36 months and assessed at 1, 3, 6, 12, 24, and 36 months after treatment. The study found that the most common minor complication of UAE was postembolization syndrome in 73.6% of women, resolving within a week. No significant differences were observed between the UAE group and the control group in serum levels of reproductive hormones (FSH, LH, E2, AMH) and ovarian reserve indicators (AFC, OV) at any point up to 36 months post-treatment. Additionally, there were no significant differences in conception, pregnancy, or delivery rates, with the average time to conception and gestational age at delivery being similar between the two groups. Birth weights were also comparable. Finally, there was no significant correlation between ovarian function, fertility indicators, and the type or amount of embolic agent used or the change in fibroids post-treatment. The authors concluded UAE resulted in significantly positive pregnancy outcomes, no adverse events post-treatment, and is a safe and effective treatment for uterine fibroids that preserves ovarian function and fertility.

de Bruijn et al. (2016) conducted a rabdomized controlled trial to compare clinical outcome and health-related quality of life 10 years after uterine artery embolization or hysterectomy in the treatment of heavy menstrual bleeding caused by uterine fibroids in a randomized controlled trial. Tewnty-eight Dutch hospitals recruited patients with symptomatic uterine fibroids who were eligible for hysterectomy. Patients were 1:1 randomly assigned to uterine artery embolization or hysterectomy. The outcomes assessed at 10 years postintervention were reintervention rates, health-related quality of life, and patient satisfaction, which were obtained through validated questionnaires. Study outcomes were analyzed according to original treatment assignment (intention to treat). A total of 177 patients were randomized from 2002 through 2004. Eventually 81 uterine artery embolization and 75 hysterectomy patients underwent the allocated treatment shortly after randomization. The remaining patients withdrew from the trial. The 10-year questionnaire was mailed when the last included patient had been treated 10 years earlier. The mean duration of follow-up was 133 months (SD 8.58) accompanied by a mean age of 57 years (SD

4.53). Questionnaires were received from 131 of 156 patients (84%). Ten years after treatment, 5 patients underwent secondary hysterectomy resulting in a total of 28 of 81 (35%) (24/77 [31%] after successful uterine artery embolization). Secondary hysterectomies were performed for persisting symptoms in all cases but 1 (for prolapse). After the initial treatment health-related quality of life improved significantly. After 10 years, generic health-related quality of life remained stable, without differences between both groups. The urogenital distress inventory and the defecation distress inventory showed a decrease in both groups, probably related to increasing age, without significant differences between study arms. Satisfaction in both groups remained comparable. The majority of patients declared being (very) satisfied about the received treatment: 78% of the uterine artery embolization group vs 87% in the hysterectomy group. The authors concluded in about two thirds of uterine artery embolization-treated patients with symptomatic uterine fibroids a hysterectomy can be avoided. Health-related quality of life 10 years after uterine artery embolization or hysterectomy remained comparably stable. Uterine artery embolization is a well-documented and less invasive alternative to hysterectomy for symptomatic uterine fibroids on which eligible patients should be counseled.

The literature on cryomyolysis, laparoscopic bipolar coagulation and MR guided laser ablation is limited. A larger series and longer follow-up are required to evaluate long-term effects and to identify appropriate individuals. (Hindley et al. 2002, Liu et al. 2000, Zupi et al. 2004; 2005).

POSITION STATEMENT:

Transcatheter embolization of uterine arteries **meets the definition of medical necessity** for the treatment of:

- Uterine fibroids;
- Postpartum uterine hemorrhage.

One repeat transcatheter embolization of uterine arteries to treat persistent symptoms (e.g., bleeding, pain) of uterine fibroids after an initial uterine artery embolization **meets the definition of medical necessity**.

Transcatheter embolization of uterine arteries for the management of all other indications is considered **experimental or investigational**. The evidence is insufficient to determine the effects of the technology on health outcomes.

Laparoscopic and percutaneous occlusion and techniques (e.g., radiofrequency ablation, laser ablation, bipolar needles, cryomyolysis) of the uterine arteries for all indications is considered **experimental or investigational**. The evidence is insufficient to support conclusions regarding effects on health outcomes.

BILLING/CODING INFORMATION:

There is no specific CPT or HCPCS code to report transcatheter embolization of uterine arteries.

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products:

No National Coverage Determination (NCD) and/or Local Coverage Determination (LCD) were found at the time of the last guideline reviewed date.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request

DEFINITIONS:

Atrophy: a wasting away; a diminution in the size of a cell, tissue, organ, or part.

Dysmenorrhea: painful menstruation.

Leiomyomata: leiomyomata of the uterus usually occurring in the third and fourth decades of life, characterized by multiple, firm, round, sharply circumscribed, unencapsulated, gray to white tumors that show a whorled pattern on cut section. The majority are within the myometrium of the corpus of the uterus, but they may also occur in the cervix, usually in its posterior wall.

Menorrhagia: menstruation with an excessive flow but at regular intervals and of usual duration.

Myomectomy: surgical excision of a uterine myoma (leiomyoma).

RELATED GUIDELINES:

None applicable.

OTHER:

Other names used to report transcatheter uterine artery embolization:

Note: The use of specific product names is illustrative only. It is not intended to be a recommendation of one product over another, and is not intended to represent a complete listing of all products available.

Uterine fibroid embolization (UFE)
Transcatheter embolization

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 09/24/26.

GUIDELINE UPDATE INFORMATION:

04/17/00	Medical Coverage Guideline Reformatted.
01/01/02	HCPCS coding changes.
08/15/02	Reviewed. Coverage changed from Investigational to Covered based on medical necessity.
07/15/04	Scheduled review. Delete reference to InterQual Planning Criteria for myomectomy and hysterectomy.
08/15/05	Scheduled review. Added statement considering laparoscopic occlusion with bipolar coagulation investigational added. Revised description section. Updated references.
08/15/06	Scheduled review. Revised the definitions for menorrhagia and myomectomy. Updated references.
01/01/07	HCPCS update. Added 37210.
04/01/07	HCPCS update. Deleted S2250.
07/15/07	Scheduled review; no change in coverage statements; reformatted guideline.
09/15/08	Scheduled review. No change in position statement. Updated references.
10/15/09	Annual review. Maintain position statements. Updated guideline description section. Added “and occlusion of uterine arteries” to guideline subject. Updated references.
01/15/11	Revision; related ICD-10 codes added.
10/15/11	Annual review; maintain position statements. Updated references.
01/01/14	Annual HCPCS coding update; deleted 37210. Revision; Program Exceptions section updated.
05/11/14	Revision: Program Exceptions section updated.
04/15/17	Added treatment of postpartum hemorrhage, one repeat transcatheter embolization of uterine arteries to treat persistent symptoms (e.g., bleeding, pain) of uterine fibroids after an initial uterine artery embolization and transcatheter embolization of uterine arteries for the management of all other indications.
09/15/19	Review; revised laparoscopic occlusion of the uterine arteries position statement. Updated references.
10/15/21	Review; no change to position statement. Updated references.
10/15/23	Review; no change to position statement. Updated references.
10/15/24	Review; no change to position statement. Updated references.
10/15/25	Review; no change to position statement. Updated references.
10/15/26	Review; no change to position statement. Updated references.