Policy Number	**SUR701.015**
Policy Effective Date	**May 7, 2026**

Therapeutic Embolization and Vessel Occlusion to Treat Pelvic Conditions

Table of Contents

Related Policies (if applicable)
None

Disclaimer

Carefully check state regulations and/or the member contract.
Each benefit plan, summary plan description or contract defines which services are covered, which services are excluded, and which services are subject to dollar caps or other limitations, conditions or exclusions. Members and their providers have the responsibility for consulting the member's benefit plan, summary plan description or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. **If there is a discrepancy between a Medical Policy and a member's benefit plan, summary plan description or contract, the benefit plan, summary plan description or contract will govern.**

Coverage

Transcatheter therapeutic embolization or vessel occlusion **may be considered medically necessary** for the following:

1) Uterine arteries as a treatment of uterine fibroids (leiomyomata) that meet **one** of the following criteria:
   a) Excessive uterine bleeding as evidenced by either heavy, irregular and prolonged uterine bleeding, or iron deficiency; or
   b) Pelvic discomfort caused by leiomyomata, either acute severe pain, chronic lower abdominal pain, or low back pressure or bladder pressure with urinary frequency not due to urinary tract infection; or

c) Asymptomatic fibroids of such size that they are palpable abdominally and are of concern to the patient; **or**
2) Uterine arteries as treatment of post-partum hemorrhage; **or**
3) Testicular vein embolization (gonadal vein embolization) as a treatment of symptomatic varicocele.

One repeat transcatheter therapeutic embolization or vessel occlusion of uterine arteries to treat persistent symptoms of uterine fibroids after an initial uterine artery embolization **may be considered medically necessary** when there is documentation of continued symptoms.

Embolization (e.g., utilizing metallic coils or foam/gel sclerotherapy) of the ovarian veins, with or without internal iliac veins, as a treatment of pelvic congestion syndrome/pelvic vein incompetence **may be considered medically necessary** when **all** the following criteria is met and documented in the individual's medical records:

- Continuous chronic pelvic pain (see **NOTE 1**) for 6 months or more; **and**
- Evaluation by a gynecologist; **and**
- Diagnostic venography, computed tomography or magnetic resonance imaging.

NOTE 1: Clinical signs and symptoms of pelvic congestion syndrome may include:

1. Worsening of symptoms with prolonged standing or sitting; or
2. Evening exacerbation; or
3. Relief of symptoms with rest in the lying down position; or
4. After raising of legs; or
5. Visible varicosities (e.g., perineal, vulvular, or gluteal).

NOTE 2: Transcatheter embolization for other indications not noted above are NOT addressed in this policy.

Policy Guidelines

None.

Description

Therapeutic occlusion or embolization is defined as the intravascular deposition of particulate liquid, mechanical agents, or autologous blood clot to produce intentional vessel blockage. Embolic vascular occlusion may be performed at any level from large arteries or veins to the capillary beds, and it may be temporary or permanent in nature.

Background

Pelvic Conditions and Customary Treatments

Uterine Leiomyomata

Uterine leiomyomata (i.e., fibroids) are extremely common benign tumors that can be submucosal (located primarily within the uterine cavity below the endometrium), intramural (within the uterine wall or myometrium), or subserosal in location. Patient symptomatology, physical examination findings, and imaging results are related to the location of the fibroids. Individuals may have fibroids in any or all of these locations within the uterus. Treatment for uterine fibroids is usually sought when they are associated with menorrhagia, pelvic pain, urinary symptoms (i.e., frequency), or are suspected to cause infertility. Treatment options include medical therapy with gonadotropin agonists or progestins or various types of surgical therapy. Hysterectomy (removal of uterus) is considered the definitive surgical treatment for those who no longer want to maintain fertility. Various types of myomectomies (the removal of fibroids with retention of the uterus) have also been described. Hysteroscopic myomectomy involves removal of submucosal fibroids using a resectoscope or a laser. Subserosal fibroids can be removed via an open abdominal or laparoscopic approach.

Postpartum Hemorrhage

Postpartum hemorrhage, defined as the loss of more than 500 mL of blood after delivery, occurs in up to 18 percent of births. Blood loss exceeding 1,000 mL is considered physiologically significant and can result in hemodynamic instability. Even with appropriate management, approximately 3 percent of vaginal deliveries will result in severe post-partum hemorrhage. It is the most common maternal morbidity in developed countries and a major cause of death worldwide. Postpartum hemorrhage may last up to 6 weeks following delivery. Complications from postpartum hemorrhage include orthostatic hypotension, anemia, and fatigue. Uterine atony (muscular weakness) is responsible for most cases and can be managed with uterine massage in conjunction with oxytocin, prostaglandins, and ergot alkaloids. Retained placenta is a less common cause and requires examination of the placenta, exploration of the uterine cavity, and manual removal of retained tissue. Rarely, an invasive placenta causes postpartum hemorrhage and may require surgical management. Traumatic causes include lacerations, uterine rupture, and uterine inversion. Coagulopathies require clotting factor replacement for the identified deficiency. In some cases, hysterectomy is required.

Pelvic Congestion Syndrome

Pelvic congestion syndrome is a chronic pelvic pain syndrome of variable location and intensity, which is associated with dyspareunia (which may be aggravated by standing) and symptoms suggestive of a venous origin, such as postcoital ache and tenderness over the ovarian point. The syndrome occurs during the reproductive years, and pain is often greater before or during menses. The underlying etiology is thought to be related to varices of the ovarian veins, leading to pelvic vascular congestion. The lack of clear diagnostic criteria and overlapping clinical presentation of pelvic congestion syndrome with other

potentially related pelvic venous disorders has hindered research progress and contributed to underdiagnosis of these disorders as causes of chronic pelvic pain. (1) In 2021, a multidisciplinary, intersociety working group convened by the American Vein and Lymphatic Society published the Symptoms-Varices-Pathophysiology classification of pelvic venous disorders which, in conjunction with the established Clinical-Etiologic-Anatomic-Physiologic classification for lower extremity venous disorders when applicable, places patients in homogeneous populations based on standardized definitions of presenting symptoms, involved variceal reservoirs, and underlying pathophysiology (including anatomic, hemodynamic, and etiologic disease features). (2) The term pelvic venous disorder, accompanied by the patient-specific SVP classification, has been proposed to replace pelvic congestion syndrome and other historical nomenclature for related diseases (such as May-Thurner syndrome and nutcracker syndrome). As diagnostic criteria remain lacking, pelvic venous disorder as a cause of chronic pelvic pain amounts to a diagnosis of exclusion; evaluation may involve a variety of physical assessments, laboratory measurements, and/or imaging studies to eliminate other etiologies of chronic pelvic pain, such as cystitis or gynecologic malignancy. (1)

Varicocele

Varicocele is a condition that causes the veins in the scrotum to become dilated or enlarged and can occur in 20% of males. Symptoms of a varicocele may include visible or palpable (able to be felt) enlarged vein, aching pain within scrotum, feeling of heaviness in the testicle(s), atrophy (shrinking) of the testicle(s), changes in testosterone levels, benign prostatic hyperplasia and related urinary problems, or infertility issues. Treatment options include open or laparoscopic varicocelectomy. Robotic surgery and microsurgical varicocelectomy have been used as an alternative surgical option for varicocelectomy.

<u>Therapeutic Embolization and Vessel Occlusion</u>

Embolization involves the selective occlusion of blood vessels (arteries or veins) to devascularize, preventing or slowing blood supply to the intended region or organ. When embolizing arteries, such as uterine artery embolization – interrupting the uterine arteries, small embolization particles are selectively catheterized by injecting into the uterine arteries to block blood supply to the uterus and the uterine fibroids. Doing UAE potentially serves as alternative to hysterectomy.

UAE has also been used to control bleeding in situations such as severe postpartum hemorrhage, cervical ectopic pregnancy, bleeding uterine AVM, and adenomyosis.

Embolization therapy of the ovarian and internal iliac veins (gonadal vein embolization) has been proposed as an alternative to surgical ovarian vein ligation. Vein embolization can be performed using a variety of materials including coils, glue, and gel foam. Gonadal vein embolization is used to treat PCS when the patient fails medical treatment.

Testicular vein embolization (gonadal vein embolization) has been proposed as an alternative to surgical intervention. This involves passing a small wire through a peripheral vein and into the abdominal veins that drain the testes. Through a small flexible catheter, the physician can obstruct the gonadal vein so that the increased pressures from the abdomen are no longer transmitted to the testicles. The obstruction is often performed with many small metal coils. The testicles then drain through smaller collateral veins. (NOTE: The recovery period is significantly less than with surgery and the risk of complications is minimized with overall effectiveness similar to surgery, yet with fewer recurrence rates. However, radiation exposure to the testicles can often not be avoided with this technique.)

Regulatory Status

Embolization and vessel occlusion are surgical procedures and, as such, are not subject to regulation by the U.S. Food and Drug Administration.

Various products (e.g., coils, vascular plugs, glue, liquid embolic agents, Gelfoam) and/or delivery-assist devices would be used to embolize the vein(s), and they would be subject to FDA regulation. Several products have been cleared for marketing by the FDA through the 510(k) process.

In April 2000, Embosphere® Microspheres (Merit Medical, formerly BioSphere Medical) was cleared by the FDA for treatment of hypervascularized tumors and AVMs. In 2002, this product was cleared for marketing specifically for use in uterine fibroid embolization. Since then, several other devices have been cleared for marketing and a sampling of those are listed herein. In 2003, Contour® Emboli PVA (Boston Scientific) was cleared for marketing by the FDA through the 510(k) process for the embolization of peripheral hypervascular tumors and peripheral AVMs. In March 2004, the Contour SE™ (Boston Scientific) was cleared for marketing by the FDA through the 510(k) process for the treatment of uterine fibroids. In November 2004, the sclerosant agent Sotradecol® (sodium tetradecyl sulfate injection) was approved by the FDA for use in the treatment of small uncomplicated varicose veins of the lower extremities that show simple dilation with competent valves (ANDA 040541). In 2008, Polyvinyl Alcohol Foam Embolization Particles (Cook Inc.) was cleared for marketing by the FDA through the 510(k) process for use in uterine fibroid embolization. In 2016, Bead Block™ microspheres (Biocompatibles UK) were cleared for marketing by the FDA for embolization of uterine fibroids and AVMs. In 2020, Hydropearl® Microspheres (MicroVention, Inc.) was cleared for marketing by the FDA for the embolization of AVMs and hypervascular tumors, including uterine fibroids. FDA product code: NAJ.

Several embolization delivery systems have also been cleared via the 510(k) process for arterial and venous embolization in the peripheral vasculature featuring vascular plugs (e.g., ArtVentive Medical Group, Inc. Endoluminal Occlusion System [EOS™]) or coils (e.g., Cook Incorporated MReye® Flipper®). FDA product code: KRD

Refer to accessdata.fda.gov for a complete list of U.S. FDA approved products.

Rationale

This policy is based on a review of coverage guidance from Centers for Medicare and Medicare Services and relevant professional guidelines and position statements.

Centers for Medicare and Medicaid Services

Uterine arteries Embolization as Treatment of Post-partum Hemorrhage

National Coverage Determination

The National Coverage Determination on Therapeutic Embolization indicates that there is coverage for a therapeutic embolization when done for hemorrhage and for other conditions amenable to treatment by the procedure, when reasonable and necessary for the individual patient. (2)

Practice Guidelines and Position Statements

Testicular/Gonadal Vein Embolization for Treatment of Varicocele

American Urological Association and American Society for Reproductive Medicine

The AUA Clinical Guideline on Diagnosis and Treatment of Infertility in Men: AUA/ASRM Guideline (2020, amended 2024) states: "Surgical varicocelectomy should be considered in men attempting to conceive who have palpable varicocele(s), infertility, and abnormal semen parameters, except for azoospermic males; Evidence Level: Grade B." (3)

An AUA Best Practice Policy and ASRM Practice Committee Report on Varicocele and Infertility- 2001 (reviewed and validity confirmed 2012), is now an archived document, noted the following recommendations: Persistence or recurrence of a varicocele may be treated by either surgical ligation or percutaneous embolization of the refluxing veins. (4)

Cardiovascular and Interventional Radiological Society of Europe (5)

The Cardiovascular and Interventional Radiological Society of Europe addresses Standards of Practice on varicocele embolization. Although the Standards of Practice document provides up-to-date recommendations for the safe performance of varicocele embolization; it also notes that embolization has an established role in the successful management of male varicoceles.

Transcatheter Uterine Artery Embolization as a Treatment of Uterine Fibroids (leiomyomata)

Society of Obstetricians and Gynaecologists of Canada (6)

The Society of Obstetricians and Gynaecologists of Canada (SOGC) in their Guideline No. 461: The Management of Uterine Fibroids (July 2025) includes both a section addressing "Summary of Statements" as well as a section addressing "Recommendations."

- One of the "Summary Statements" notes that the presence of uterine fibroids can lead to a variety of clinical challenges, with abnormal uterine bleeding and bulk symptoms being the most common presentations. (high)
- The two following "Recommendations" address uterine artery embolization:
    - Uterine artery embolization may be offered as a minimally invasive technique that can reduce fibroid symptoms in patients wishing to preserve their uterus. (conditional, moderate)
    - Patients should be aware that uterine artery embolization maybe be associated with decreased fertility, higher miscarriage rate, and adverse pregnancy outcomes, and is not advised in patients wishing for future fertility. (conditional, moderate)

Embolization in Symptomatic Pelvic Congestion Syndrome

French Society of Cardiovascular Imaging, Interventional Radiology Federation, College of French Radiology Teachers, and French Society of Women's Imaging

The purpose of the expert consensus statement was to summarize the opinions of French radiologists, and gynecologists regarding the diagnosis, imaging, treatment and management of pelvic congestion syndrome. (7)

Several of the recommendations made in the consensus statement are noted below. (This is not the complete list of recommendations found in the document.) The first two recommendations below address aspects from the *Clinical impact and Symptom patterns and clinical signs* sections seen in the document acknowledging specific symptoms and length of pain characterized by pelvic congestion syndrome; while the last addresses the e*ndovascular treatment itself.*

- Recommendation (Class A): Identify chronic pelvic pain lasting more than six months with a venous pattern as pelvic congestion syndrome to facilitate clear communication and targeted treatment approaches.
- Recommendation (Class A): Document and evaluate common clinical signs of pelvic congestion syndrome, including pelvic heaviness, delayed and persistent deep dyspareunia, worsening in static positions, and symptom variations related to hormonal changes. Additionally, ensure that all patients undergo a gynecologic examination to exclude conditions requiring specific preoperative management.
- Recommendation (Class A): Use embolization as the primary treatment mode for pelvic congestion syndrome, after ensuring its validation through appropriate diagnostic correlations.

Society for Vascular Surgery and the American Venous Forum (8)

The Society for Vascular Surgery and the American Venous Forum developed clinical practice guidelines for the care of patients with varicose veins of the lower limbs and pelvis. In the section focusing on Pelvic varicosity and pelvic congestion syndrome the following guideline numbers are included for treatment of pelvic varicose veins.

Table 5: Treatment of Pelvic Varicose Veins

Guide Number		GOR	LOE
14.1	We recommend noninvasive imaging with transabdominal and/or transvaginal ultrasonography, computed tomography or magnetic resonance venography in selected patients with symptoms of pelvic congestion syndrome or symptomatic varices in the distribution of the pubis, labia, perineum, or buttocks.	1	C
14.2	We recommend retrograde ovarian and internal iliac venography in patients with pelvic venous disease, confirmed or suspected by noninvasive imaging studies, in whom intervention is planned.	1	C
14.3	We suggest treatment of pelvic congestion syndrome and pelvic varices with coil embolization, plugs, or transcatheter sclerotherapy, used alone or together.	2	B
14.4	If less invasive treatment is not available or has failed, we suggest surgical ligation and excision of ovarian veins to treat reflux.	2	B

GOR: grade of recommendation; LOE: level of evidence; 1: Strong; 2: Weak; A: High quality; B: Moderate quality; C: Low or very low quality.

Coding

Procedure codes on Medical Policy documents are included **only** as a general reference tool for each policy. **They may not be all-inclusive.**

The presence or absence of procedure, service, supply, or device codes in a Medical Policy document has no relevance for determination of benefit coverage for members or reimbursement for providers. **Only the written coverage position in a Medical Policy should be used for such determinations.**

Benefit coverage determinations based on written Medical Policy coverage positions must include review of the member's benefit contract or Summary Plan Description for defined coverage vs. non-coverage, benefit exclusions, and benefit limitations such as dollar or duration caps.

CPT Codes	36012, 36245, 36246, 36247, 37241, 37242, 37243, 37244, 75894
HCPCS Codes	None

*Current Procedural Terminology (CPT®) ©2025 American Medical Association: Chicago, IL.

References

1. Knuttinen MG, Machan L, Khilnani NM, et al. Diagnosis and Management of Pelvic Venous Disorders: AJR Expert Panel Narrative Review. AJR Am J Roentgenol. November 2023; 221(5):565-574. PMID 37095667
2. Centers for Medicare and Medicaid Services. National Coverage Determination for Therapeutic Embolization (NCD 20.28) (Dec. 17, 1978). Available at cms.gov (accessed Dec. 2, 2025).
3. AUA/ASRM – Diagnosis and Treatment of Infertility in Men: AUA/ASRM Guideline. July 2024. Prepared by the American Urological Association and American Society for Reproductive Medicine. Available at auanet.org (accessed Dec. 2, 2025).
4. American Urological Association and the Practice Committee of the American Society for Reproductive Medicine. Report on Varicocele and Infertility. (2001, Reviewed and Validity confirmed 2012) Archived Document. Available at auanet.org (accessed Dec. 3, 2025).
5. Lerardi AM, Biondetti P, Tsestis D, et al. CIRSE Standards of Practice on Varicocele Embolisation. Cardiovasc Intervent Radiol. January 2023; 46(1):19-34. PMID 36380154
6. Chen I, Kives S, Randle E, et al. Guideline No. 461: The Management of Uterine Fibroids. J Obstet Gynaecol Can. August 2025; 47(8):102970. PMID 40562356
7. Le Pennec v, Douane Frederic, Brun JL, et al. Endovascular management of pelvic congestion syndrome: An expert consensus statement from the French Society of Cardiovascular Imaging, Interventional Radiology Federation, College of French Radiology Teachers, and French Society of Women's Imaging. Diagn Interv Imaging. October 2025; 106(10):356-366. PMID 40312243
8. Gloviczki P, Comerota AJ, Dalsing MC, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. J Vasc Surg. May 2011; 53(5 Suppl):2S-48S. PMID 21536172

Centers for Medicare and Medicaid Services

The information contained in this section is for informational purposes only. HCSC makes no representation as to the accuracy of this information. It is not to be used for claims adjudication for HCSC Plans.

The Centers for Medicare and Medicaid Services does have a national Medicare coverage position. Coverage may be subject to local carrier discretion.

A national coverage position for Medicare may have been changed since this medical policy document was written. See Medicare's National Coverage at cms.hhs.gov.

Policy History/Revision	
Date	**Description of Change**
May 7, 2026	New medical document. Transcatheter therapeutic embolization or vessel occlusion may be considered medically necessary when criteria in Coverage are met.