# cohere h e A L T H

### **Cohere Medical Policy - Venous Stenting**

Clinical Guidelines for Medical Necessity Review

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#### **Guideline Information:**

**Specialty Area:** Cardiovascular Disease **Guideline Name:** Cohere Medical Policy - Venous Stenting **Date of last literature review:** 11/20/2024 **Document last updated:** 12/12/2024 **Type:** [X] Adult (18+ yo) | [X] Pediatric (0-17yo)

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## **Medical Necessity Criteria**

### Service: Venous Stenting

### **Recommended Clinical Approach**

Venous stent placement is generally indicated to treat symptomatic venous occlusive disease. (e.g. symptomatic venous stenosis, compression, or post-procedure venous complications). Venous stents can be placed via a percutaneous route, but venous stents can also be placed with a combination of open and percutaneous techniques. Covered stents may also be used to treat venous conditions, including venous aneurysms, arteriovenous fistulae, and venous perforations.

#### **Medical Necessity Criteria**

Indications

- → Venous stenting is considered appropriate if ANY of the following is TRUE<sup>1-32</sup>:
  - The patient has abdominopelvic venous disease as indicated by ANY of the following:
    - Symptomatic compression or obstruction of the hepatic veins (e.g., Budd-Chiari syndrome)<sup>2-4</sup>; OR
    - Symptomatic portal venous hypertension<sup>27-32</sup>; **OR**
    - Symptomatic iliac vein compression (May-Thurner or Cockett's syndrome) when ALL of the following are TRUE<sup>5.6</sup>:
      - Either 50% diameter reduction or 75% cross-sectional area; AND
      - Skin or subcutaneous changes (healed or active ulcers (Clinical, Etiology, Anatomy, and Pathophysiology [CEAP] classes 4-6)); AND
      - The patient does not have a superficial venous reflux (or has previously treated superficial venous reflux);
         OR
    - Symptomatic Iliocaval or iliofemoral venous obstruction<sup>Z</sup> confirmed by Doppler ultrasound, CT, or magnetic resonance venography (MRV)<sup>8.9</sup>; OR

- Symptomatic iliocaval or iliofemoral venous stenosis (greater than 50% diameter reduction of the affected vein or 75% cross-sectional area stenosis or residual stenosis of greater than 30% following angioplasty); OR
- Symptomatic renal vein compression (e.g., Nutcracker Syndrome) with ANY of the following<sup>14,15</sup>:
  - Nonsurgical management has been attempted for at least six months; OR
  - Prior left renal vein (LRV) transposition has failed, with recurrent/unimproved symptoms and evidence of persistent stenosis on imaging; OR
- The patient has symptomatic thoracic venous disease, including ANY of the following:
  - Pulmonary vein stenosis confirmed by diagnostic imaging (eg. echocardiography, CTA) and resulting from either congenital malformation, extrinsic compression, sequelae of radiofrequency ablation (RFA), lung transplantation, or after repair of Total Anomalous Pulmonary Vein Return (TAPVR); **OR**
  - Superior or inferior vena cava obstruction, including superior vena cava syndrome, confirmed by diagnostic imaging (e.g., CT, Doppler, MRI)<sup>26</sup>; OR
- The patient has symptomatic venous complications relating to a procedure or treatment, including ANY of the following:
  - Complications of arteriovenous dialysis access (e.g. stenosis, occlusion, pseudoaneurysm)<sup>10</sup>; OR
  - Postprocedure venous complications, including occlusion, stenosis, perforation, or pseudoaneurysm<sup>11-13</sup>; OR
  - Post-radiation venous stenosis confirmed by diagnostic imaging (e.g., CT, Doppler, MRI)<sup>16</sup>; OR
  - Postoperative venous stenosis after repair of congenital cardiac disease, as confirmed by diagnostic imaging (e.g., echocardiography, CT, Doppler, MRI); OR
- The patient has an arteriovenous malformation (AVM) confirmed by diagnostic imaging (CT or MRI)<sup>1</sup>; OR
- The patient has idiopathic intracranial hypertension<sup>17,18</sup>; OR
- Suboptimal or failed angioplasty and ANY of the following is TRUE:
  - Residual stenosis of greater than 30%; OR

- Greater than 50% diameter reduction or greater than 75% cross-sectional area stenosis; **OR**
- Abrupt occlusion at the angioplasty site; **OR**
- Elastic recoil or refractory spasm; OR
- Perforation; **OR**
- Intractable symptoms<sup>1</sup>; **OR**
- Repeat or secondary stenting of any of the preceding indications is appropriate if **ANY** of the following is true:
  - Suboptimal or failed stenting; OR
  - Symptomatic restenosis; **OR**
  - Stent fracture (in association with restenosis or occlusion);
     OR
  - Stent recoil; **OR**
  - Prevention of variceal rebleeding if more than 72 hours beyond index bleed<sup>30</sup>.

**Non-Indications** 

- → Venous stenting is not considered appropriate if ANY of the following is TRUE:
  - Known allergic reactions to stent or stent graft material (e.g., nitinol, dacron, expanded polytetrafluoroethylene [ePTFE]); OR
  - Prophylactic stenting for asymptomatic venous stenosis or compression.<sup>19,20</sup>

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (C	CPT/HCPCS)
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CPT/HCPCS Code	Code Description
37238	Transcatheter placement of an intravascular stent(s), open or percutaneous, including radiological supervision and interpretation and including angioplasty within the same vessel, when performed; initial vein
37239	Transcatheter placement of an intravascular stent(s), open or percutaneous, including radiological supervision and interpretation and including angioplasty within the same vessel, when

	performed; each additional vein (List separately in addition to code for primary procedure)
37182	Insertion of a TIPS (Transjugular Intrahepatic Portosystemic Shunt), which includes venous access, catheterization of the hepatic and portal veins, portography, intrahepatic tract formation, stent placement, and imaging guidance
37183	Revision of a TIPS (Transjugular Intrahepatic Portosystemic Shunt), which includes venous access, catheterization of the hepatic and portal veins, portography, intrahepatic tract recanalization, stent placement, and imaging guidance
37248	Transluminal balloon angioplasty (except dialysis circuit), open or percutaneous, including all imaging and radiological supervision and interpretation necessary to perform the angioplasty within the same vein; initial vein
37249	Transluminal balloon angioplasty (except dialysis circuit), open or percutaneous, including all imaging and radiological supervision and interpretation necessary to perform the angioplasty within the same vein; each additional vein (List separately in addition to code for primary procedure)

## **Medical Evidence**

Morris et al. (2023) performed a systematic review of the benefits of stenting for inferior vena cava (IVC). The review included 33 studies with 1575 patients; indications for stenting included IVC syndrome, thrombotic disease, Budd–Chiari syndrome, and IVC stenosis following liver transplant. IVC stenting was concluded to be safe with clinical outcomes that improved symptoms and quality of life, although the authors encourage future randomized controlled trials to refine the evidence supporting these recommendations.<sup>6</sup>

In 2020, the American Association for the Study of Liver Diseases (AASLD) published clinical guidance titled *Vascular Liver Disorders, Portal Vein Thrombosis, and Procedural Bleeding in Patients with Liver Disease.* The AASLD cited a randomized control trial supporting percutaneous transluminal angioplasty, with or without stenting, to restore hepatic vein outflow when obstructed.<sup>3</sup>

The Society of Interventional Radiology (2023) supports stent placement for patients with iliofemoral venous obstruction. Although the authors endorse the necessity of further research to better quantify the risks and benefits, they note that, in the meantime, stenting for such patients may proceed with careful patient selection and optimization of conservative therapy, as well as correct stent sizing with a focus on high-quality procedural technique.<sup>9</sup>

In 2024, the AASLD also provided guidelines for the use of the transjugular intrahepatic portosystemic shunt (TIPS) procedure for the management of portal hypertension or abnormally elevated pressure within the portal venous system. TIPS utilizes a venous stent to connect the portal vein to adjacent, lower-pressure veins. Portal hypertension is multifactorial and can result from a number of clinical conditions (cirrhosis, splenic vein thrombosis, congenital anomalies).<sup>30,31</sup>

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## Clinical Guideline Revision History/Information

Original Date: October 4, 2023				
Review History				
Version 2	12/12/2024	<ul> <li>Annual policy review and restructure:</li> <li>Updated recommended clinical approach to the current format.</li> <li>Consolidated redundant criteria</li> <li>Simplified AV fistula indication</li> <li>Clarified wording of post-procedure complications indication; consolidated redundant criteria</li> <li>Simplified criteria of pulmonary vein stenosis</li> <li>Added indication for intracranial hypertension</li> <li>Added repeat stenting indication</li> <li>Corrected prophylactic non-indication</li> <li>Added TIPS CPT codes + indication</li> <li>Edited medical evidence section</li> <li>Updated references</li> </ul>		