



## Clinical Review Criteria Chronic Cerebrospinal Venous Insufficiency Treatment

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### Criteria For Medicare Members

Source	Policy
CMS Coverage Manuals	None
National Coverage Determinations (NCD)	None
Local Coverage Determinations (LCD)	None
Local Coverage Article	None
Kaiser Permanente Medical Policy	Due to the absence of an active NCD, LCD, or other coverage guidance, Kaiser Permanente has chosen to use their own Clinical Review Criteria, <b>Chronic Cerebrospinal Venous Insufficiency Treatment</b> , for medical necessity determinations. Use the Non-Medicare criteria below.

### For Non-Medicare Members

There is insufficient evidence in the published medical literature to show that this service/therapy is as safe as standard services/therapies and/or provides better long-term outcomes than current standard services/therapies.

The following information was used in the development of this document and is provided as background only. It is provided for historical purposes and does not necessarily reflect the most current published literature. When significant new articles are published that impact treatment option, Kaiser Permanente will review as needed. This information is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

### Background

Multiple sclerosis is an autoimmune inflammatory disease of the central nervous system that affects approximately 250,000 to 500,000 people in the United States. Although the cause of multiple sclerosis is unknown, evidence suggests it may be caused by the interplay of genetic and environmental factors. However, it has recently been hypothesized that a phenomenon known as chronic cerebrospinal venous insufficiency (CCSVI) may also play a role in the etiology, pathogenesis, and/or disease progression of multiple sclerosis. This theory suggests that abnormal drainage of venous blood due to stenosis or malformation of the internal jugular and/or azygous veins may be a cause of multiple sclerosis (Ghezzi 2011, Khan 2010, Vedantham 2010).

The evidence pertaining to the association between CCSVI and multiple sclerosis is inconsistent. Depending on the study, the frequency of CCSVI in patients with multiple sclerosis ranged from 0 to 100%. The frequency of CCSVI in controls ranged from 0 to 23%. Different methods of assessing CCSVI may explain some of the variability among these studies. Doppler sonography, venous MRI, and venous angiography have all been used to assess CCSVI; however, it is not clear which is the gold standard (Ghezzi 2011). Additionally, it is not clear if CCSVI is a cause of multiple sclerosis, an effect of multiple sclerosis, or an unrelated finding (Singh 2009, Vedantham 2010). Based on the CCSVI hypothesis balloon angioplasty has been proposed as a treatment for multiple sclerosis patients with CCSVI.

### Medical Technology Assessment Committee (MTAC) Chronic Cerebrospinal Venous Insufficiency Treatment

**06/10/2011: MTAC REVIEW**

**Evidence Conclusion:** A recent open-label, prospective case-series evaluated the safety of CCSVI endovascular treatment and its influence on clinical outcomes in 65 consecutive patients with multiple sclerosis. No operative or postoperative complications were recorded. After the endovascular treatment, disease severity significantly improved for patients with relapse remitting multiple sclerosis, but not for patients with primary progressive or secondary progressive multiple sclerosis. In patients with relapse remitting multiple sclerosis, significantly more patients were relapse free during the 18 months posttreatment compared to the year preceding endovascular treatment; however, there was no significant difference in annualized relapse rate. Quality of life improved significantly for subjects with relapse remitting and primary progressive multiple sclerosis, but not for subjects with secondary progressive multiple sclerosis. Results from this study should be interpreted with caution as this is a small, open-label study with no comparison group (Zamboni 2009). Another prospective case-series evaluated the safety of endovascular treatment for CCSVI in 331 patients with multiple sclerosis. Overall, three patients experienced major complications. Two patients (1.2% of implanted stents) experienced stent thrombosis and one patient (0.3%) required surgical opening of the femoral vein to remove the angioplastic balloon. Minor complications included: local bleeding from the groin (4 patients, 1.2%), minor gastrointestinal bleeding (1 patient, 0.3%), transient cardiac arrhythmia (2 patients, 0.6%), difficulty removing the angioplastic balloon or delivery system (4 patients, 1.2%), problems with proper placement of the stent (4 patients, 2.3% of implanted stents), unsuccessful catheterization of the stenosed internal jugular vein (4 patients, 1.3%). Long-term complications were not addressed (Ludyga 2010). **Conclusion:** Currently, there is insufficient evidence to determine the safety and efficacy of balloon angioplasty for the treatment of CCSVI in patients with multiple sclerosis. In a recent position statement, the Society of Interventional Radiology also concluded that the current published literature was inconclusive on whether CCSVI is a clinically important factor in the development and/or progression of multiple sclerosis and on whether balloon angioplasty is clinically effective in patients with multiple sclerosis (Vedantham 2010).

**Articles:** To determine the safety and efficacy of balloon angioplasty for the treatment of multiple sclerosis patients with CCSVI. No randomized controlled trials were identified that assessed the safety or efficacy of balloon angioplasty for the treatment of multiple sclerosis patients with CCSVI. The best evidence came from an observational study. This study was selected for review. The following study was critically appraised: Zamboni P, Galeotti R, Menegatti E, et al. A prospective open-label study of endovascular treatment of chronic cerebrospinal venous insufficiency. *J Vasc Surg* 2009; 50:1348-1358. See [Evidence Table](#).

The use of chronic cerebrospinal venous insufficiency treatment for multiple sclerosis does not meet the *Kaiser Permanente Medical Technology Assessment Criteria*.

**Applicable Codes**

**Considered not medically necessary for Multiple Sclerosis:**

CPT® or HCPC Codes	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)
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)
<b>With diagnosis code</b>	
G35	Multiple sclerosis

**\*Note:** Codes may not be all-inclusive. Deleted codes and codes not in effect at the time of service may not be covered.

\*\*To verify authorization requirements for a specific code by plan type, please use the [Pre-authorization Code Check](#).

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Date Created	Date Reviewed	Date Last Revised
07/05/2011	07/05/2011 <sup>MDCRPC</sup> , 05/01/2012 <sup>MDCRPC</sup> , 03/05/2013 <sup>MDCRPC</sup> , 01/07/2014 <sup>MDCRPC</sup> , 11/04/2014 <sup>MPC</sup> , 09/01/2015 <sup>MPC</sup> , 07/05/2016 <sup>MPC</sup> , 05/02/2017 <sup>MPC</sup> , 03/06/2018 <sup>MPC</sup> , 03/05/2019 <sup>MPC</sup> , 03/03/2020 <sup>MPC</sup> , 03/02/2021 <sup>MPC</sup> , 03/01/2022 <sup>MPC</sup> , 03/07/2023 <sup>MPC</sup>	09/08/2015

<sup>MDCRPC</sup> Medical Director Clinical Review and Policy Committee  
<sup>MPC</sup> Medical Policy Committee

Revision History	Description
09/08/2015	Revised LCD L34886 and L35008 Non-Covered Services.