

CADTH Reference List

# Endovascular Therapy for the Treatment of Cerebrospinal Fluid Venous Fistulas

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## Key Messages

- We did not find any studies on the clinical effectiveness of endovascular therapy for the treatment of patients with cerebrospinal fluid venous fistulas compared to other surgical interventions.
- We did not find any studies on the clinical effectiveness of endovascular therapy for the treatment of patients with cerebrospinal fluid venous fistulas compared to no treatment.
- We identified other references on the topic that may be of interest which are listed in the appendix.

## Research Questions

1. What is the clinical effectiveness of endovascular therapy for the treatment of patients with cerebrospinal fluid venous fistulas compared to other surgical interventions?
2. What is the clinical effectiveness of endovascular therapy for the treatment of patients with cerebrospinal fluid venous fistulas compared to no treatment?

## Methods

### Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were cerebrospinal fluid, fistula and endovascular procedures. No search filters were applied to limit retrieval by study type. Where possible, retrieval was limited to the human population. The search was completed on October 28, 2022 and limited to English-language documents published since January 1, 2017. Internet links were provided, where available.

### Selection Criteria and Summary Methods

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in [Table 1](#). Full texts of study publications were not reviewed. The Overall Summary of Findings was based on information available in the abstracts of selected publications.

## Results

No relevant health technology assessments, systematic reviews, randomized controlled trials, or non-randomized studies were identified regarding the clinical effectiveness of endovascular

**Table 1: Selection Criteria**

Criteria	Description
Population	Q1 and Q2: Any patient with a cerebrospinal fluid venous fistula
Intervention	Q1 and Q2: Endovascular therapy using paraspinal vein embolization procedure
Comparator	Q1: Any other surgical intervention Q2: No treatment or no comparator
Outcomes	Clinical benefits (e.g., treatment success, symptom management/relief, patient satisfaction, quality of life, length of hospital stay or recovery) and harms (e.g., safety, adverse events)
Study designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies

therapy for the treatment of patients with cerebrospinal fluid venous fistulas compared to other surgical interventions or no treatment.

References of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

## Overall Summary of Findings

No relevant literature was found regarding the clinical effectiveness of endovascular therapy for the treatment of patients with cerebrospinal fluid venous fistulas; therefore, no summary can be provided.

## References

### Health Technology Assessments

No literature identified.

### Systematic Reviews

No literature identified.

### Randomized Controlled Trials

No literature identified.

### Non-Randomized Studies

No literature identified.

## Appendix 1: References of Potential Interest

### Non-Randomized Studies

#### *Unclear Intervention – Paraspinal Vein Not Specified.*

Brinjikji W, Garza I, Whealy M, et al. Clinical and imaging outcomes of cerebrospinal fluid-venous fistula embolization. *J Neurointerv Surg.* 2022 Oct; 14(10): 953-956. [PubMed](#)

#### *Case Series*

Brinjikji W, Savastano LE, Atkinson JLD, Garza I, Farb R, Cutsforth-Gregory JK. A novel endovascular therapy for CSF hypotension secondary to CSF-venous fistulas. *Am J Neuroradiol.* 2021 May; 42(5): 882-887. [PubMed](#)

### Additional References

#### *Letter to the Editor*

Shlobin NA, Tan LA. Letter: cerebrospinal fluid-venous fistulas: a systematic review and examination of individual patient data. *Neurosurgery.* 2021 Jul 15; 89(2): E138. [PubMed](#)