

CADTH Reference List

# Epidural Blood Patch With Fibrin Glue for Cerebrospinal Fluid Leak

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## Key Messages

- We did not find any studies on the clinical effectiveness of the use of an epidural blood patch with fibrin glue for patients experiencing cerebrospinal fluid leaks that met our criteria for this review.
- We did not find any studies on the cost-effectiveness of the use of an epidural blood patch with fibrin glue for patients experiencing cerebrospinal fluid leaks that met our criteria for this review.

## Research Questions

1. What is the clinical effectiveness of the use of an epidural blood patch with fibrin glue for patients experiencing cerebrospinal fluid leaks?
2. What is the cost-effectiveness of the use of an epidural blood patch with fibrin glue for patients experiencing cerebrospinal fluid leaks?

## 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 epidural blood patches and cerebrospinal fluid leaks. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was completed on October 31, 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 the use of an epidural blood patch (EBP) with fibrin glue for patients experiencing cerebrospinal fluid

**Table 1: Selection Criteria**

Criteria	Description
<b>Population</b>	Q1 and Q2: Any patient experiencing a cerebrospinal fluid leak
<b>Intervention</b>	Q1 and Q2: Epidural blood patch with fibrin glue
<b>Comparator</b>	Q1 and Q2: Alternative epidural blood patch treatment, sealant treatment, surgery, no treatment
<b>Outcomes</b>	Q1: Clinical benefits (e.g., treatment success, patient satisfaction, quality of life, patient recovery time, hospital length of stay) and harms (e.g., safety, rate of adverse events) Q2: Cost-effectiveness (e.g., cost per quality-adjusted life-year gained, incremental cost-effectiveness ratio, cost per adverse event avoided)
<b>Study designs</b>	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, economic evaluations

leaks. Additionally, no relevant economic evaluations were identified regarding the cost-effectiveness of the use of an EBP with fibrin glue for patients experiencing cerebrospinal fluid leaks.

Additional 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 the use of an EBP with fibrin glue for patients experiencing cerebrospinal fluid leaks. Additionally, no economic evaluations were found regarding the cost-effectiveness of the use of an EBP with fibrin glue for patients experiencing cerebrospinal fluid leaks; 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.

### Economic Evaluations

No literature identified.

## Appendix 1: References of Potential Interest

### Systematic Reviews

#### *Unclear Comparator*

D'Antona L, Jaime Merchan MA, Vassiliou A, et al. Clinical Presentation, Investigation Findings, and Treatment Outcomes of Spontaneous Intracranial Hypotension Syndrome: A Systematic Review and Meta-analysis. *JAMA Neurol.* 2021;78(3):329-337. [PubMed](#)

#### *No Comparator*

Villani LA, Digre KB, Cortez MM, Bokar C, Rassner UA, Ozudogru SN. Arachnoiditis, a complication of epidural blood patch for the treatment of low-pressure headache: A case report and systematic review. *Headache.* 2021;61(2):244-252. [PubMed](#)

### Non-Randomized Studies

#### *Alternative Intervention- EBP Without Fibrin Glue*

Perthen JE, Dorman PJ, Morland D, Redfern N, Butteriss DJ. Treatment of spontaneous intracranial hypotension: experiences in a UK regional neurosciences Centre. *Clin Med.* 2021;21(3):e247-e251. [PubMed](#)

#### *Case Reports*

Sulioti G, Gray L, Amrhein TJ. Popping the balloon: Abrupt onset of a spinal CSF leak and spontaneous intracranial hypotension in idiopathic intracranial hypertension, a case report. *Headache.* 2022;62(2):208-211. [PubMed](#)

Armstrong SA, Nguyen HTN, Rebsamen SL, Iskandar B, Stadler JA, 3rd. Epidural Fibrin Sealant Injection for the Management of Cerebrospinal Fluid Leak Following Dural Puncture in Children. *Cureus.* 2020;12(2):e6940. [PubMed](#)

Chan TLH, Cowan R, Hindiyeh N, Hashmi S, Lanzman B, Carroll I. Spinal cerebrospinal fluid leak in the context of pars interarticularis fracture. *BMC Neurol.* 2020;20(1):162. [PubMed](#)

### Review Articles

Gandhi J, DiMatteo A, Joshi G, Smith NL, Khan SA. Cerebrospinal fluid leaks secondary to dural tears: a review of etiology, clinical evaluation, and management. *Int J Neurosci.* 2021;131(7):689-695. [PubMed](#)

Jones MR, Shlobin NA, Dahdaleh NS. Spontaneous Spinal Cerebrospinal Fluid Leak: Review and Management Algorithm. *World Neurosurg.* 2021;150:133-139. [PubMed](#)

Upadhyaya P, Ailani J. A Review of Spontaneous Intracranial Hypotension. *Curr Neurol Neurosci Rep.* 2019;19(5):22. [PubMed](#)

Lin JP, Zhang SD, He FF, Liu MJ, Ma XX. The status of diagnosis and treatment to intracranial hypotension, including SIH. *J Headache Pain.* 2017;18(1):4. [PubMed](#)

### Additional References

#### *Policy Bulletin*

Epidural Patching. *Medical Clinical Policy Bulletin No 0934.* Hartford (CT): Aetna. 2018. [https://www.aetna.com/cpb/medical/data/900\\_999/0934.html](https://www.aetna.com/cpb/medical/data/900_999/0934.html)  
Accessed 2022 Nov 1.

See: Epidural Fibrin Glue Patching for the Treatment of Post-Dural Puncture Headache