

Cerebrospinal fluid fistula surgical treatment

General information

If the site of [leakage](#) is not identified prior to attempted surgical treatment, 30% develop a recurrent leak post-op, with 5-15% of these developing meningitis before the leak is stopped ¹⁾.

There is currently no most ideal [technique](#) among the available options. The choice of which technique to be applied in each case is dependent on each surgeon's cumulative experience as well as a clear understanding of the contributory underlying factors in each patient, the nature and site of the leak, the available facilities and equipment ²⁾.

Indications for surgical intervention

1. [Traumatic Cerebrospinal fluid fistula](#) that persists > 2 weeks in spite of non-surgical measures
2. [Nontraumatic cerebrospinal fluid fistula](#) and those of delayed onset following trauma or surgery: usually require surgery because of a high incidence of recurrence
3. leaks complicated by recurrent meningitis

Primary and meticulous [dural closure](#) is sine qua non in preventing postoperative [cerebrospinal fluid fistula](#).

Several techniques for [duraplasty](#) and different materials for [Water-tight dural closure](#) have been described.

A plastic dummy with a balloon was developed to test the efficacy of the Water-tight closure of the dura. The technical notes to reproduce the method have been described.

The described model represents a new, simple, effective and affordable device to be used for [neurosurgical training](#) in the procedures of duraplasty and to test the efficacy of Water-tight closures ³⁾.

Duraplasty

[Duraplasty](#)

Dural substitute

see [Dural substitute](#).

Dural sealant

[Dural sealant](#)

Endoscopic endonasal approach for cerebrospinal fluid fistula

[Endoscopic endonasal approach for cerebrospinal fluid fistula.](#)

Spinal Dura Repair

[Spinal Dura Repair.](#)

Ventriculoperitoneal shunt for cerebrospinal fluid fistula treatment

[Ventriculoperitoneal shunt for cerebrospinal fluid fistula treatment.](#)

1)

Naidich TP, Moran CJ. Precise Anatomic Localization of Atraumatic Sphenothmoidal CSF Rhinorrhea by Metrizamide CT Cisternography. J Neurosurg. 1980; 53:222-228

2)

Menon SK, Onyia CU. A short review on a complication of lumbar spine surgery: Cerebrospinal fluid fistula. Clin Neurol Neurosurg. 2015 Oct 23;139:248-251. doi: 10.1016/j.clineuro.2015.10.013. [Epub ahead of print] Review. PubMed PMID: 26523872.

3)

Matula C, Kjærsgaard L, Di Ieva A. Water-tight dural closure in brain surgery: a simple model for training. J Neurol Surg A Cent Eur Neurosurg. 2014 May;75(3):241-5. doi: 10.1055/s-0033-1342928. PubMed PMID: 23681920.

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