

Delayed [postoperative cerebrospinal fluid leaks](#) are uncommon and largely unstudied [complications](#). In a [study](#), London et al. aimed to identify they're [etiology](#) and understand the [efficacy](#) of various [reconstruction](#) strategies.

A [retrospective chart analysis](#) of 1017 [endonasal skull base](#) surgeries performed by a single [neurosurgeon](#) was completed identifying delayed [CSF leaks](#) (occurring >1 week after surgery).

Seventeen cases of early (1-2 weeks after surgery) or delayed (>2 weeks after surgery) postoperative CSF leak were identified. The most common [reconstruction](#) during the initial surgery consisted of an inlay or [gasket seal collagen matrix](#) (82.4% of patients) with an onlay pedicled flap (76.5% of patients). Presenting symptoms of delayed CSF leak included [rhinorrhea](#) (82.4%), [headache](#) (41.2%), and [meningitis](#) (23.5%). The most common causes included [flap dehiscence](#) (17.6%); provoking events such as [emesis](#), [sneezing](#), or fall (17.6%); [flap necrosis](#) (11.8%); [flap displacement](#) (11.8%); and inadequate apposition of the [flap](#), that is, folded flap (11.8%). Reconstructive techniques of the delayed CSF leak included fortification of the initial [reconstruction](#) with free [fat grafts](#) (29.4% of patients), combined [collagen matrix](#) with a fat graft (23.5% of patients), repositioning of the previous flap (11.8% of patients), and repair with a new flap (11.8% of patients). CSF diversion (spinal/ventricular drain or shunt) was used in 17.6% of patients.

This study identifies the most common etiologic factors leading to a delayed CSF leak and its initial symptoms. Furthermore, it serves as the foundation for a reconstructive [algorithm](#) based on reinforcement of the initial repair with free [abdominal fat graft](#) with or without collagen matrix ¹⁾.

¹⁾

London NR Jr, Mohyeldin A, Montaser AS, Tanjararak K, Prevedello DM, Otto BA, Carrau RL. Contributing factors for delayed postoperative cerebrospinal fluid leaks and suggested treatment algorithm. Int Forum Allergy Rhinol. 2020 May 3. doi: 10.1002/alr.22544. [Epub ahead of print] PubMed PMID: 32362077.

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