

# Surgical vs. Conservative Management of Temporal Bone Fractures with CSF Leaks

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## Introduction

- Cerebrospinal fluid (CSF) leaks complicate temporal bone fractures significantly
- There is a lack of consensus on the timing and surgical approach
- this study aims to provide clarity on optimal treatment strategies

## Methods:

- Chart review of patients with temporal bone fractures and CSF leaks from January 2010 to December 2023.
- Inclusion criteria: Confirmed temporal bone fractures with CSF leaks.
- Exclusion criteria: Incomplete records or unrelated conditions.

## Data Collection:

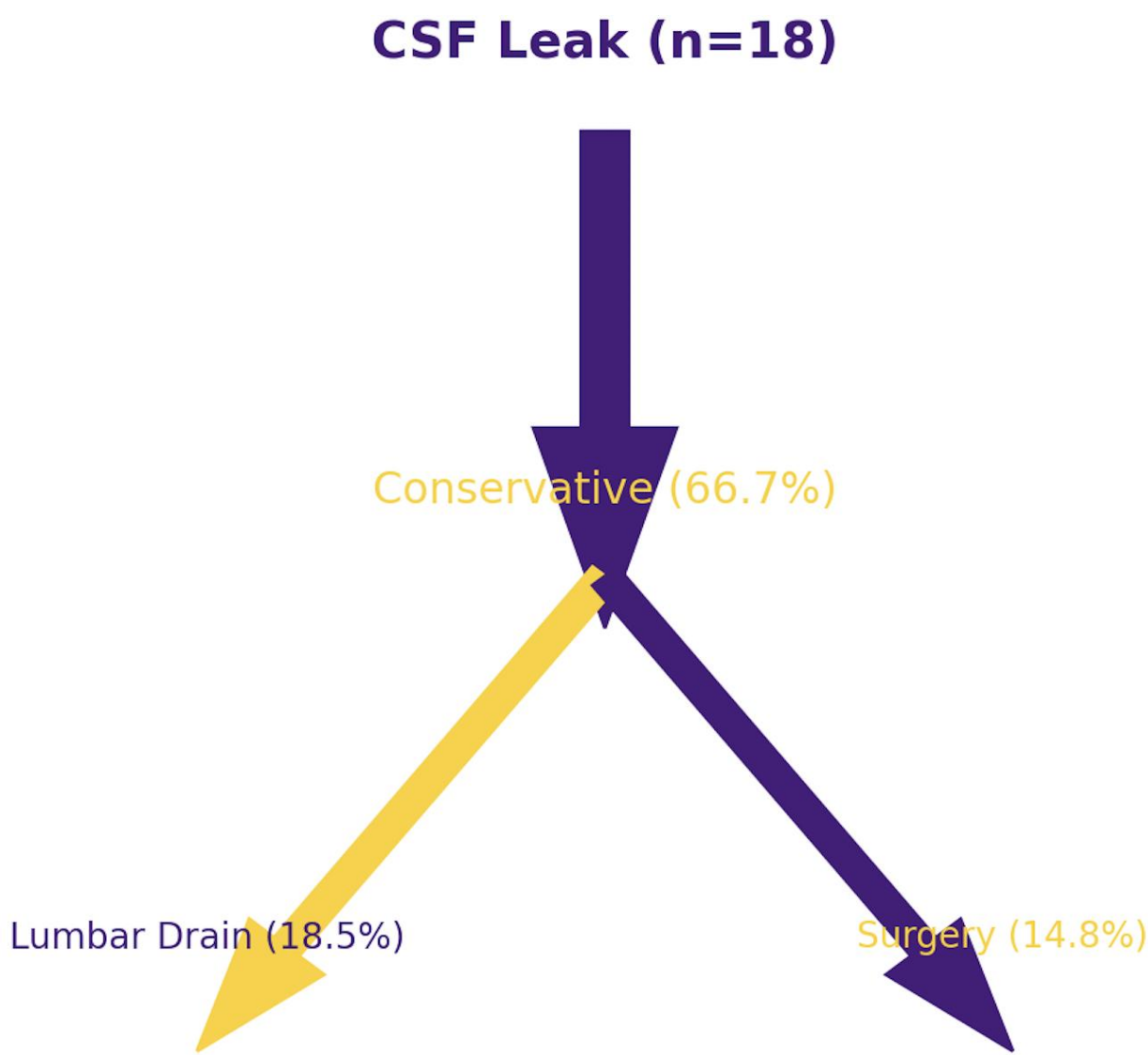
1. Management Strategies:
- Conservative care: Observation and lumbar drains
- Surgical approach: Middle cranial fossa with multilayer closure

## 2. Outcomes:

- Leak resolution, complications, and recurrence rates.

## Results

<u>Cerebrospinal fluid leak?</u> 0 = No 1 = Yes	0.0007	
	114 (87.02)	290 (96.67)
<u>Meningitis?</u> 0 = No 1 = Yes	17 (12.98)	10 (3.33)
	128 (99.22)	301 (99.67)
<u>CSF leak intervention</u> 0 = None 1 = Conservative measures 2 = Lumbar drain 3 = Surgical repair	1.00	
	1 (0.78)	1 (0.33)
<u>CSF leak intervention</u> 0 = None 1 = Conservative measures 2 = Lumbar drain 3 = Surgical repair	0.0087	
	115 (86.47)	289 (96.97)
<u>CSF leak intervention</u> 0 = None 1 = Conservative measures 2 = Lumbar drain 3 = Surgical repair	13 (9.77)	6 (2.01)
	3 (2.26)	2 (0.67)
<u>CSF leak intervention</u> 0 = None 1 = Conservative measures 2 = Lumbar drain 3 = Surgical repair	2 (1.50)	1 (0.34)



FACIAL NERVE	OTIC CAPSULE		Total
	Involved	Spared	
Facial Nerve Paralysis	4	28	32
Facial Nerve Intact	23	427	450
Total	27	455	482
CSF LEAK			
CSF leak	5	22	27
No CSF leak	22	433	455
Total	27	455	482

## Conclusions

- Conservative management is effective for most temporal bone fracture patients with CSF leaks.
- It has high resolution rates and low complication risks.
- Repairs due to CSF leaks are rare, generally in severe cases.
- These can be managed with middle cranial fossa technique and multilayer repair
- Conservative treatment should be the first option, with surgery for ineffective cases.