# Use of tissue glues in endoscopic pituitary surgery: a cost comparison.

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## Abstract:

BACKGROUND: Post-operative cerebrospinal fluid (CSF) leaks are a common complication of endoscopic pituitary surgery and account for a significant proportion of hospital costs associated with this procedure. Tisseel is a tissue glue commonly used as an adjunct in dural repair but is not optimal for this purpose. DuraSeal has several properties advantageous for dural repair but is not widely accepted in Canada partly due to its increased cost.

OBJECTIVE: A cost analysis of DuraSeal versus Tisseel in endoscopic pituitary surgery.

METHODS: A cost analysis was performed based on typical endoscopic pituitary surgery cases performed at our tertiary care institution. Operating room, hospital admission, and surgical sealant costs were obtained directly while estimates of patient recovery time and post-operative CSF leak rates were based on consensus values reported in the literature. Outcomes were reported for various possible clinical scenarios of sealant use.

RESULTS: In a model where surgical sealant is employed only in high-risk cases, use of DuraSeal allows for a yearly cost savings of at least $4486.72. If surgical sealant is used in all cases, regular use of DuraSeal versus Tisseel either marginally reduces yearly costs or increases them by a maximum of $7619.25, depending on the case volume and estimated post-operative CSF leak rate.

CONCLUSION: In most clinical scenarios, use of DuraSeal in endoscopic pituitary surgery may reduce overall yearly hospital costs compared to Tisseel.