

# Surgical experience

Surgery has traditionally been more [experience](#) based than [evidence](#) based, and much of the enormous [advancements](#) in of surgical treatment over the last 200 years have taken place without [rigorous scientific trials](#) <sup>1)</sup>.

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[Competency](#)-based [training](#) refers to a learning model where students must demonstrate the required level of [knowledge](#) and [skill](#) ([competency](#)) on a task prior to advancing to the next task.

Budden et al. from the [University of Alberta Hospital](#) assessed the case volume and self-perceived [competence](#) of current mandatory [skills](#) in [peripheral nerve surgery](#).

**Design:** [Cross-sectional survey](#) based study examining [case volume](#) and self-reported competence in peripheral nerve surgery.

Setting: Canadian Neurosurgery and Plastic Surgery accredited residency programs PARTICIPANTS: All Canadian Neurosurgery and Plastic Surgery senior trainees (PGY 3+) invited to participate RESULTS: Much variability exists in both exposure to cases and perceived senior resident competence for both plastic and neurosurgery residents. Confidence in surgical ability as perceived competency is lower in trainees for more advanced peripheral nerve procedures. Self- reported confidence increased with post-graduate [experience](#).

Conclusions: Overall, the findings in this study highlight the importance of increasing operative experience in complex peripheral nerve surgery among surgical residents <sup>2)</sup>.

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Surgical [experience](#) is considered [paramount](#) for excellent [outcome](#) of [transsphenoidal surgery](#) (TSS). However, objective [data](#) demonstrating the surgical [success](#) in relation to the [experience](#) of [pituitary surgery](#) units or individual experience of pituitary surgeons is sparse.

Based on [literature data](#), Honegger et al., investigated the [influence](#) of [experience](#) with TSS for [pituitary neuroendocrine tumors](#) on endocrinological [remission rates](#) and on operative [complications](#). The surgical experience was assessed by calculating the number of transsphenoidal operations per year.

For TSS of [microprolactinomas](#), mean [remission](#) rates were 77% in centers with < 2 operations per year for microprolactinomas, 82% with 2-4 operations, 84% with 4-6 operations, and 91% with > 6 operations. A yearly experience with more than 10 initial operations for [Cushing's disease](#) (CD) warrants a remission rate exceeding 70%. Remission rates in CD exceeding 86% have only been reported for single surgeon series. Extraordinarily high complication rates were found in some series with < 25 yearly total operations for pituitary neuroendocrine tumors. Major vascular complications were less than 2% and revision rates for [rhinorrhea](#) usually < 2.5% in centers performing > 25 transsphenoidal operations per year.

Honegger et al., conclude that a center with experience of > 25 [transsphenoidal](#) operations for [pituitary neuroendocrine tumors](#) per year provides a high likelihood of safe TSS. Surgery for CD requires a particularly high level of practice to guarantee excellent remission rates. The

endocrinologist has the unique opportunity to audit the surgical success by hormone measurement and to refer patients to neurosurgeons with proven excellence <sup>3)</sup>.

1)

Gawande A (2012) Two hundred years of surgery. N Engl J Med 366:1716–1723

2)

Budden C, Platt A, Jack A, Moulton R, Olson J, Mehta V. Peripheral nerve surgical competency in plastic surgery and neurosurgery residents. Clin Neurol Neurosurg. 2022 Mar 22;216:107217. doi: 10.1016/j.clineuro.2022.107217. Epub ahead of print. PMID: 35339861.

3)

Honegger J, Grimm F. The experience with transsphenoidal surgery and its importance to outcomes. Pituitary. 2018 Oct;21(5):545-555. doi: 10.1007/s11102-018-0904-4. Review. PubMed PMID: 30062664.

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