

# Spinal meningioma outcome

Onken et al., reported on their surgical [experience](#) that involves two [institutions](#) in which 207 [patients](#) underwent surgery for [spinal meningiomas](#) (sMNGs) . Special focus was placed on patients with sMNGs localized anterior to the [denticulate ligament](#) (aMNGs) that were treated via a unilateral posterior approach (ULPA).

The duration of surgery, [extent of resection](#), and outcomes are comparable between aMNGs and posterior to the [denticulate ligament](#) (pMNGs) when removed via a ULPA. Thus, ULPA represents a safe route to achieve a gross-total resection, even in cases of aMNG <sup>1)</sup>.

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Davies et al., found that cross-section area measurements on MRI scans have no obvious relationship with function before or after surgery. This is a base for future research into the mechanism of cord recovery and other compressive cord conditions <sup>2)</sup>.

## Complications

A article reviews the factors that may predict susceptibility to this postoperative decline, and addresses therapeutic choices, adjunctive therapies, and technological applications that may help with complication avoidance. A literature search was conducted for articles related to spinal meningiomas addressing surgical treatment, adjuvant treatment, and technological applications related to management and minimizing of complications. Sixteen surgical series were identified, comprising 1090 patients with median mortality of 1% (range 0-4%), non-neurological surgical morbidity of 4% (range 0-24 %), and permanent neurological deterioration of 6% (range 0-21%). Common complications were [cerebrospinal fluid leaks](#) and fistulas, venous thromboembolic disease, myocardial infarction, and neurological deterioration with either transient or permanent neurological deficits. Predictive risk factors of neurological decline include pathoanatomical features of lesion calcification, anterior dural attachment, infiltrative tumor, and tumoral adherence to the spinal cord; and patient specific factors of preoperative neurological and advanced age. Alongside surgery, selection of more direct approaches and utilization of adjuvant radiotherapy in patients with higher grade lesions and recurrent disease may provide for improved outcomes. New technologies may improve the safety and limit the complications of such resection, including microsurgical technique, intraoperative electrophysiological monitoring, intraoperative ultrasound, and ultrasonic aspiration <sup>3)</sup>.

### Spinal meningioma recurrence

<sup>1)</sup>

Onken J, Obermüller K, Staub-Bartelt F, Meyer B, Vajkoczy P, Wostrack M. Surgical management of spinal meningiomas: focus on unilateral posterior approach and anterior localization. J Neurosurg Spine. 2018 Dec 1:1-6. doi: 10.3171/2018.8.SPINE18198. [Epub ahead of print] PubMed PMID: 30544344.

<sup>2)</sup>

Davies S, Gregson B, Mitchell P. Spinal meningioma: relationship between degree of cord compression and outcome. Br J Neurosurg. 2016 Jul 8:1-3. [Epub ahead of print] PubMed PMID: 27387462.

<sup>3)</sup>

Westwick HJ, Yuh SJ, Shamji MF. Complication Avoidance in the Resection of Spinal Meningiomas.

World Neurosurg. 2014 Dec 17. pii: S1878-8750(14)01386-2. doi: 10.1016/j.wneu.2014.12.015. [Epub ahead of print] Review. PubMed PMID: 25527885.

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