

Occipital Lobe Retraction

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- [Transient cortical blindness following occipital lobe retraction in a pineal region meningioma resection](#)
- [The occipital interhemispheric transtentorial approach in infants and toddlers: efficacy and complications](#)
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- [Endoscopic Occipital Transtentorial Approach for Supracerebellar Lesions](#)
- [The Minimally Invasive Lateral Occipital Infracortical Supra-/Transtentorial Approach in Surgery of Lesions of the Pineal Region: A Possible Alternative to the Standard Approaches](#)

[Occipital lobe retraction](#) refers to the surgical [maneuver](#) of gently displacing or pulling back the occipital lobe to access deep [midline](#) structures.

Indications

It is commonly used in:

- Pineal region tumors (e.g., pineocytomas, meningiomas, germinomas)
- Collicular plate cavernomas
- Posterior tentorial lesions
- Vascular pathologies (e.g., Galenic system aneurysms)

Approaches where occipital lobe retraction is typically employed:

- Infratentorial supracerebellar approach
- Occipital transtentorial approach

Risks

Because the occipital lobe contains the primary visual cortex (Brodmann area 17), retraction carries significant risks:

- Transient or permanent cortical blindness
- Homonymous hemianopia
- Visual field deficits
- Posterior cerebral artery (PCA) infarction (due to vascular compromise)

Case example (BMJ Case Rep, 2025): A woman developed complete cortical blindness after occipital lobe retraction during pineal meningioma resection. Vision recovered over several days.

Technical Recommendations

To minimize risks:

- Prefer gravity-assisted retraction (head positioning)
- Minimize fixed retraction pressure and duration
- Perform CSF drainage (lumbar or cisternal) to relax the brain
- Maintain optimal perfusion pressure and avoid hypotension or hypoxia

Case reports

In a **Single-patient case report** detailing [transient cortical blindness](#) following [pineal region meningioma surgery](#) **Yip et al.** from the University of [Edinburgh](#) and NHS Lothian, Edinburgh, UK. published in **BMJ Case Reports**, **June 27, 2025**; Volume 18(6):e264865. to highlight the occurrence of **transient cortical blindness** following [occipital lobe retraction](#) during a pineal meningioma resection and raise awareness about anatomical risk factors.

Key Clinical Course

- Middle-aged woman with pineal meningioma causing triventriculomegaly. - Underwent ETV followed by tumor resection via **parieto-occipital interhemispheric approach**. - Post-op: **complete cortical blindness**, no MRI evidence of ischemia. - Gradual visual recovery: partial by 3 weeks, full by 8 months. - Implicated cause: **bilateral occipital retraction injury** despite uneventful surgery ¹⁾.

Critical Review

- Strengths:

1. Describes a rare but important surgical complication, especially relevant in posterior fossa and pineal surgery.
2. Clear clinical timeline with good recovery documentation.
3. Highlights subtleties of non-ischemic cortical dysfunction and relevance of fMRI in post-op assessment.

- Limitations:

1. Lack of **functional imaging** (e.g., fMRI, perfusion studies) to correlate with presumed retraction injury.
2. No intraoperative monitoring data (e.g., visual evoked potentials) or detail on retraction technique.
3. Tentorial angle mention is appropriate, but no imaging shown to support that anatomical claim.
4. Single case, hence anecdotal and non-generalizable.

Final Verdict

- **Score:** 4.5/10 — educationally useful for neurosurgical awareness but limited by lack of objective neurophysiologic or imaging data.

Takeaway for Neurosurgeons

Occipital lobe retraction—even absent radiographic ischemia—can cause **reversible cortical blindness**, particularly in posterior approaches. Gentle retraction and patient selection (tentorial angle, age) may reduce risk.

Bottom Line

Transient cortical blindness may follow **occipital lobe** manipulation without infarction; full recovery is possible but underscores need for cautious occipital retraction during pineal region surgeries.

Citation

Transient cortical blindness following occipital lobe retraction in a pineal region meningioma resection. Yip NZW, et al. **BMJ Case Rep.** 2025;18(6):e264865. doi:10.1136/bcr-2025-264865. Corresponding author: Catriona Barbour-Hastie, catriona.barbour-hastie@nhs.scot

¹⁾

Yip NZW, Barbour-Hastie C, Barron P, McKee JB, Kaliaperumal C. Transient cortical blindness following occipital lobe retraction in a pineal region meningioma resection. *BMJ Case Rep.* 2025 Jun 27;18(6):e264865. doi: 10.1136/bcr-2025-264865. PMID: 40579192.

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