

# Endoscopic medial orbital wall decompression in thyroid-associated orbitopathy and the **rate of post-op diplopia**

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# Background

Thyroid eye disease (TED) is the most common cause of unilateral and bilateral proptosis in adults <sup>1</sup>

TED is estimated to affect between 155 and 250 people per 100,000 of the overall population <sup>2</sup>

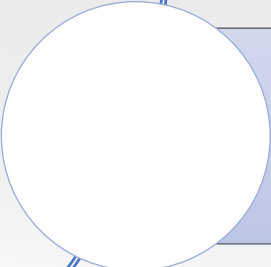
Current landscape of treatment for TED: use of glucocorticoids, and non-steroidal agents, surgery, local treatments (radiation therapy and local or intra-orbital agents), and immunosuppression with biologics <sup>3</sup>

1. Abraham-Nordling, M., et al. (2011). "Incidence of hyperthyroidism in Sweden." *Eur J Endocrinol* **165**(6): 899-905.
2. Boboridis, K. G. and C. Bunce (2011). "Surgical orbital decompression for thyroid eye disease." *Cochrane Database Syst Rev*(12): Cd007630.
3. Finn, A. P., et al. (2017). "A Retrospective Review of Orbital Decompression for Thyroid Orbitopathy with Endoscopic Preservation of the Inferomedial Orbital Bone Strut." *Ophthalmic Plast Reconstr Surg* **33**(5): 334-339.

# Orbital decompression



Double vision is a common complication of orbital decompression surgery, occurring in 20% to 34% of patients <sup>4</sup>



Some reports suggest it may be associated with higher rates of post-operative diplopia compared with 2- and 3-wall approaches <sup>5</sup>

4. Stähr, K., et al. (2021). "Risk Factors for New Onset Diplopia After Graduated Orbital Decompression." Ophthalmic Plast Reconstr Surg **37**(6): 564-570.
5. Wiersinga, W. M. and L. Bartalena (2002). "Epidemiology and prevention of Graves' ophthalmopathy." Thyroid **12**(10): 855-860.



## Objective

- To determine the rate of post-operative diplopia in 1-wall medial orbital decompression.



## Design

- Retrospective single-centre cohort study.



## Setting

- Pre- and post-operative orthoptic measurements/examination findings were extracted from medical records.



## Subject

- 20 consecutive patients with TAO undergoing endoscopic medial orbital wall decompression. 13/20 (65%) were bilateral.

# Results

**Pre-op**

**90%** (n=18)

No diplopia

**75%** had a small exophoria



**2** patients with pre-existing diplopia



Both reported some limited post-op improvement

**Post-op**

**5%** (n=1)

**New-onset diplopia**



In the **1 patient** with new-onset diplopia, they had a **small** pre-op exophoria (6 $\Delta$  near, 2 $\Delta$  distance).

The **base-in extent** of horizontal fusion range was **4 $\Delta$**  pre-operatively.

This was significantly **less** than the **cohort mean** of **10.5 $\Delta$**  (p = 0.015).

# Conclusion

- The **rate of new-onset diplopia** in endoscopic medial orbital wall decompression was **5%**.
- Surgically-induced **eso shift** is universal.
- The high rate of **pre-operative exophoria** in this series **may be protective** against post-op diplopia.
- A **smaller** pre-operative **base-in** extent of **horizontal fusion range** might put patients at greater risk for post-operative diplopia.

**Thank you!**

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