

# Muscle resection: Is muscle plication a good or better alternative?

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# Materials and Methods

- Retrospective chart review
- 56 consecutive patients who underwent muscle plications *instead of resections* for strabismus by a single surgeon (LK)
- Surgical doses used for plications were the same as Parks' tables for resections<sup>1</sup>

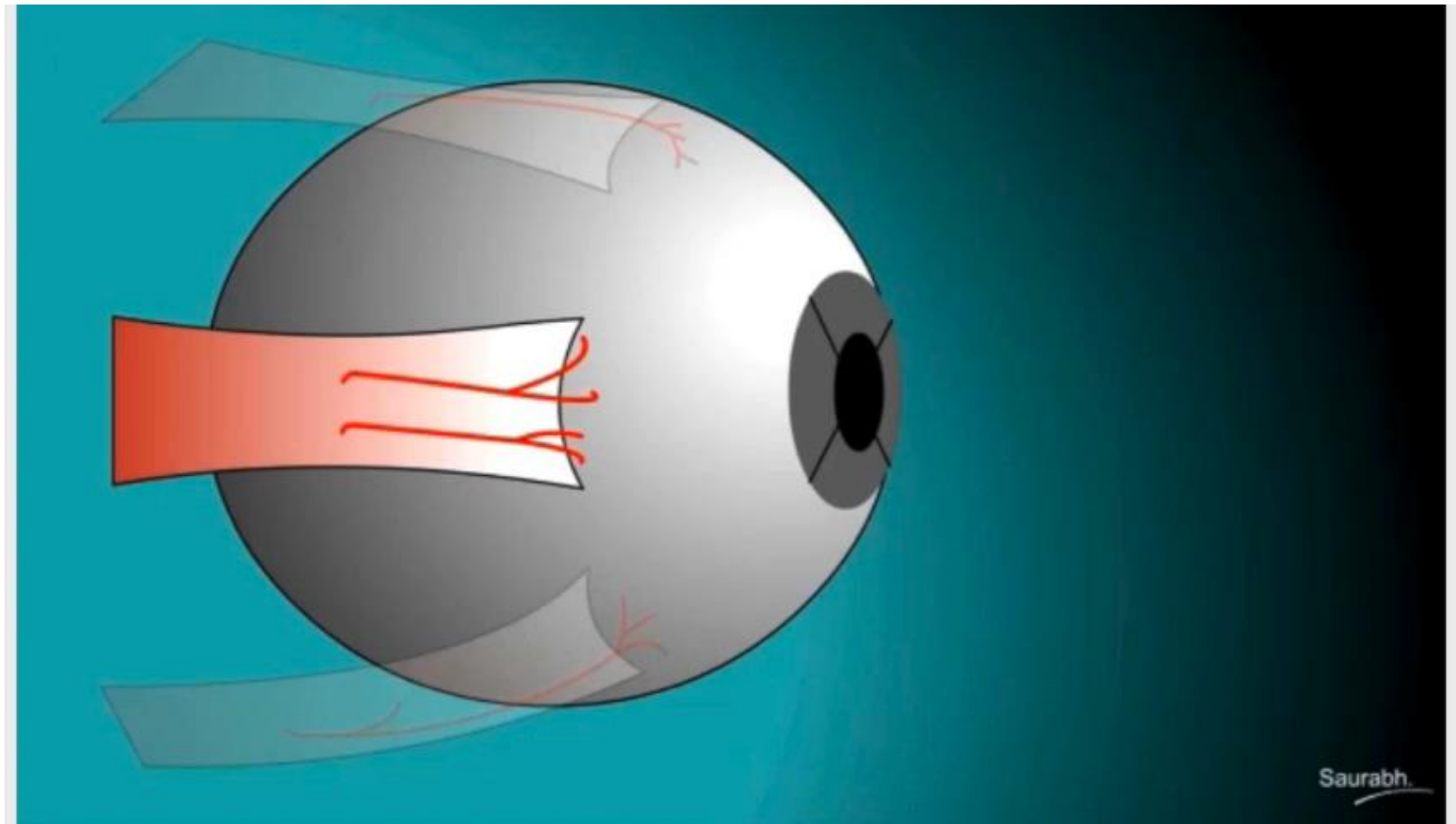
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[JAMA Ophthalmol.](#) 2014 May;132(5):579-85. doi: 10.1001/jamaophthalmol.2013.8188.

**Surgical outcomes following rectus muscle plication: a potentially reversible, vessel-sparing alternative to resection.**

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# Surgical technique – Video (Animation)



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# Our experience

N	Plication amount (mm)	Pre - Op deviation	Post – Op deviation	Follow up
<b>56</b>	3.0 mm to 8.0mm	14 – 80 Δ	0 - 14 Δ	1 day to 16 weeks
34 (Horizontal Recti) 1 (Superior Rectus) 1 (Inferior Rectus)	<b>(6.08 mm)</b>	<b>(30.58 Δ)</b>	<b>(5.17 Δ)</b>	<b>(4.06 weeks)</b>

- All plications were done only on virgin muscles
- Surgeries were either bilateral plications or plication + recession of antagonist
- The antagonist muscles had standard recessions according to Park's tables (Fixed or adjustable)
- Oblique muscles were operated on in the same sitting if indicated

# Summary

- **Plication is better alternative to resection because:**
  - Less destructive, simpler procedure, time saving
  - Less trauma, less inflammation as minimized muscle handling, maybe better in thyroid
  - A plicated muscle can never be lost
  - Anterior segment ischemia risk minimized<sup>2</sup>
  - One can reliably use Parks' surgical doses<sup>1</sup>
  - Plications can also be done as adjustable surgery<sup>3</sup>
  - Cosmesis or lump under conjunctiva has not been an issue.
- **Resection is better than plications:**
  - If adjustables are to be used<sup>3</sup>
  - If offsets are required
  - if an assistant is not available
  - No data yet on long term results/reversibility

1 [JAMA Ophthalmol.](#) 2014 May;132(5):579-85. doi: 10.1001/jamaophthalmol.2013.8188.

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2 [Br J Ophthalmol.](#) 2014 Oct 23. pii: bjophthalmol-2014-305712. doi: 10.1136/bjophthalmol-2014-305712. [Epub ahead of print]

**The effect of rectus muscle recession, resection and plication on anterior segment circulation in humans.**

[Qltra EZ](#)<sup>1</sup>, [Pineles SL](#)<sup>1</sup>, [Demer JL](#)<sup>2</sup>, [Quan AV](#)<sup>3</sup>, [Velez FG](#)<sup>1</sup>.

3 [J AAPOS.](#) 2013 Oct;17(5):480-3. doi: 10.1016/j.jaapos.2013.06.002.

**Rectus muscle plication using an adjustable suture technique.**

[Velez FG](#)<sup>1</sup>, [Demer JL](#), [Pihlblad MS](#), [Pineles SL](#).