

# Lateral rectus transposition in management of third nerve paralysis

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- Complete oculomotor palsy
  - Easy to Diagnose difficult to manage
  - Less satisfactory results
- Incomplete oculomotor palsy
  - Difficult to diagnose challenging to manage
  - Satisfactory results

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## Management of 3<sup>rd</sup> nerve palsy

- Localization of causative lesion
- Measurement of angle in 9 cardinal positions
- Torsion
- Surgical plan

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## Localization of lesion

- Supranuclear
  - Sparing lid and contralateral SR
- Nuclear
  - Complete compressive lesion
  - Solitary muscles d.d. myasthenia
  - Fascicular and infranuclear
  - Surgical/medical
- Aberrant regeneration

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## Total 3<sup>rd</sup> nerve palsy

- It is difficult to correct as four out of six are paralyzed
- Although surgery can result in cosmetically acceptable results, satisfaction is limited
- Partial paralysis can be solved by recess-resect
- Complete paralysis although some authors report good results, recess –resect leads to a drift back to XT

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## Surgical options

- Total oculomotor palsy is presented by weakness of four of the six extraocular muscles.
- Leaving the lateral rectus and superior oblique muscles unopposed.

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## Surgical correction of total 3<sup>rd</sup> n.

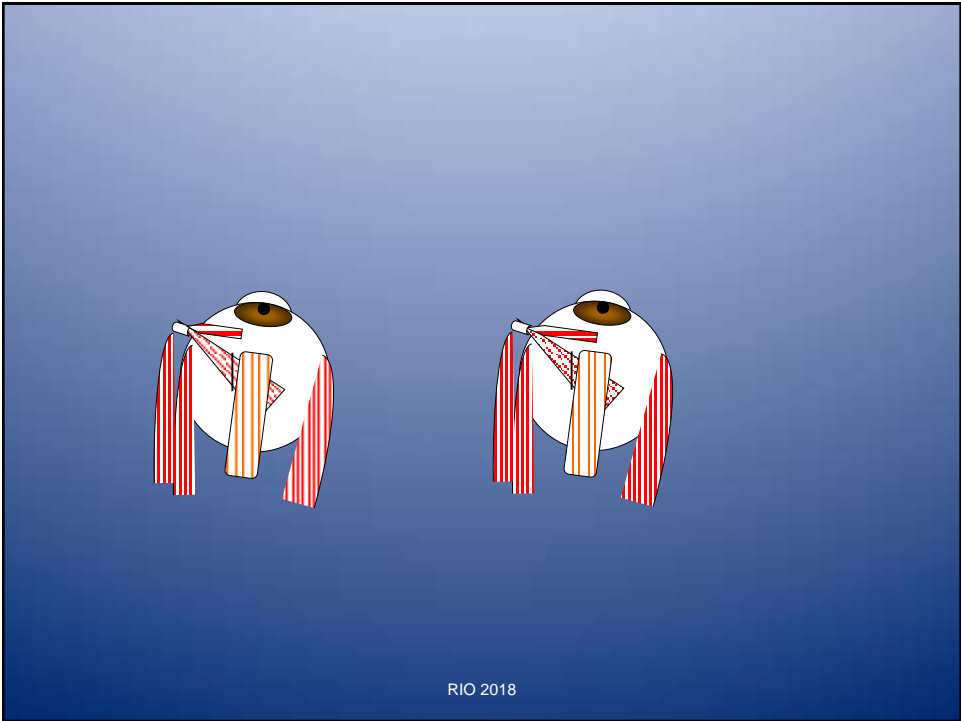
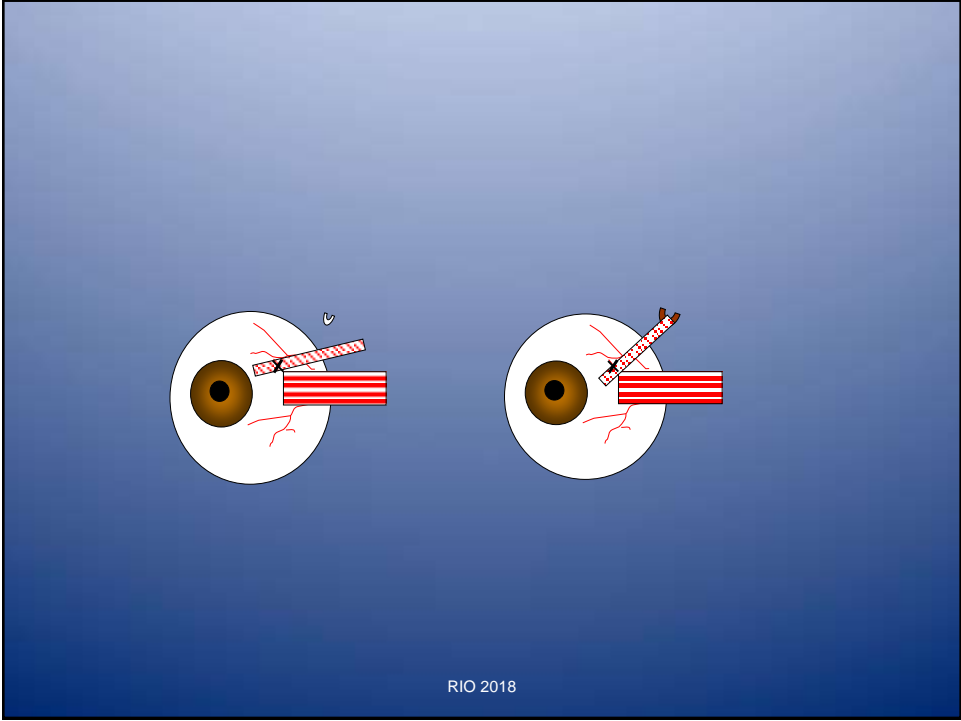
- Superior oblique transposition combined by large recession of the lateral rectus
- Principle of SO transposition
  - The SO muscle has a secondary abducting and depressing effect
  - It is manipulated to limit the postoperative abduction and depression
  - It augments the rotational action in the field of MR muscle

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## Different Approaches

- Removal of the SO muscle tendon from the trochlea, resection of the tendon and suturing above the MR
- Resection of the tendon and suturing at the MR without trochleotomy
- Transposition of the tendon anterior to the medial border of SR

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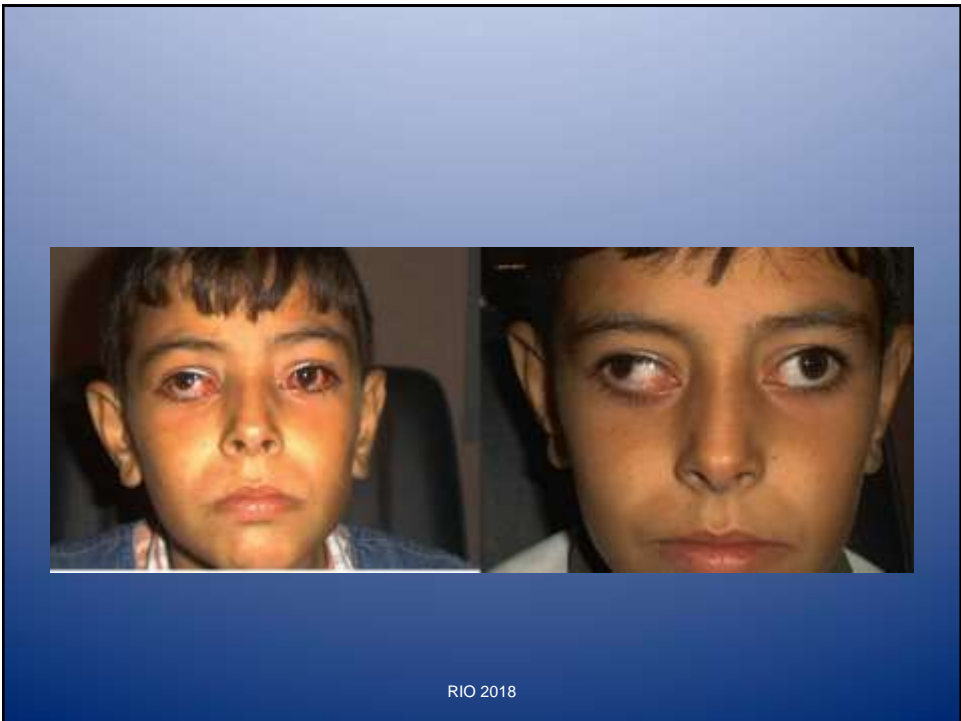
## My method

- Isolation of the insertion of the SO tendon
- Cutting the tendon at the medial border of the SR
- The tendon is secured anterior to the middle of the insertion of SR
- Lateral rectus muscle recession 7-10mm was carried out simultaneously.

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## Advice

- Don't resect non acting muscle
- SO transposition after trochleotomy is better but difficult to approach and liable to complication
- Don't over recess beyond 9mm as contracture of short muscle leads to restriction

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## Other options

- Recession- resection with up-shift of MR
- Disinsertion of lateral rectus and securing at the lateral orbital wall
- Splitting of the lateral rectus and transposition at the superior and inferior vortices
- 1991 Medial transposition under SR

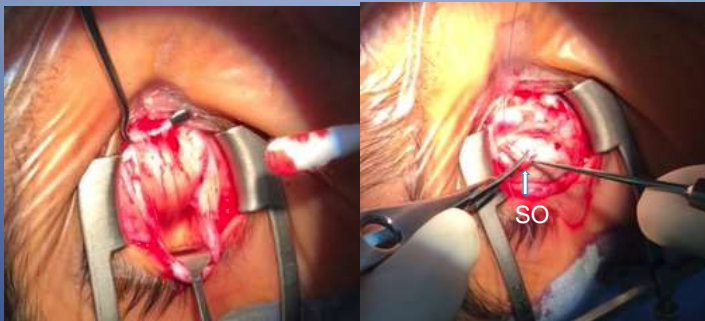
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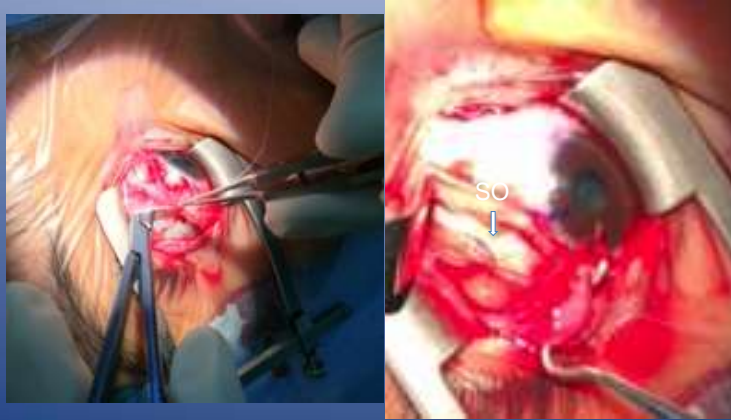
## My trial

- Six cases
- Splitting of the LR up to 20 mm
- Sliding both halves under the SR & IR
- Suturing both halves at MR
- SO transposition after resecting 10mm anterior to middle point of SR without trochleotomy

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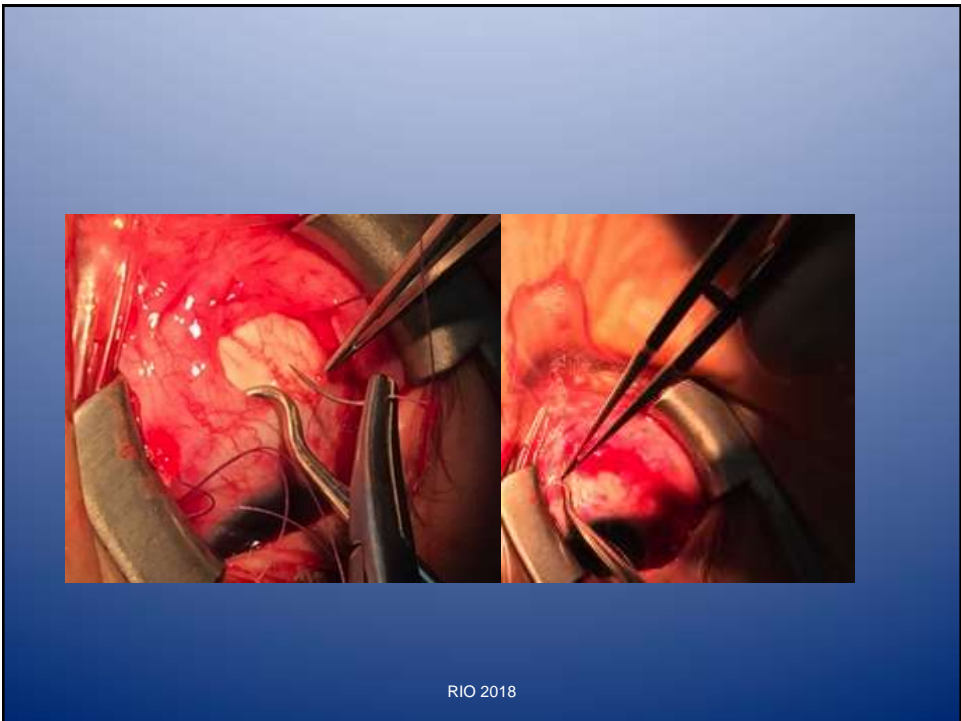
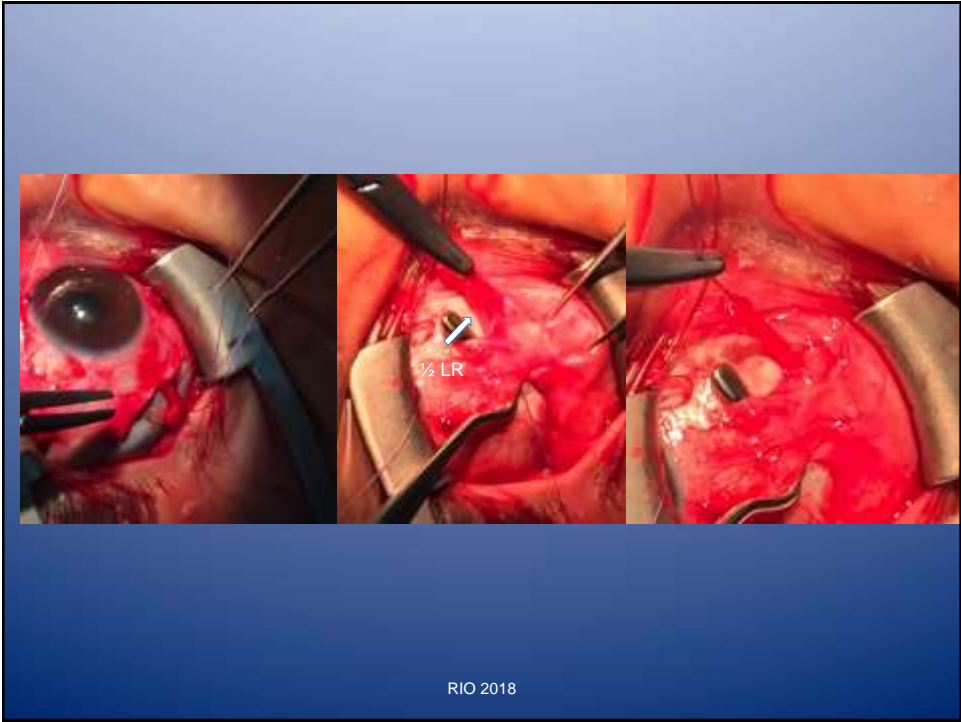
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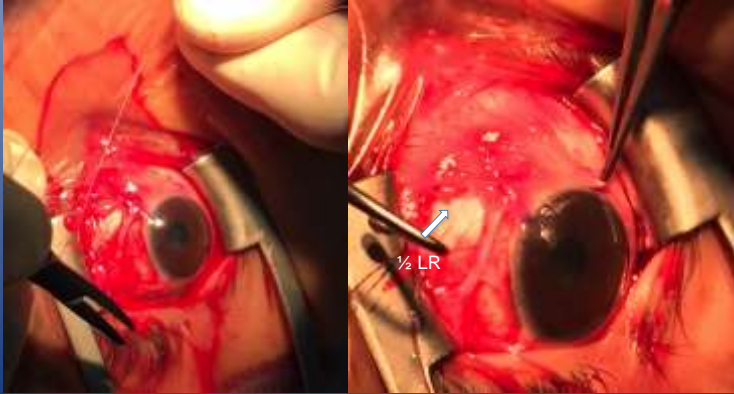


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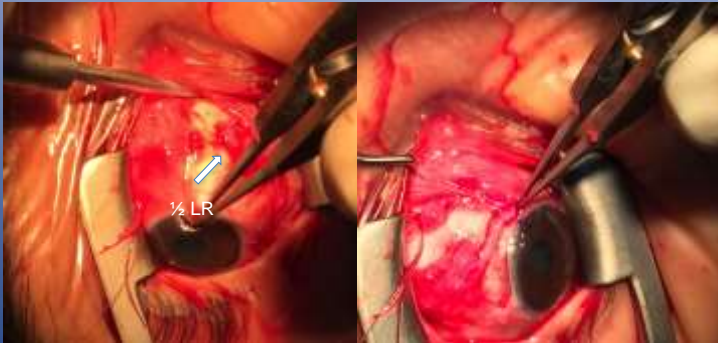


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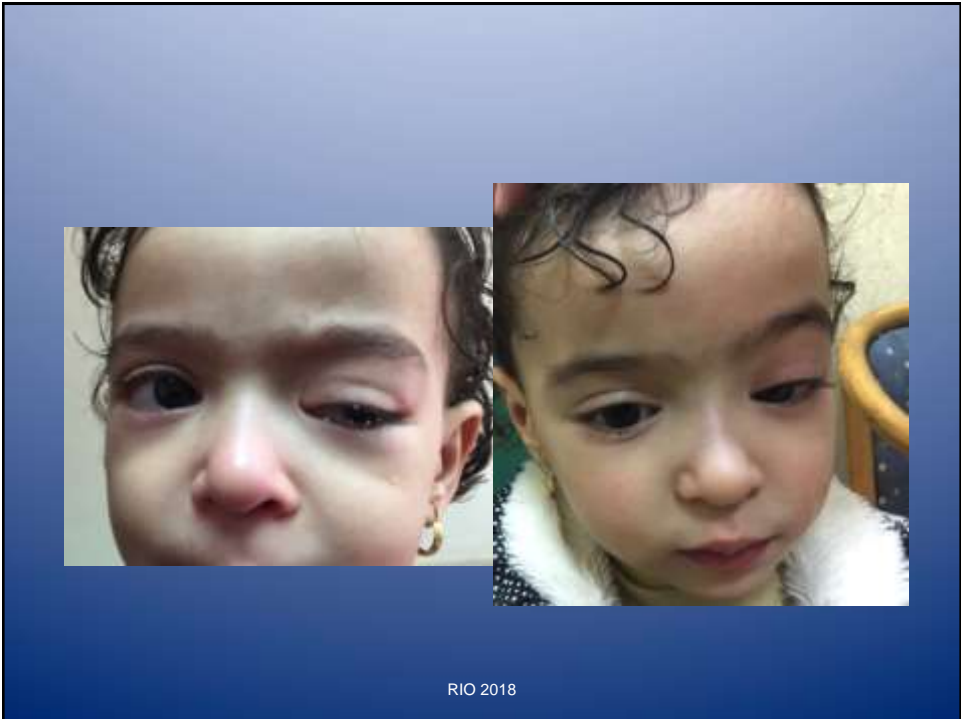
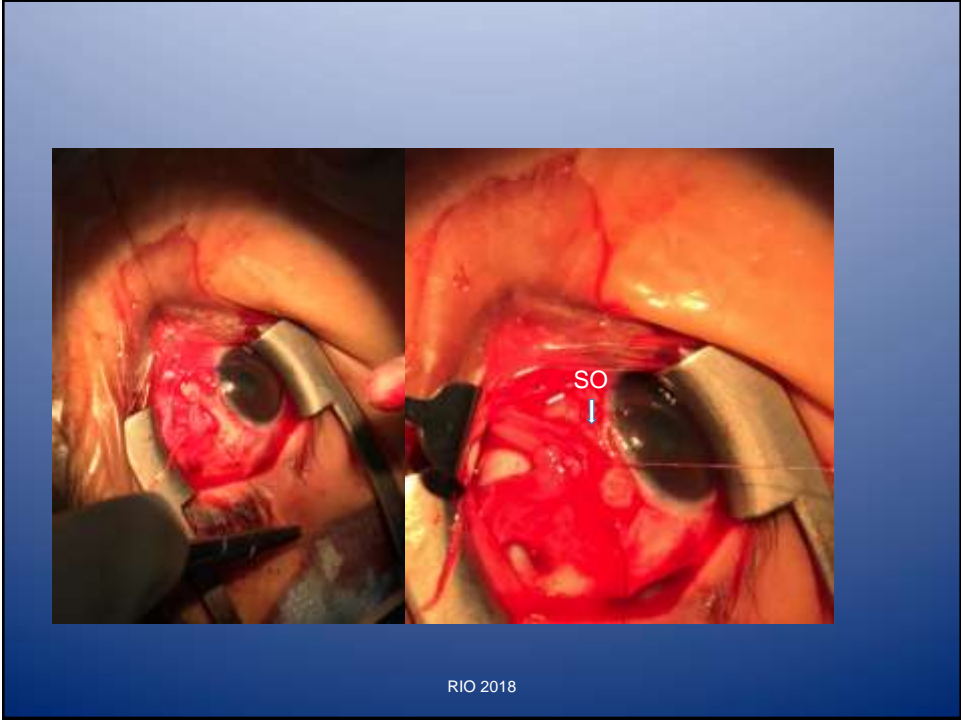




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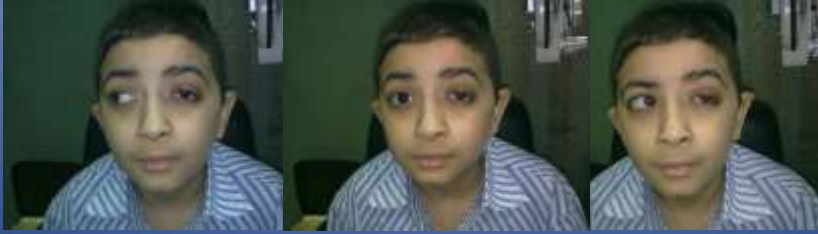


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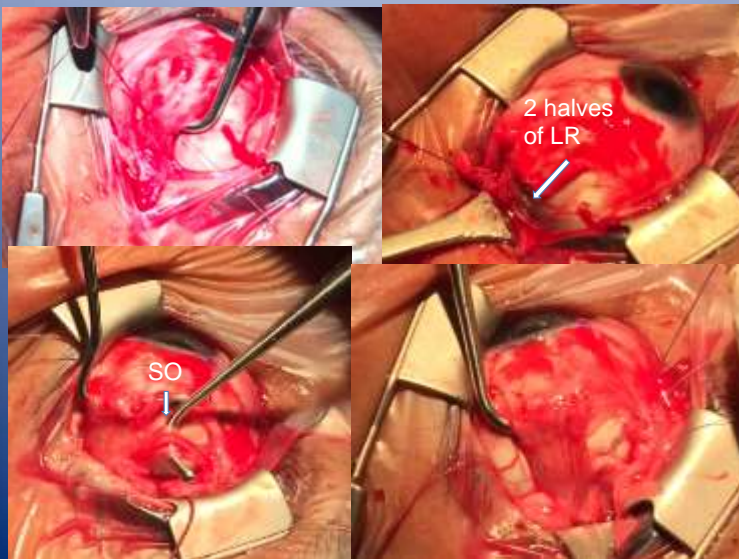


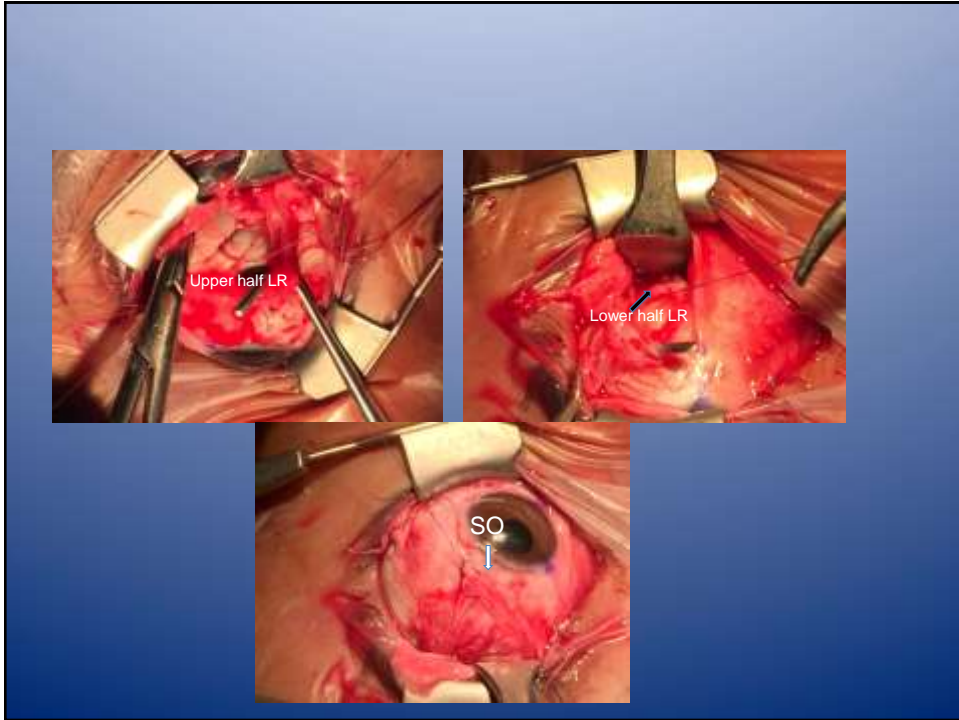
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## Recurrent pre



## Post op. recurrent



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- Transposition of SO with trochleotomy results in more adduction
- Technically difficult procedure
- Suturing the SO tendon above the MR after resection results in restrictive hypertropia
- Suturing the SO anterior to the middle of SR gives more force toward adduction
- Anterior transposition reduce the depressing action as well as abducting action leaving the vector toward adduction augmented by the LR transposition and elimination of the abduction

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- Splitting of LR and medial transposition
- Combined with anterior transposition of SO
- The results are promising

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THANK YOU



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