

# Duane with Hypertropia (case presentation)

BY

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Duane retraction syndrome (DRS) is a unique restrictive type of strabismus characterized by co-contraction of the medial and lateral rectus muscles due to anomalous innervation of one of the extraocular muscle antagonists during embryogenesis.

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The classical duane retraction syndrome (DRS) is characterized by limitation of abduction, defective adduction, narrowing of the palpebral fissure and retraction on adduction, sometimes retraction accompanied by upshoot or downshoot.

## classifications

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There are 3 types of Duane Retraction Syndrome with multiple subgroups existing.

**Type 1** comprises 75-80% of patients and presents with Limited abduction with or without esotropia.

**Type 2** comprises 5-10% of patients and presents with Limited adduction with or without exotropia.

**Type 3** comprises 10-20% of patients, present with Limitation of both abduction and adduction and any form of horizontal strabismus.

The general principle is not to operate unless clear-cut indications are present.

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### Indications of surgery in DRS include:

- Significant deviation in the primary position,
- Unacceptable abnormal head position,
- Significant globe retraction,
- Significant upshoot or downshoot.

### Principles of Surgical Approach:

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**For types 1 and 3 with head turn:** recession of medial rectus muscle or horizontal transposition of vertical rectus muscles.

**For types 1 and 3 with Leash Phenomenon and/or severe globe retraction:** recession of both medial and lateral rectus muscles with possible Y-splitting of the lateral rectus muscle.

**For type 2 with head turn and fixation with uninvolved eye:** recession of ipsilateral lateral rectus muscle.

**For type 2 with Leash Phenomenon:** recession of lateral rectus muscle with possible Y-splitting.

*Case study*

A 19-years-old female sought treatment for an abnormal deviation of her right eye, which had existed since birth. She had no prior strabismus surgery.

The best corrected vision was 20/25 in the right eye and 20/20 in the left eye. Anterior segments and fundi were normal.

*Case study*

The right eye has hypertropia  
And exotropia in primary position.  
There is marked limitation of  
adduction(-4 grade) and mild  
limitation of abduction (-1 grade)..



## Case study

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There is narrowing of The palpebral fissure on attempted adduction with eye retraction and up-shoot.



The head posture was unremarkable



## Surgery plan

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Rt medial rectus recession 4mm

RT lateral rectus recession 8 mm

Y splitting of lateral rectus

**+ Inferior Oblique ANTERIOLIZATION**



## Summary

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Duane retraction syndrome is a complex condition that can present in a great variety of clinical manifestations.

Surgeons should personalized surgical approach for each case to achive best results.

IOAT correct the hypertropia as it converts the vector of IO action from elevation to depression by attaching the IO anterior to the equator.

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**HAPPY END**



THANK YOU

