

A scenic view of a river with a bridge and traditional boats. The river is calm, reflecting the surrounding greenery and the bridge. Several traditional boats are visible on the water. The background shows a lush, green landscape with trees and buildings.

# **OVERLAPPING MYASTHENIA GRAVIS & GRAVE'S DISEASE**

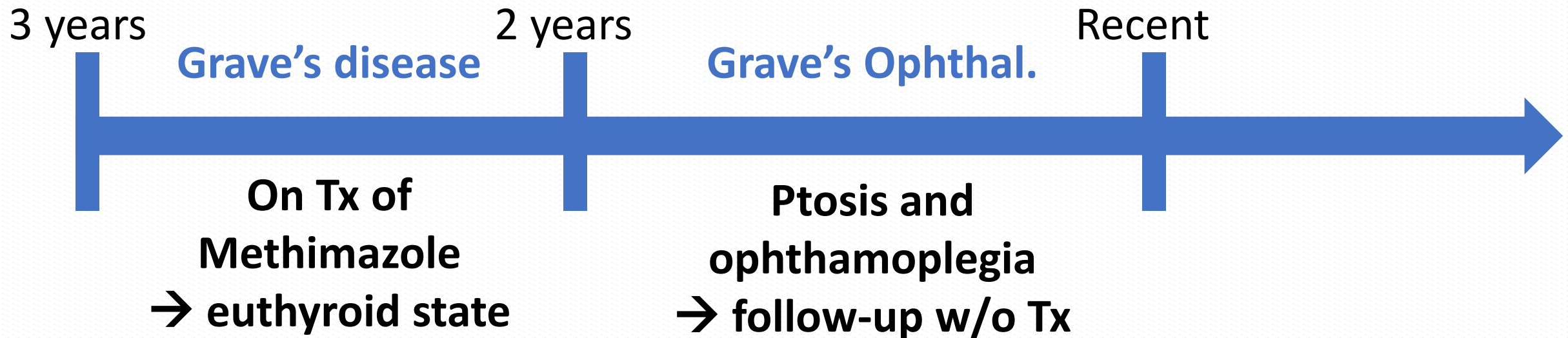
**Challenging Case Reports**

**NGUYEN DUY DUAN, MD**

# CASE 1



A 24-year-old female

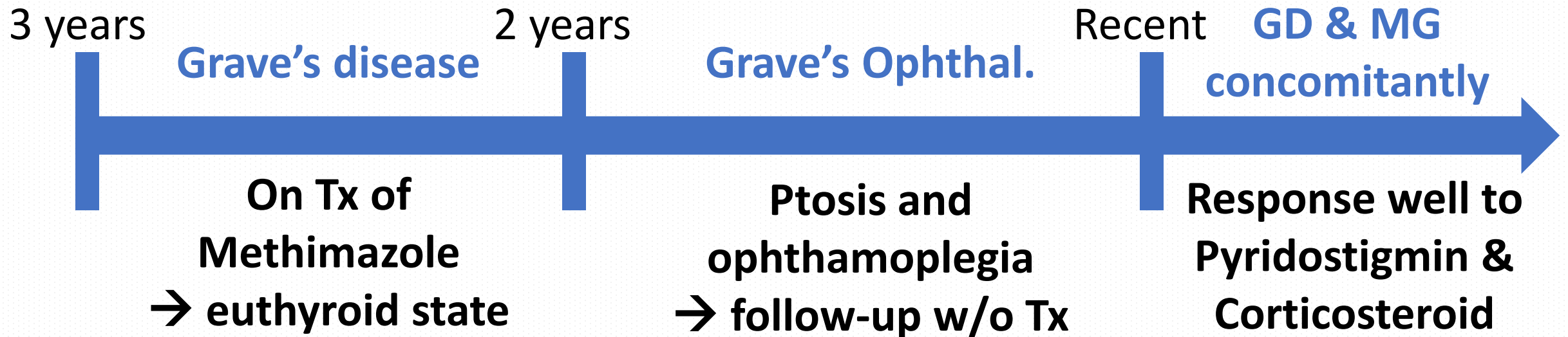


# CASE 1

1. How to recognize  
Grave's pt has MG or not?



A 24-year-old female

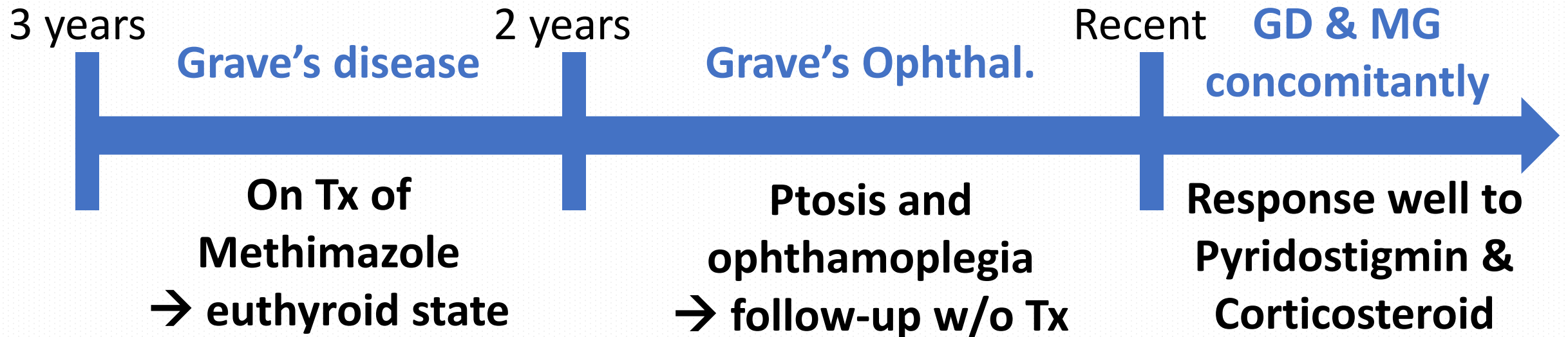


# CASE 1

1. How to recognize  
Grave's pt has MG or not?



A 24-year-old female





## Questions was posed are:

- Is it common enough to be noticed?
- Why does it make physicianS confused?
- How to recognize Grave pt has MG or not?

# 1. Is it common enough to be noticed?

CONCOMITANCE is  
NOT RARE

MG has been reported to be discovered **simultaneously with**, or **prior to**, the diagnosis of Graves' disease, but is **most commonly subsequent to** it.

Genetic predisposition for autoimmune disease

The SIMILARITY of symp. drives underdiagnosis!

GD

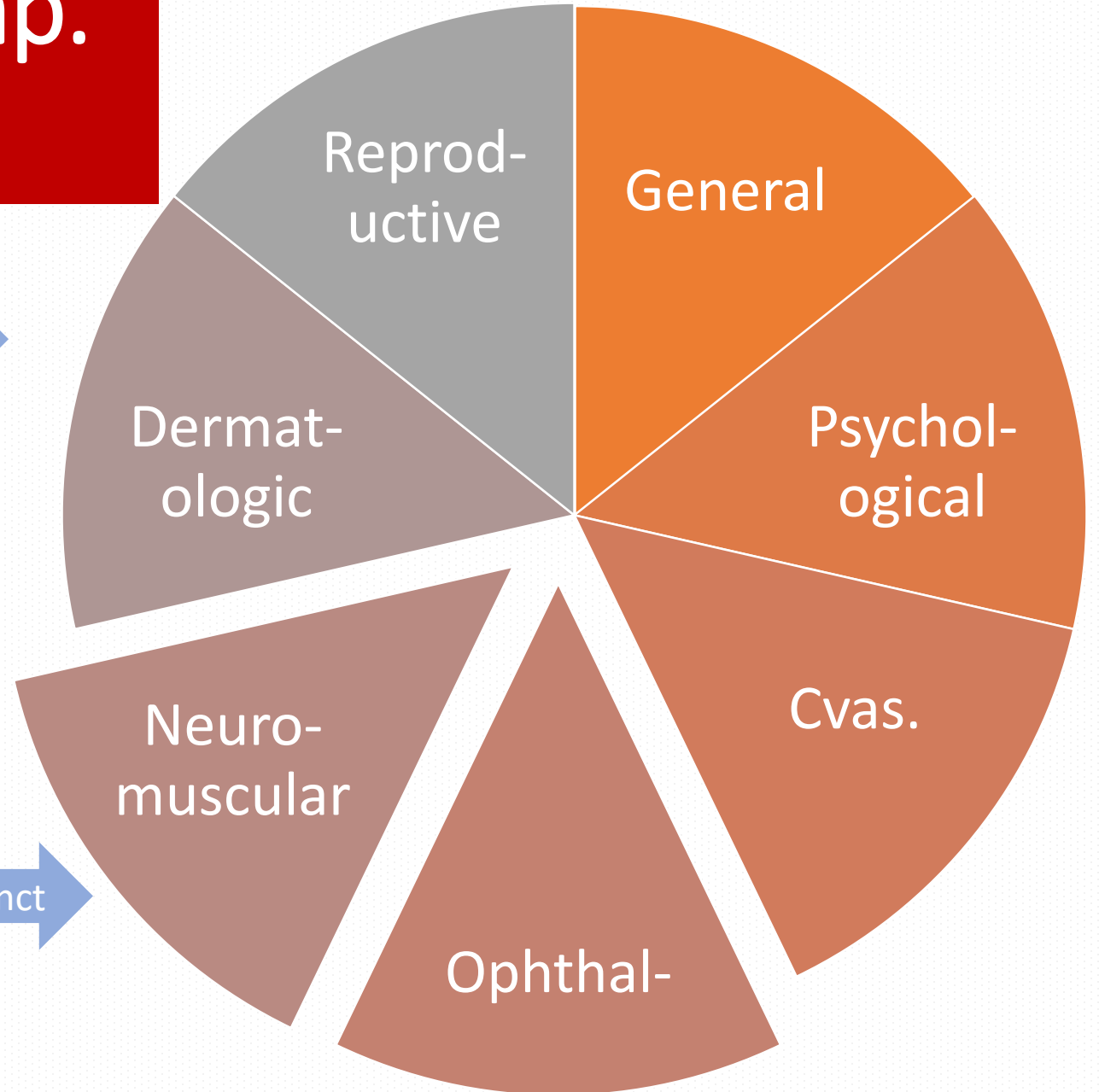
T3, T4



What's the difference?

MG

Neuromus. junct

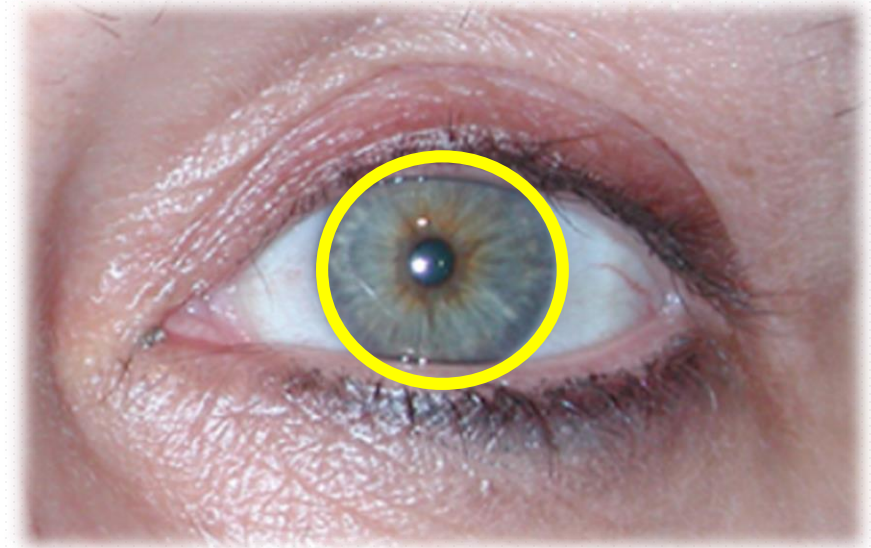


### 3. How to recognize Grave's pt has MG or not?

- **Ptosis:**

- GO: Eyelid retraction due to increased sympathetic stimulation of Muller's muscle by thyroid hormone.
- MG: Ptosis because of weakness of superioris levator.

*LIMBUS*



*Normal*



*Dalrymple's sign*



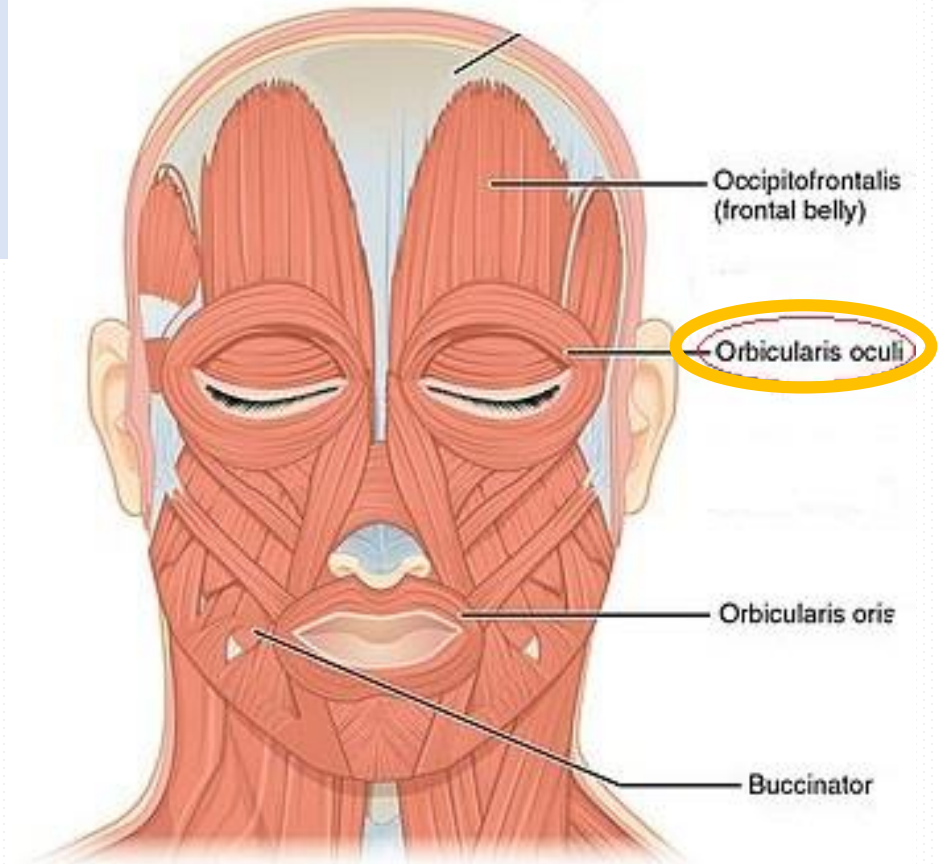
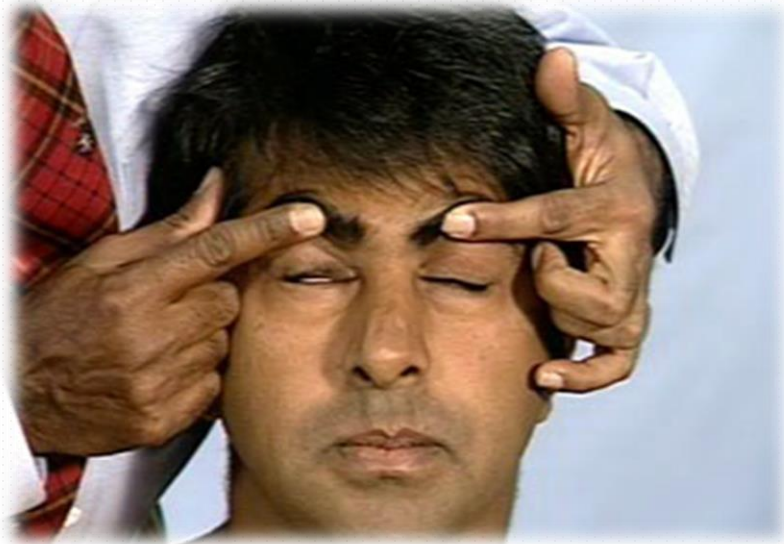
*Ptosis*



### 3. How to recognize Grave's pt has MG or not?

- **Orbicularis Oculi weakness:**

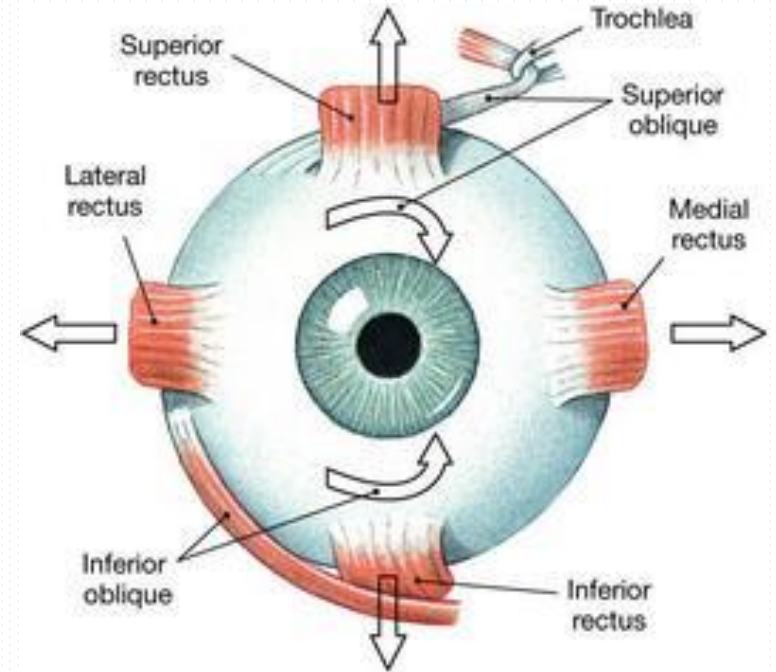
- GO doesn't affect this muscle
- Ocular MG is usually involved in



### 3. How to recognize Grave's pt has MG or not?

- **Exotropia (deviate outward):**

- GO: usually affects the Medial and inferior recti → Restrictive Myopathy of MR and IR → eye move inward (esotropia) and downward (hypotropia) whileas exotropia RARELY occur.
- MG: doesn't have any predilection for particular extraocular muscles.



*British Journal of Ophthalmology* 1993; 77: 822–823

**Exotropia as a sign of myasthenia gravis in dysthyroid ophthalmopathy**

### 3. How to recognize Grave's pt has MG or not?

- **Weakness of the voluntary muscles of the head and neck:**
  - MG: Common
  - G-Myopathy: Rare → usually induces proximal limbs weakness.
- **Respiratory muscle involvement:**
  - MG: could happen in Myasthenic Crisis
  - G-Myopathy: Rarely even in Acute thyrotoxic myopathy
- **Diurnal fluctuation of weakness:**
  - MG: more severe
  - GD: vary the degree of wkn during the long course in Grave's Myopathy and thyrotoxic periodic paralysis .

## Questions was posed are:

• Is it common enough to be noticed?

NOT RARE

• Why does it make physicians confused?

SIMILARITY

• How to recognize Grave pt has MG or not?

- Ptosis
- Obicularis Occuli wk.
- Exotropia

- Head & Neck muscul. wk.
- Respiratory muscul. Wk
- Diurnal fluctuation of sev.

# SUSPECTED!!

- Ptosis
- Obicularis Occuli wk.
- Exotropia
- Head & Neck musl. wk.
- Respiratory musl. Wk
- Diurnal fluctuation of sev.



# FURTHER TESTS!

- Ice-pack test
- Tensilon/Prostig. test
- Autoantibodies
- EMG



# BEDSIDE TESTS

- **Ice-pack test:** ptosis improve within one minute applying.
- **Edrophonium (or Prostigmin) test:** the weakness is reversed



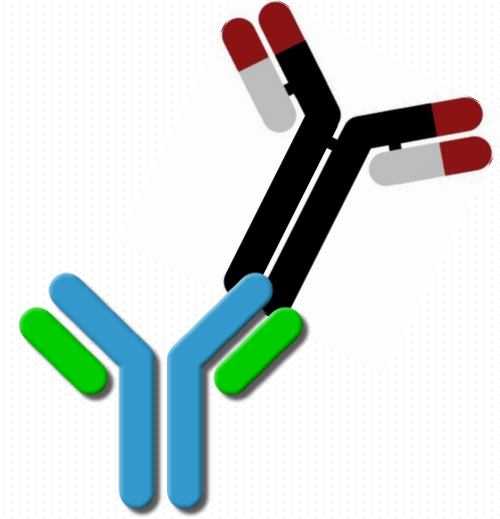
*Ice-pack test*



*Edrophonium test: before and after test*

# OTHER TESTs

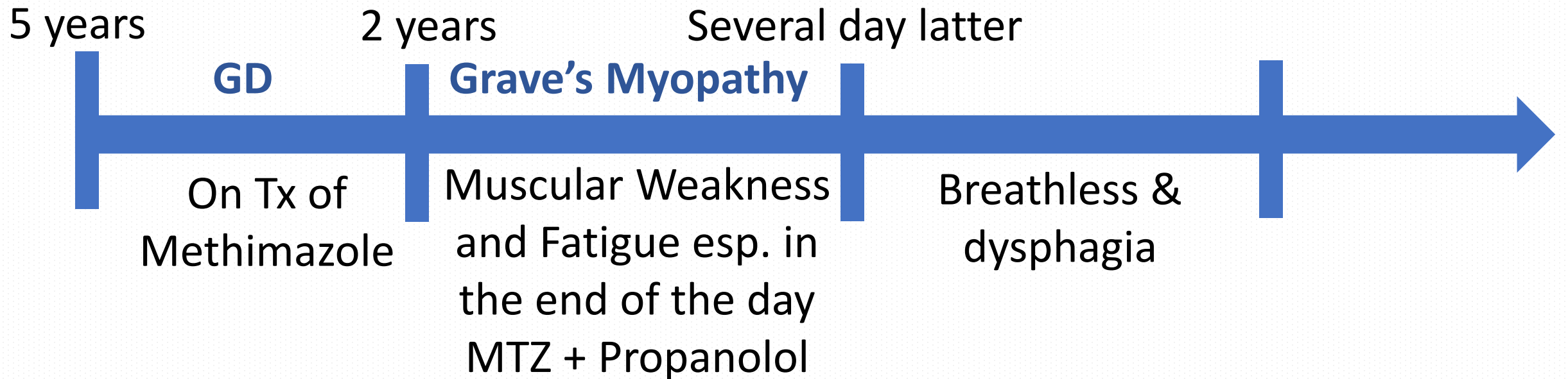
- **Acetylcholin receptor antibodies (AChR-Ab) and Muscular Specific receptor tyrosin kinase (MuSK)**
  - MG: 6-12% pts have Negative both test called Seronegative MG.
  - GD: Negative
- **Electromyography (EMG):**
  - MG: repetitive nerve stimulation (+)ive w/ **decremental response** in 75-80%, while that single-fiber EMG w/ **jitter** (+) in 95%.
  - G-Myopathy: myopathic findings of increased polyphasic, low amplitude motor unit potentials



# CASE 2



A 18-year-old male

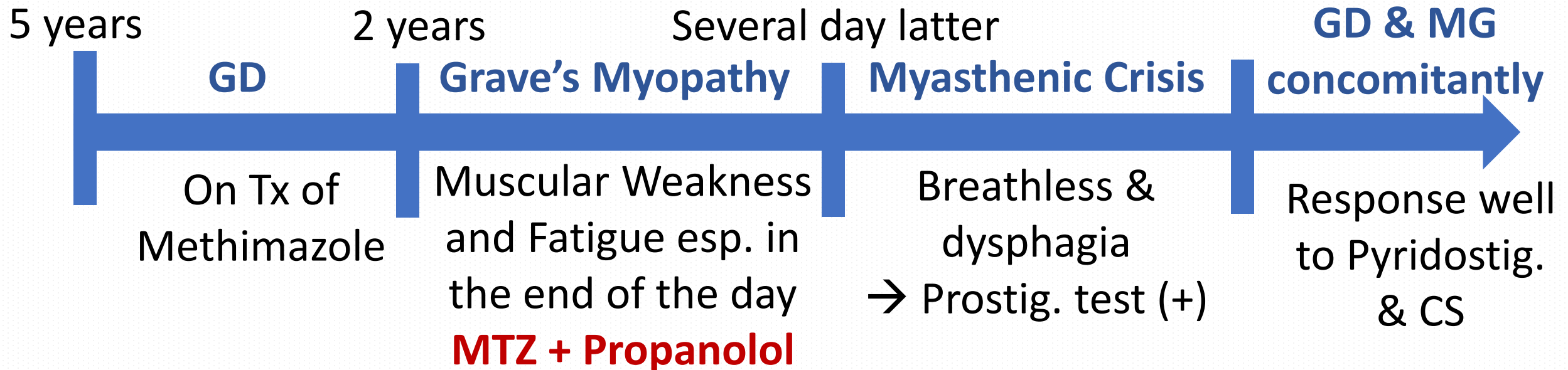




# CASE 2

2. What must be noticed in mag.?

A 18-year-old male

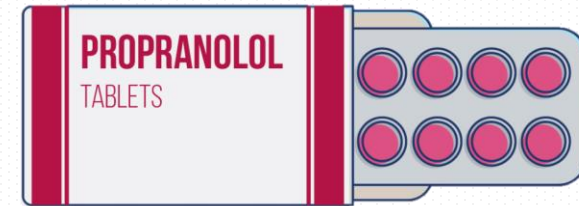




## 2. What must be noticed in mag.?

- **Beta-Blocker (BB):**

- GD: Propranolol typically rapidly reverse the paralysis in patients with thyrotoxic periodic paralysis. decrease the adrenergic imbalance of thyrotoxicosis.
- MG: it makes the weakness more severe, leads to Myasthenic Crisis



- **Benzodiazepine:**

- GD: relief the frequent thyrotoxicosis-associated anxiety
- MG: cause Myasthenic Crisis







## 2. What must be noticed in mag.?

### • Glucocorticoid:

- GD: G-ophthalmopathy, after Radioiodine therapy
- MG: usually well-tolerated but occasionally ass/w an exacerbation.





## 2. What must be noticed in mag.?

- **Routine Pre-operative management:**
  - nondepolarising neuromuscular blocking drugs (used to facilitate the mandatory tracheal intubation in thyroidectomy surgery)
  - Antibiotics



# TAKE HOME MESSAGE

Routine checking:  
Extraocular muscle invol.  
Atypical weakness of GD

- Ptosis
- Obicularis Occuli wk.
- Exotropia
- Head & Neck muscul. wk.
- Respiratory muscul. Wk
- Diurnal fluctuation of sev.

The Grave-treating drugs  
make the symptom worse

- Beta Blocker
- Benzodiazepine
- Corticosteroids
- Antibiotics (AG, Quinolone..)
- Neuromuscular blocking drugs

# TAKE HOME MESSAGE

Bedside test

- Ice-pack test
- Tensilon/Prostig. test

Laboratory test

- Autoantibodies
- EMG

Exact  
Diagnosis

Better  
Treatment

Better  
Outcome



**Thank You**  
== For Your Attention ==