

به نام خدا

سرگیجه و گیجی در بیماران MS

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دکتر مریم رضانی

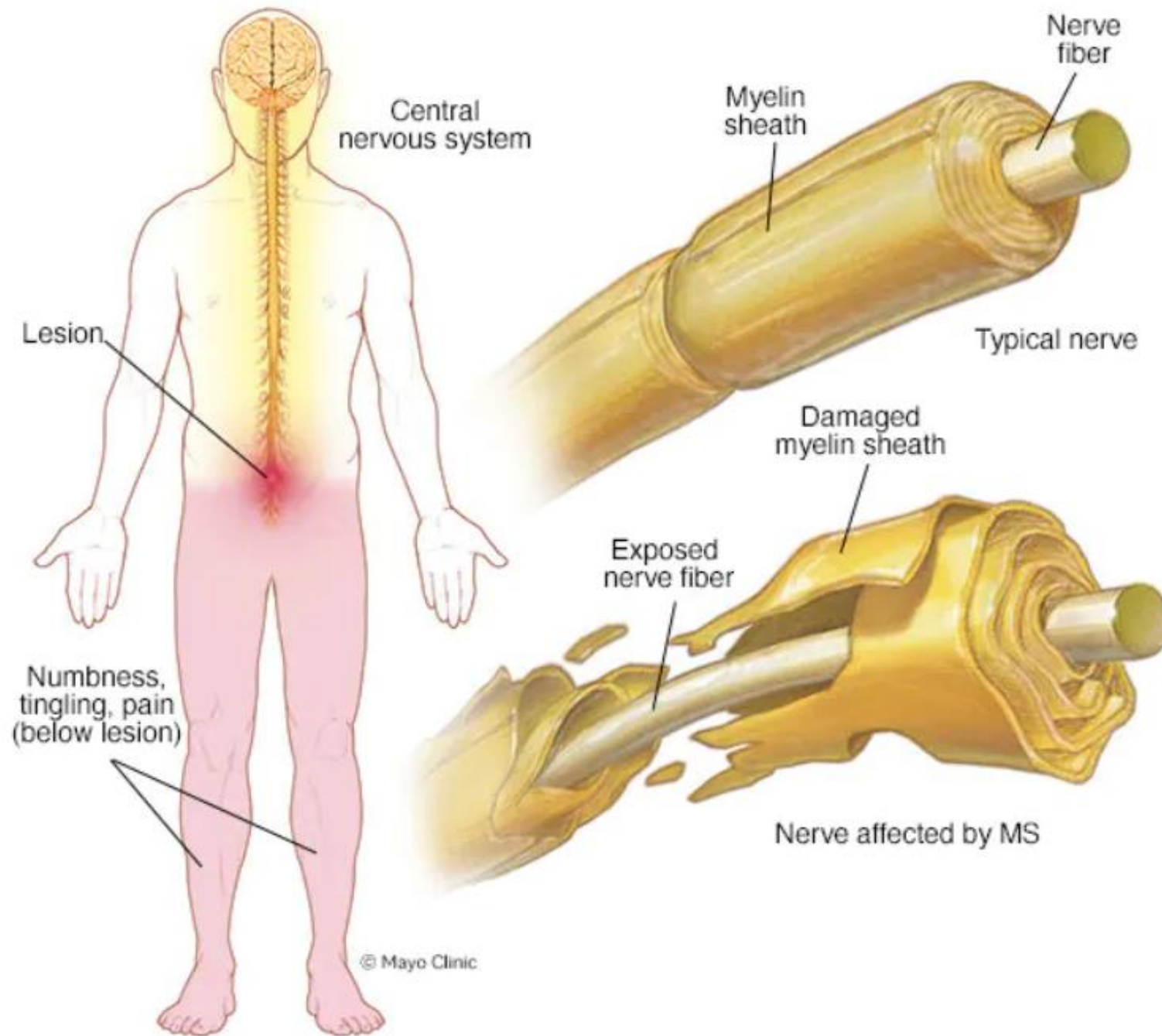
استادیار دانشگاه علوم توانبخشی و سلامت اجتماعی

What MS Is:

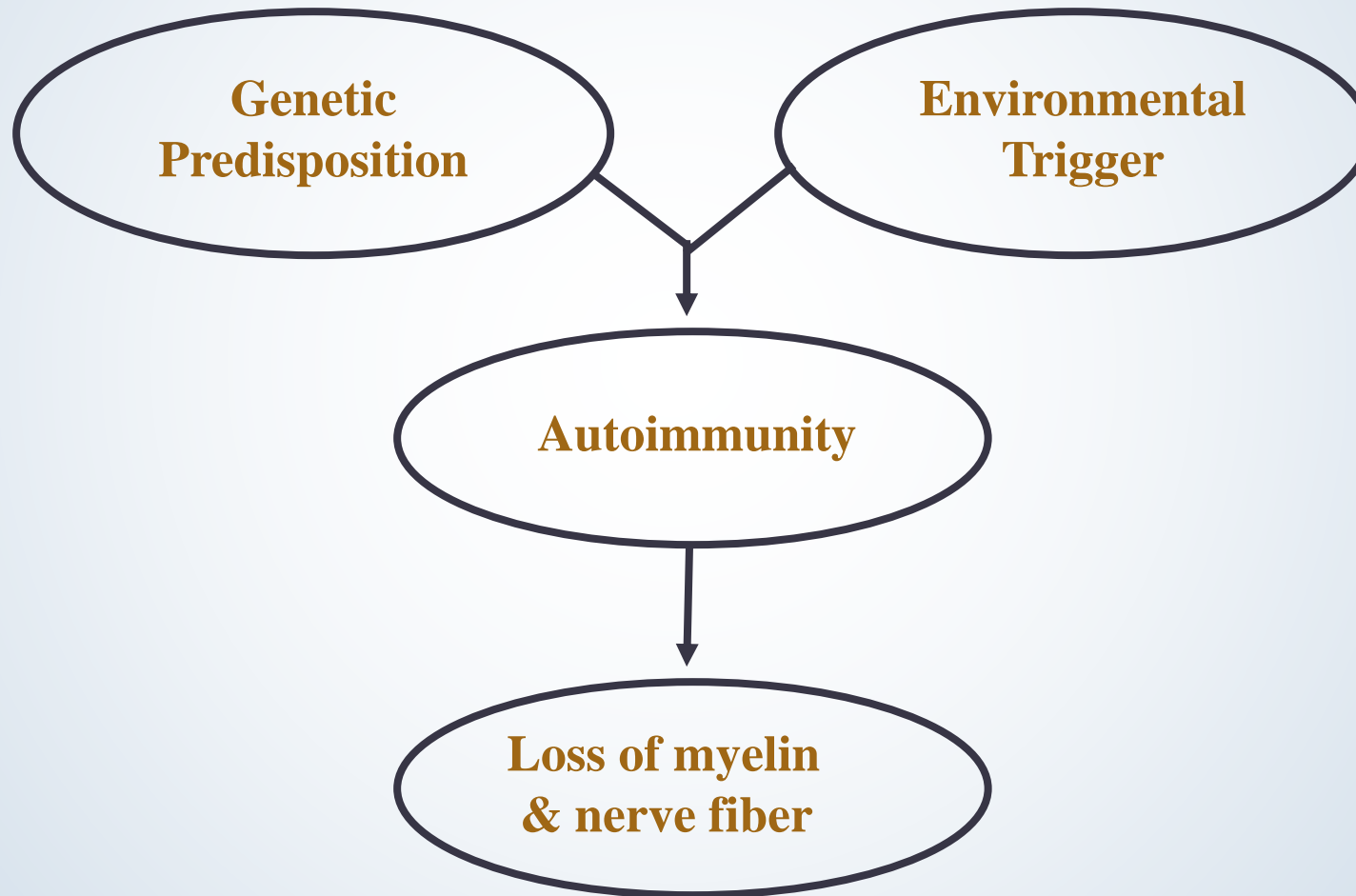
- MS is thought to be a disease of the immune system – perhaps autoimmune.
- The immune system attacks the myelin coating around the nerves in the central nervous system (CNS – brain, spinal cord, and optic nerves) and the nerve fibers themselves.
- Its name comes from the *scarring* caused by inflammatory attacks at *multiple* sites in the central nervous system.

What happens to the myelin and nerve fibers?

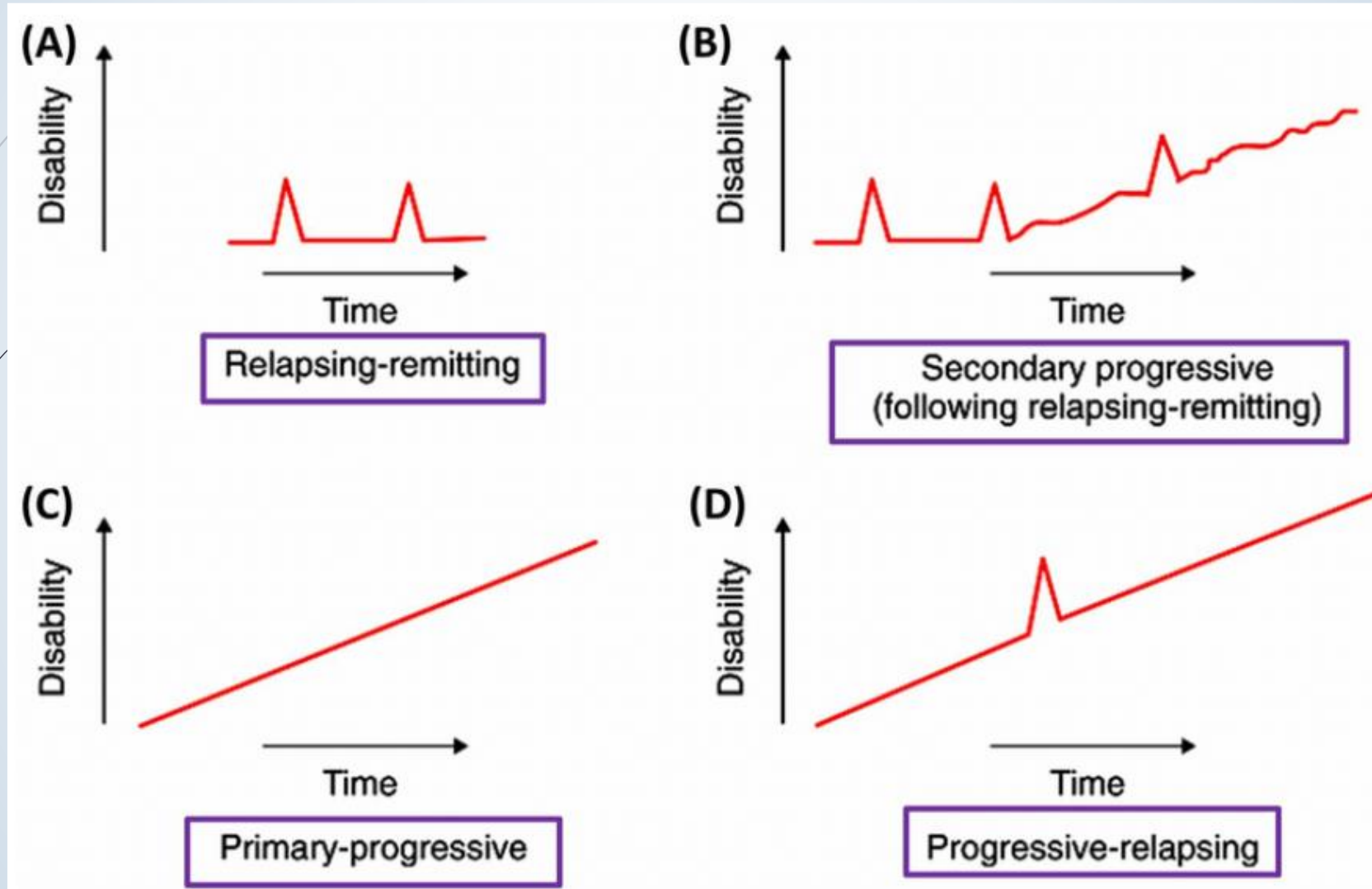




What Causes MS?



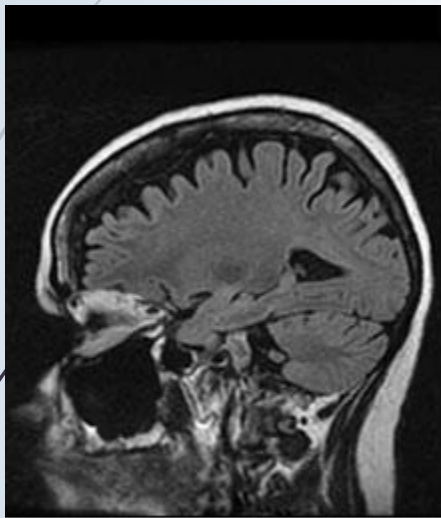
Disease Courses in MS



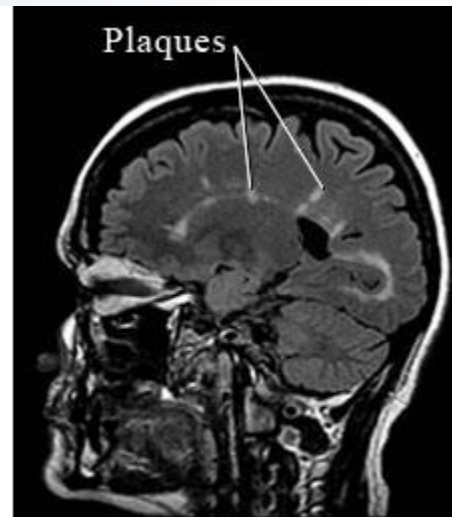
How is MS diagnosed?

- MS is a clinical diagnosis:
 - ✓ **Signs and symptoms**
 - ✓ **Medical history**
 - ✓ **Laboratory tests**

What tests may be used to help confirm the diagnosis?



Healthy brain



Brain with damage (lesions or plaques) caused by MS

- Magnetic resonance imaging (MRI)
- Visual evoked potentials (VEP)

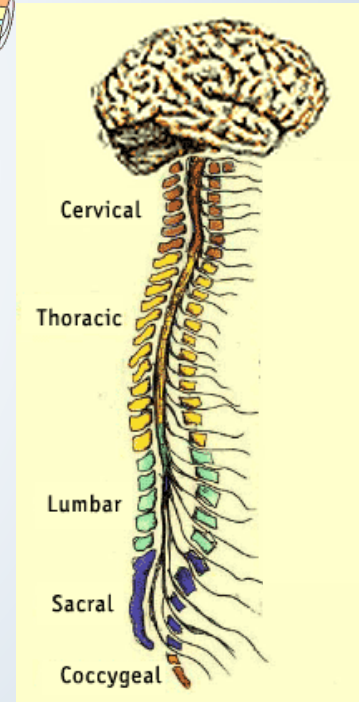
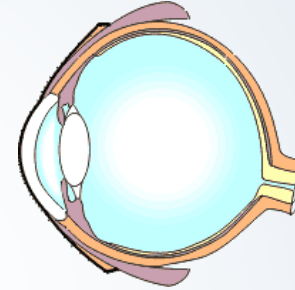
Signs and Symptoms of MS by Lesion Location

▶ Optic nerve

- ✓ Monocular visual loss
- ✓ Scotoma

▶ Spinal cord

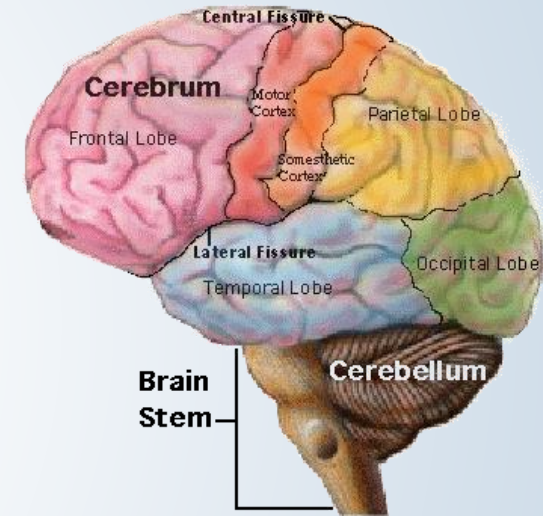
- ✓ Limb weakness
- ✓ Spasticity and hyper-reflexia
- ✓ Urinary urgency and incontinence



Signs and Symptoms of MS by Lesion Location

► Brainstem

- ✓ Diplopia (double vision)
- ✓ Pain (acute versus chronic)
- ✓ Numbness of face and tongue
- ✓ Vertigo (sensation of moving around in space)
- ✓ Nystagmus (involuntary eye movements)



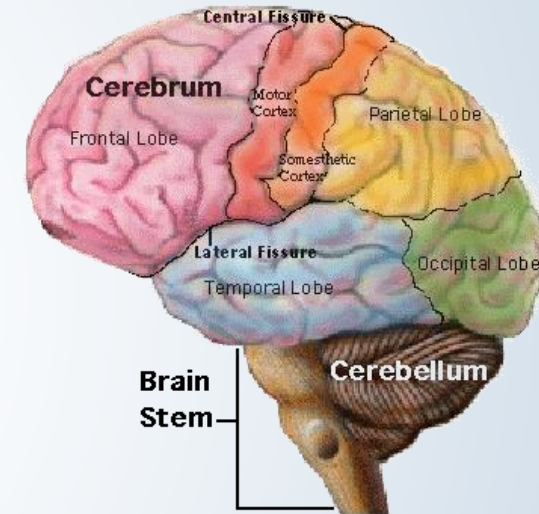
Signs and Symptoms of MS by Lesion Location

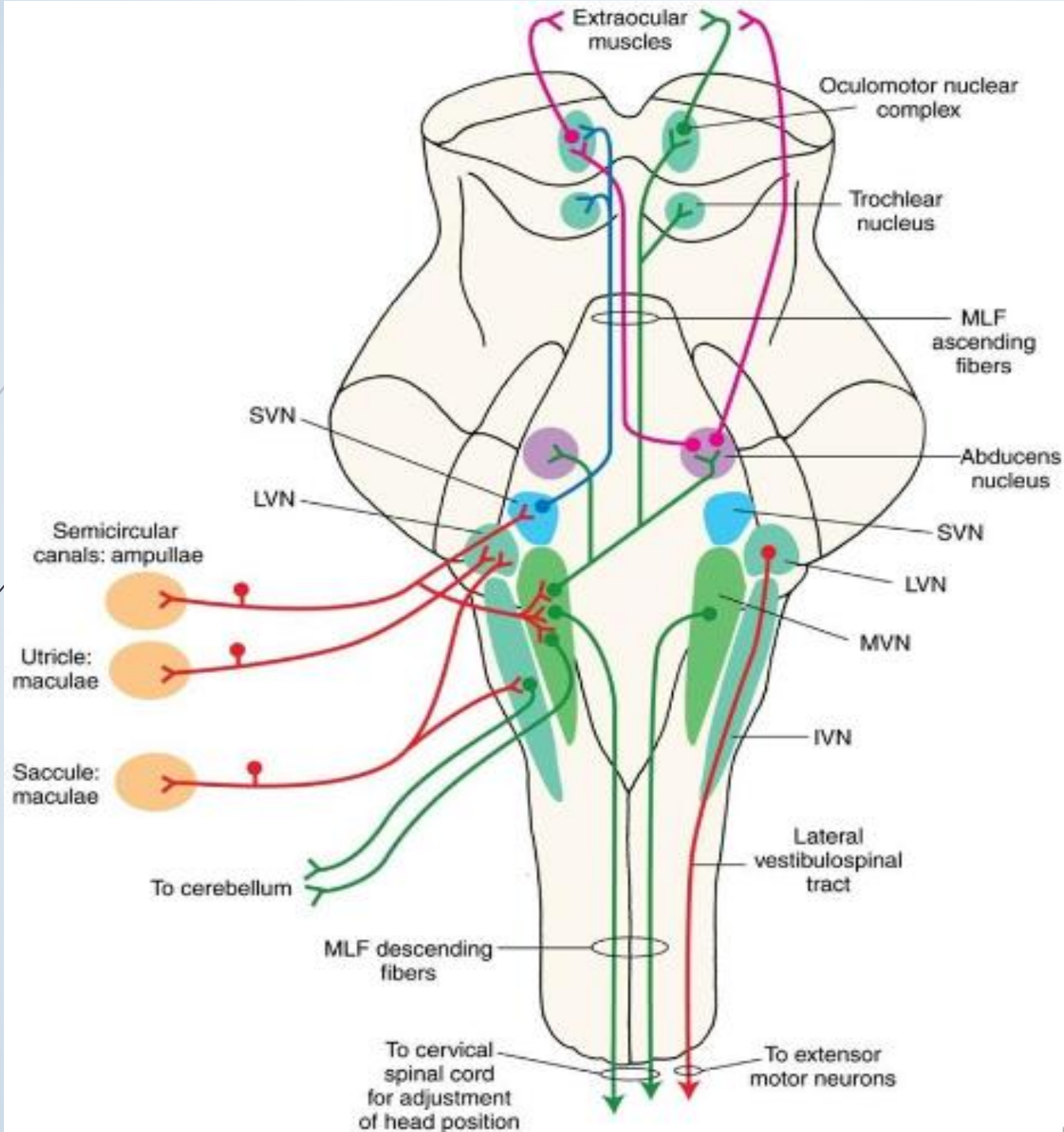
➤ Cerebrum

- ✓ Impairment of concentration or memory
- ✓ Hemiparesis (unilateral paralysis)
- ✓ Hemisensory loss
- ✓ Visual field defect

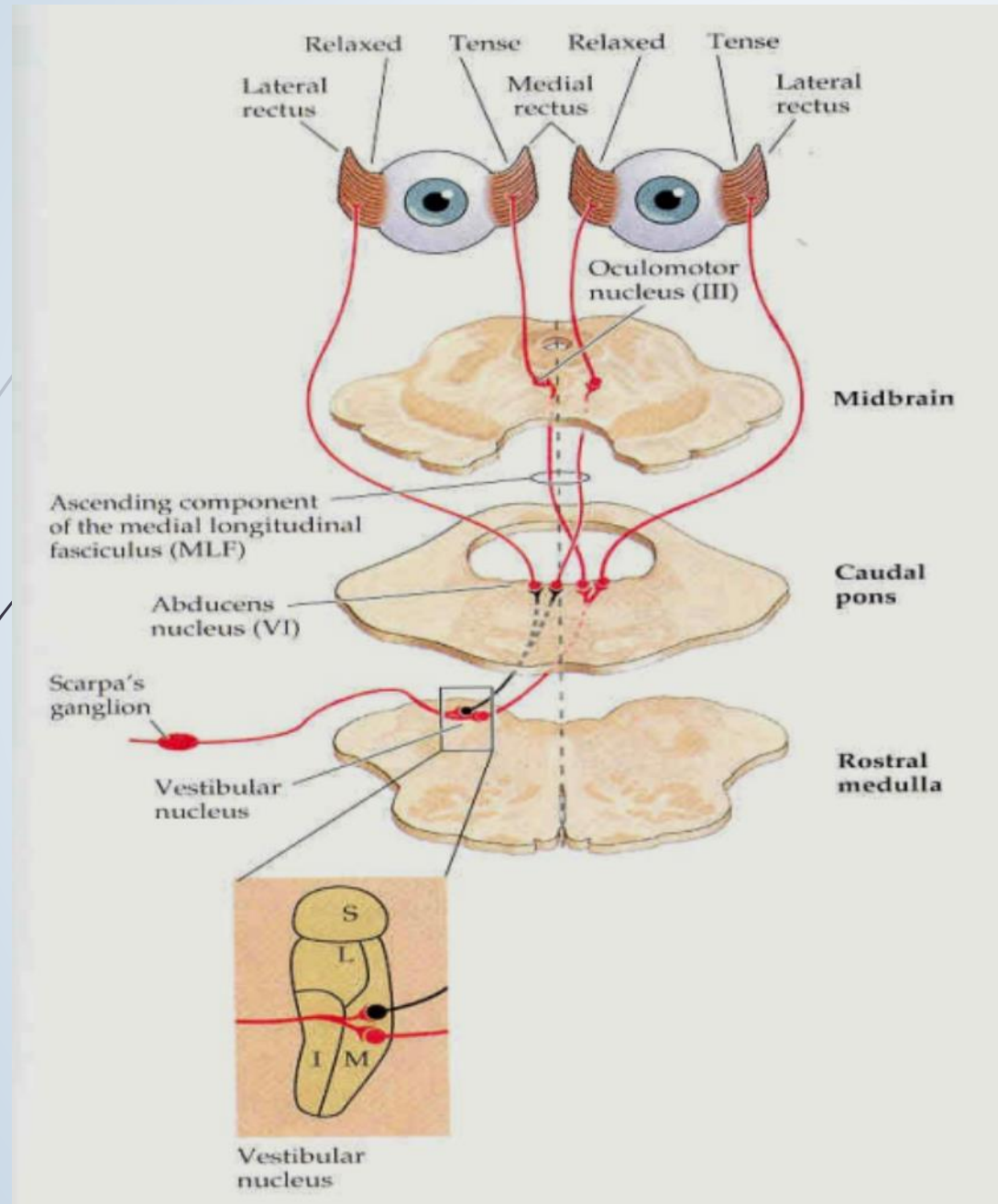
➤ Cerebellum

- ✓ Incoordination of limbs
- ✓ Ataxic gait

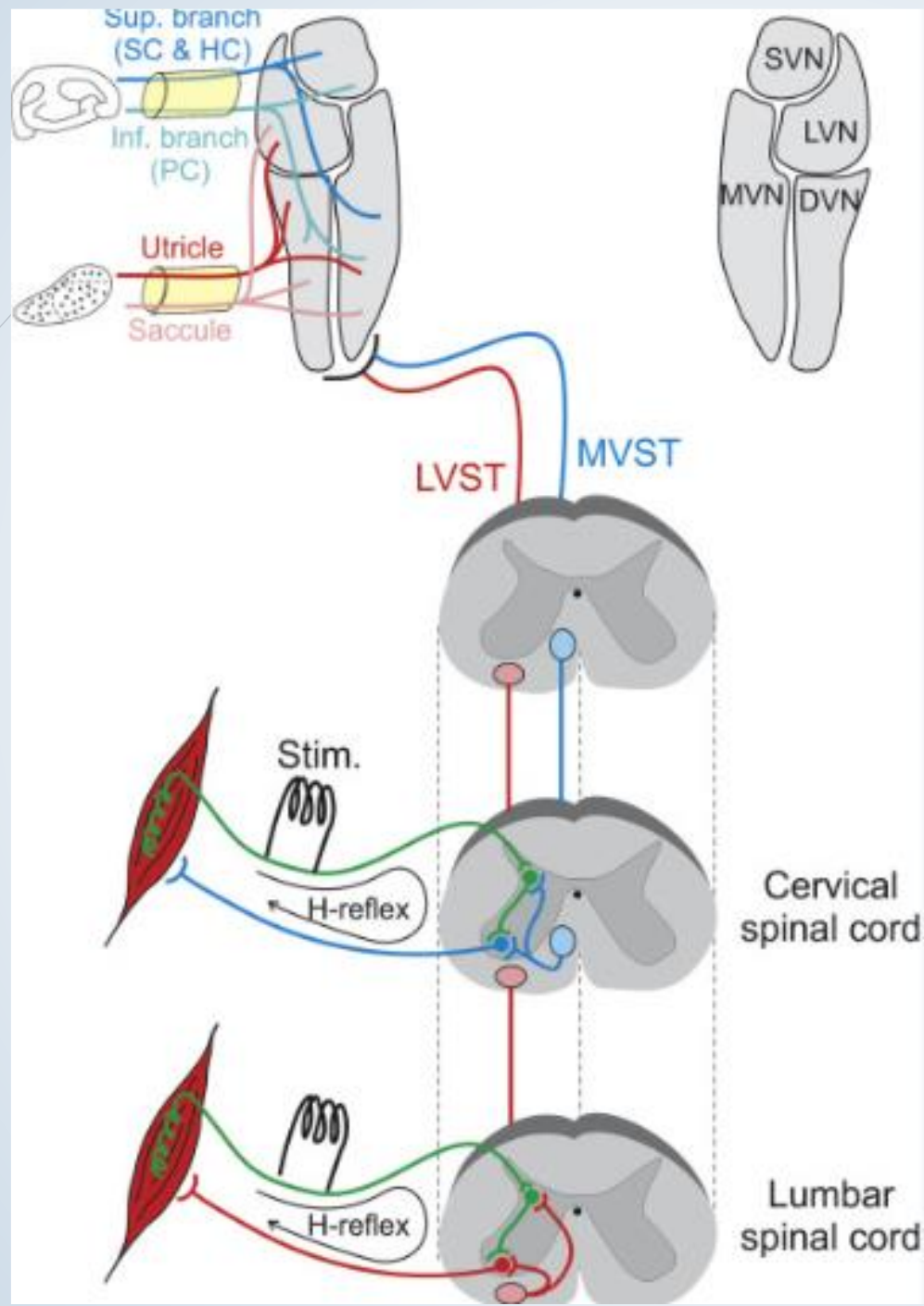




Vestibular pathway



vestibulo ocular pathway



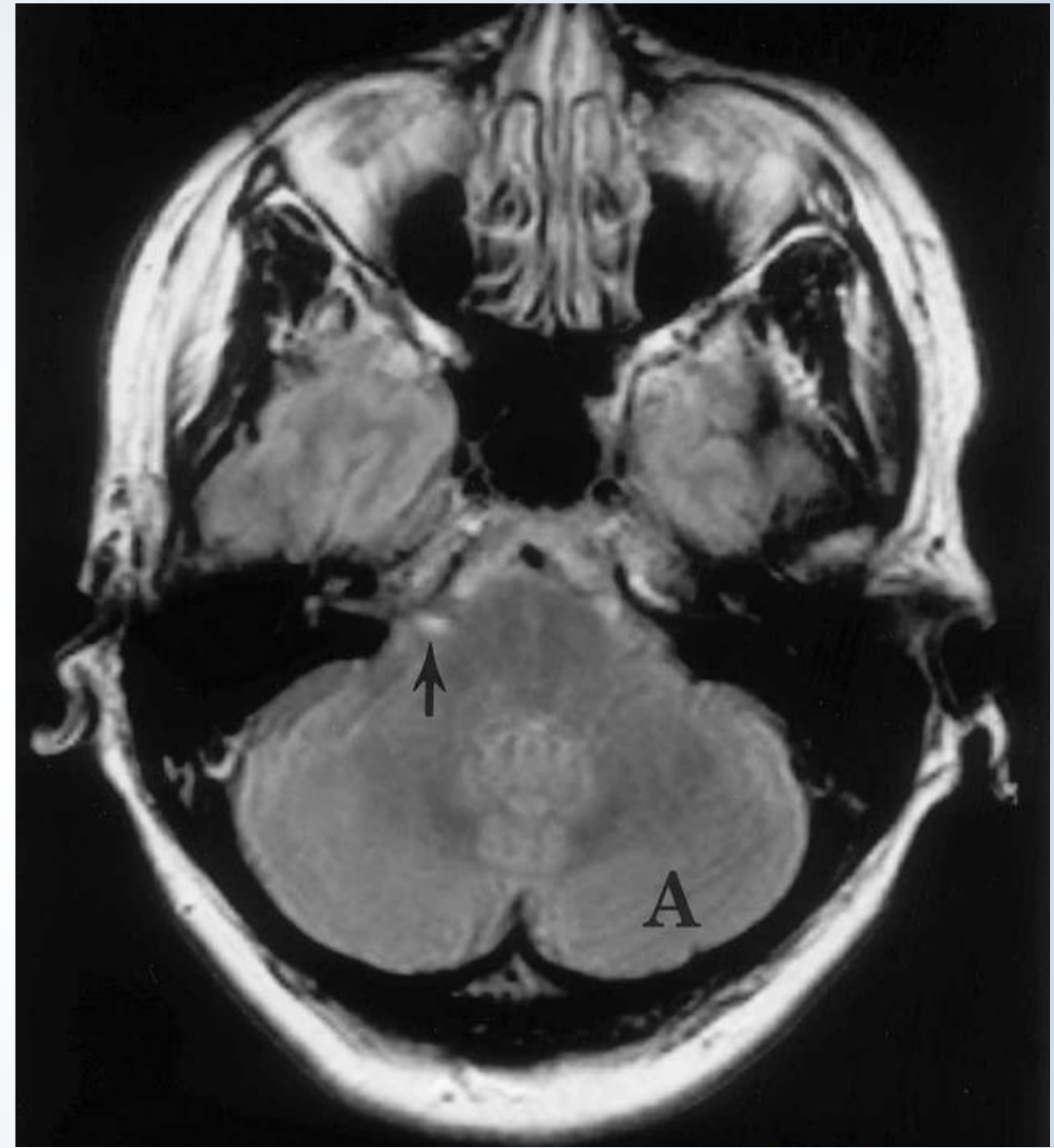
vestibulospinal pathways

Dizziness in MS

- ✓ Dizziness and disequilibrium can be the presenting symptoms in multiple sclerosis in about 75%
- ✓ The basis for the vestibular and balance symptoms in MS in some patients relates to lesions at the eighth nerve root entry zone or other brainstem or higher centers.
- ✓ A combination of physical examination, vestibular laboratory testing, and MRI is required to establish an etiology.



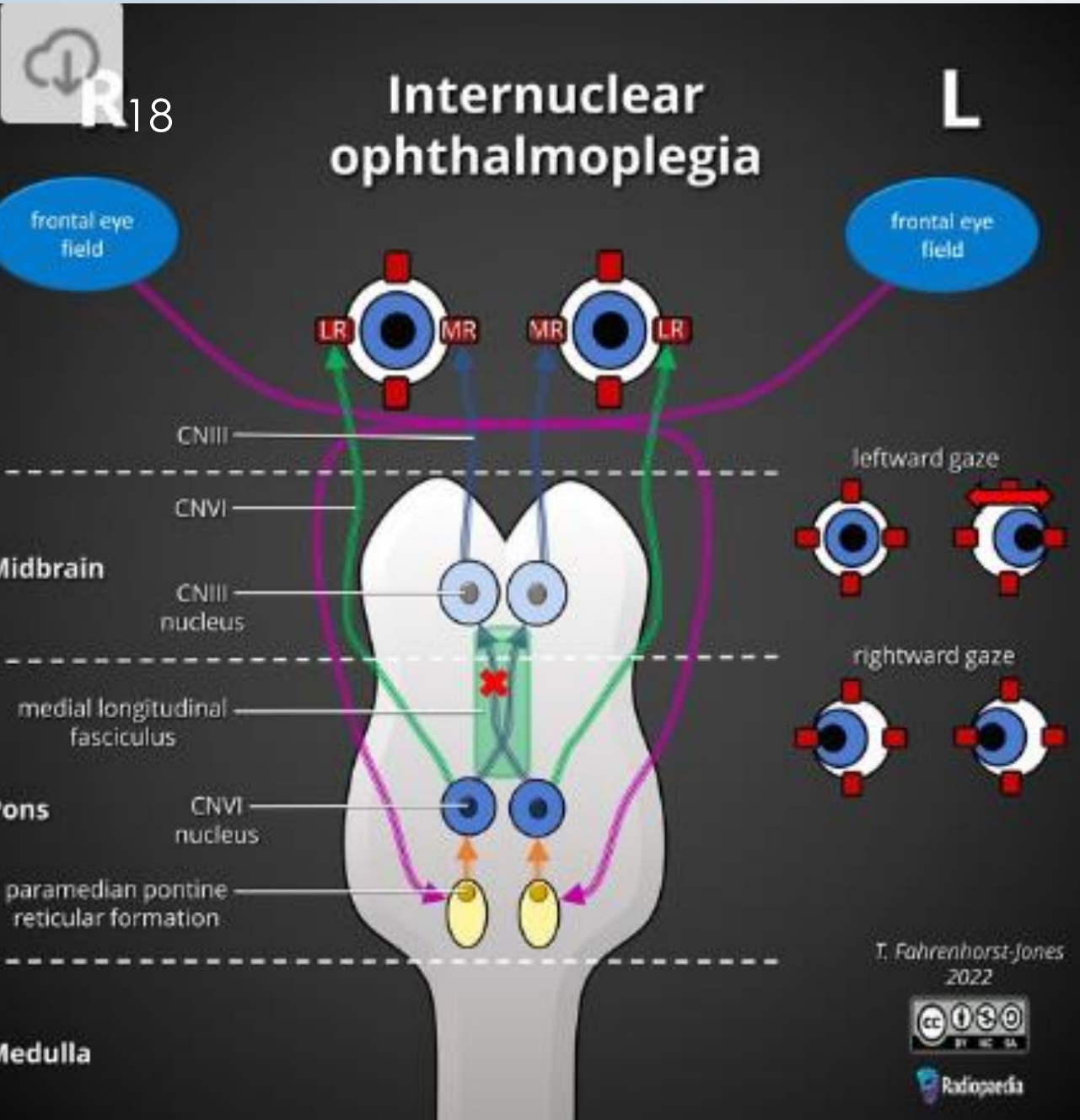
Vestibular nucleus in BS



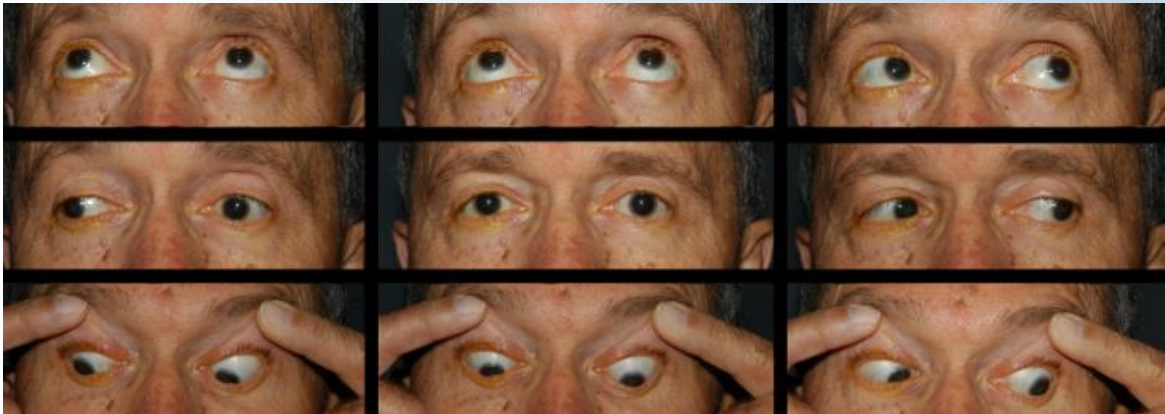
eighth nerve root entry zone

Dizziness in MS

- ✓ Typical findings referable to the ocular motor system in patients with demyelinating disease include internuclear ophthalmoplegia and gaze-evoked nystagmus.
- ✓ Patients with demyelinating disease thus may present with a mixture of peripheral and central signs and symptoms.

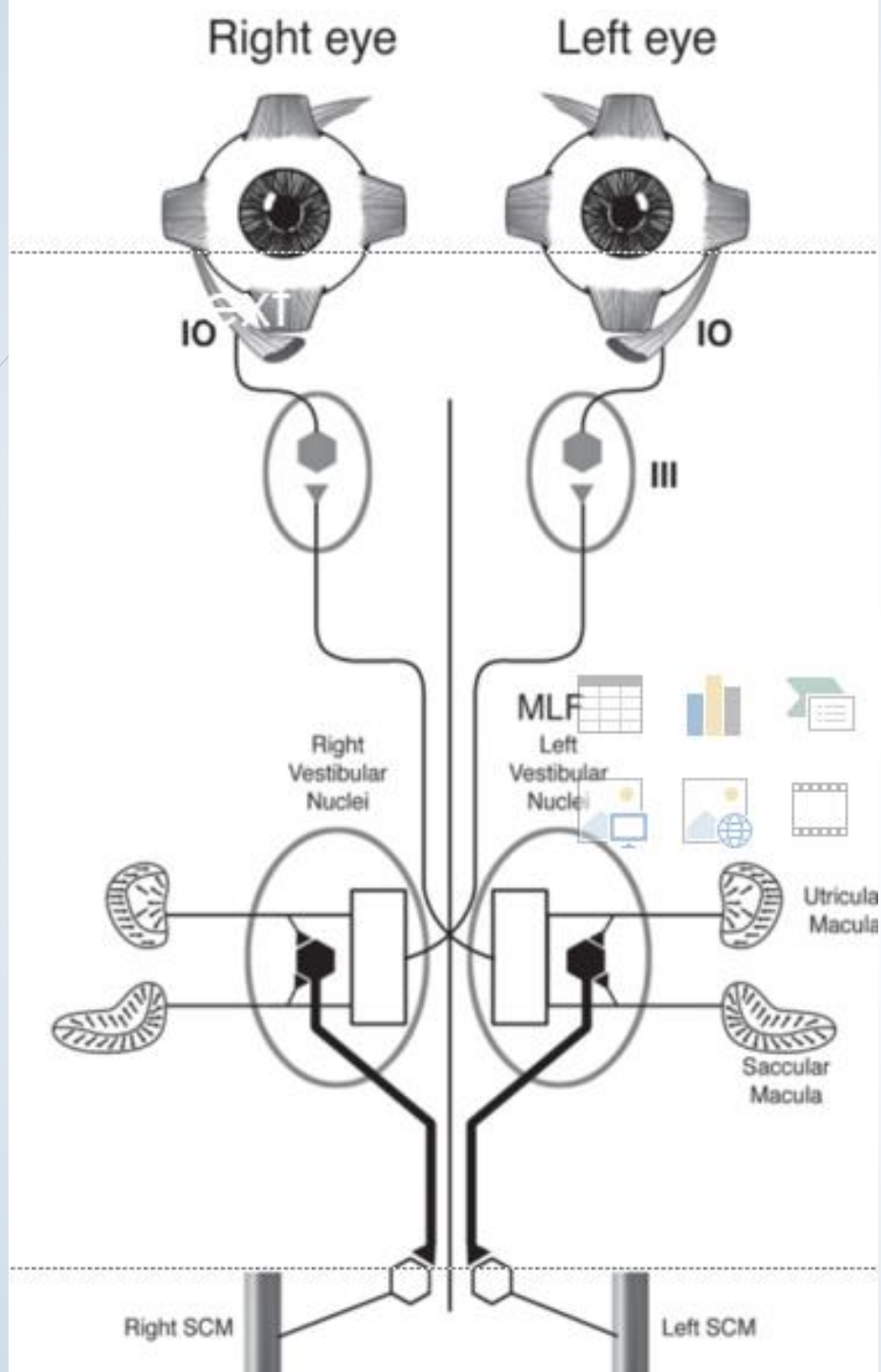


Internuclear ophthalmoplegia



Dizziness in MS

- ✓ Patients with MS can present with dizziness or vertigo as their initial complaint, or these symptoms can be experienced later during the course of this progressive disease.
- ✓ Symptoms can be acute or prolonged, making it difficult to differentiate MS from other diagnoses based on the history alone.



Diagnostic methods



Diagnostic methods



What are the treatment strategies?

- Management of MS falls into four general categories:
 - ✓ **Treatment of relapses**
 - ✓ **Symptom management**
 - ✓ **Rehabilitation (maintain/improve function)**
 - ✓ **Psychosocial support**

treatment

- ✓ Treatment options for patients with MS are numerous and should be coordinated with an expert in this disorder.
- ✓ Vestibular rehabilitation is often considered in conjunction with pharmacotherapy.