

**American Academy of Neurology
Neuro-ophthalmology/Neuro-otology Section
Resident Core Curriculum**

10/01/00

Neuro-ophthalmology

The following are the core concepts that a resident should know in the areas of neuro-ophthalmology and neuro-otology, taken from the Fellowship Guidelines.

The resident should have a basic understanding of the neuro-anatomy of the visual pathway, the pupillary light reflex, the oculo-sympathetic pathway and the supranuclear and infranuclear ocular motor pathways.

Visual Field Defects

The resident should have a familiarity with the different types of visual field defects from retinal, optic nerve, optic chiasmal, optic tract, lateral geniculate, optic radiations and occipital cortical lesions.

Afferent Visual Problems

- 1) Optic Nerve
The resident should have an understanding of the clinical syndrome of optic nerve disease. These include: a) optic neuritis, b) non-arteritic ischemic optic neuropathy, c) giant cell arteritis, d) Leber's hereditary optic neuropathy, e) toxic optic neuropathy, f) hereditary optic neuropathy.
- 2) Optic Chiasm
a) pituitary adenomas, b) other infiltrative and compressive lesions.
- 3) Retrochiasmal lesions
- 4) Occipital cortex lesions

Visual Perceptive Disorders

The resident should have a familiarity with the concept of visual symptoms in patients with normal basic vision, including various visual agnosias.

Ocular Motility Disorders

The resident should be able to distinguish different types of nystagmus and understand their localizing value. a) congenital nystagmus, b) periodic alternating nystagmus, c) downbeat nystagmus, d) seesaw nystagmus, e) internuclear ophthalmoplegia with

abducting nystagmus, f) pendular nystagmus, g) oculo-palatal myoclonus, h) upbeat nystagmus.

Saccadic Abnormalities

- a) ocular flutter, b) opsoclonus

Disorders of Ocular Motility

- a) 3rd nerve paresis, b) 4th nerve paresis, c) 6th nerve paresis, d) internuclear ophthalmoplegia, e) one and a half syndrome, f) skew deviation.

Cavernous Sinus Syndromes

- a) dural AV fistula, b) carotid cavernous fistula, c) cavernous sinus thrombosis, d) Tolosa-Hunt syndrome.

Orbital Syndromes

- a) orbital pseudotumor, b) thyroid ophthalmopathy

Pupillary Disorders

The resident should be familiar with and able to diagnose the following disorders:

- a) 3rd nerve paresis (vasculopathic vs. aneurysmal), b) Horner's syndrome (Pancoast tumor and carotid dissection), c) Adie's tonic pupil, d) physiologic anisocoria, e) pharmacologic dilation, f) use of pupils for localizations in coma.

Facial Disorders

- a) Hemi-facial spasm, b) blepharospasm

Ocular Myasthenia Gravis

The resident should be able to distinguish myasthenic weakness from other causes.

Neuro-otology

The resident should develop the following neuro-otology skills:

1. Be able to diagnose and treat patients with dizziness and imbalance.
2. Understand the underlying pathophysiology and localization of different types of nystagmus.

3. Understand the difference between saccadic eye movement abnormalities and nystagmus.
4. Be familiar with the diagnostic techniques of electronystagmography, rotational vestibular testing and posturography.
5. Understand the principles that distinguish a central cause of vertigo from peripheral vertigo.
6. Understand the concept of benign paroxysmal positional vertigo and be able to distinguish the truly benign from more serious alternative forms. Understand the benefit of the canal repositioning maneuver.
7. Recognize cerebellar ataxias.
8. Develop a basic understanding of clinical hearing loss including localization to cochlear and retrocochlear sites.