# Neuroophthalmic Assessment

## Ophthalmology Examination

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**Case Number:**
**Species:**
**Breed:**
**Color:**
**Sex:**
**Age:**
**Name or Identification:**
**Owner's name:**
**Address:**
**Telephone:**

**History:**

**Medications:**
Pupillary Light Reflex (PLR)

- Reflex through midbrain
- CN 2 (afferent)
- CN 3 (efferent)
- May be present with significant retinal dysfunction
- Not a test of vision
  - PLRs still present with cortical blindness
Pupillary Light Reflex (PLR)

- Retina & Optic Nerve (CN 2)
- Pupillo-motor fibers
- Optic Chiasm
- Pre-pectal nuclei to PS/EW Nucleus
- PS Fibers
- Oculomotor Nerve (CN 3)
- Direct
- Indirect or consensual

Slide Courtesy of DO
Pupillary Light Reflex (PLR)

- Decreased in excited dog
- Iris atrophy causes decreased/absent PLR
  - Watch for this in older animals!
Dazzle Reflex

- Pathway not clearly defined
- Subcortical reflex
- Light stimulus = involuntary blink
- CN 2 (afferent)
- CN 7 (efferent)
- Present significant retinal dysfunction
- Not a test of vision
Dazzle Reflex

Retina & Optic Nerve (CN 2)

Facial Nerve (CN 7)

Midbrain?
Ways to test vision in animals

- Menace response
- Tracking behavior
- Maze test
- Placing reaction
Vision Testing: Menace response

- CN 2 (afferent)
- CN 7 (efferent)
- Learned response
- Complex pathway
- Not in very young animals
- Precocial vs. altricial species

Testing
  - No air currents
  - Test each eye separately
Menace response

Retina & Optic Nerve (CN 2)

Facial Nerve (CN 7)

Occipital Cortex

Frontal Cortex

Thalamus

Cerebellum
Vision Testing: Tracking behavior

- Eyes follow dropped cotton ball
- May work for cats
- Some cats will not track even if visual