

# Pupil Testing

Blair Lonsberry, OD

Email: [blonsberry@pacificu.edu](mailto:blonsberry@pacificu.edu)

1 hour

## Description:

A fundamental aspect of any eye exam is accurately measuring and recording a patient's reactivity of their pupils. Pupil testing can provide valuable information on the patient's neurological system. This interactive presentation will explore the importance, proper technique and recording of pupil testing.

## Learning Objectives:

- Understand the proper technique for pupil testing
- Explain the importance of pupil testing in the eye exam process and the proper technique in pupil testing
- Identify the different types of pupil abnormalities, the importance in the eye exam and how to identify the common pupil abnormalities

## Outline:

Pupils:

- Physiology (**3 minutes**)
  - How the iris works
  - How the iris regulates pupil size
- Importance of pupil testing in the optometric exam (**2 minutes**)
- Normal pupil function (**5 minutes**)
  - What is direct response to light
  - What is a consensual to light
  - What is an afferent pupillary defect
- Causes for a pupillary abnormality (**5 minutes**)
  - E.g. physiological anisocoria
  - Age/ischemia
  - Pharmacological
  - Benign episodic pupillary mydriasis
- Pharmacological agents that affect the pupil (**5 minutes**)
  - E.g. topical drops like Visine,
  - Systemic medications
    - Cocaine
    - Heroin

- Antihistamines
    - antidepressants
  - Scopolamine patches
- Pathological pupil abnormalities: **(10 minutes)**
  - Argyl-Robertson pupil
  - Adie's tonic pupil
  - Horner
  - Midbrain lesions
  - Third nerve palsy
- Required **(5 minutes)**
  - Equipment
  - Lighting conditions
- Proper technique **(10 minutes)**
  - For assessing...
    - direct responses
    - consensual responses
    - proper recording
  - For assessing...
    - afferent pupillary defect
    - proper recording
  - Importance of this testing
- Conditions that may result in abnormal pupil testing **(5 minutes)**
  - Adie's tonic
  - Third nerve palsy
- Videos of abnormal pupil function **(5 minutes)**
  - APD
  - Adie's tonic pupil
  - Third nerve palsy
- Q&A / Discussion **(5 minutes)**