

Editorial

Slit Lamp Examination-Illumination Basics

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Received: October 28, 2019; **Accepted:** December 16, 2019; **Published:** December 23, 2019

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1. Direct Illumination (Diffuse, Focal, Specular).
2. Indirect Illumination (Proximal, Retroillumination, Sclerotic Scatter).

1. Direct Illumination (Slit beam is focussed on the area of interest).

1a: Diffuse Illumination

Parameters	Adjustments
Slit beam (Opened to)	Full
Illumination (Intensity of light)	Minimum to moderate (use neutral density filter)
Angle of slit beam and microscope	45 Degree
Magnification	6x-10x
Uses	Broad examination of eye

1b: Focal Illumination

Broad beam:

Parameters	Adjustments
Slit beam (Opened To)	2mm Wide
Illumination (Intensity Of Light)	Maximum
Angle of slit beam and microscope	45 Degree
Magnification	10x-30x
Uses	Surface texture (E.G. corneal epithelium to endothelium changes, corneal abrasions, corneal nerves, iris and lens anomalies)

Narrow beam:

Parameters	Adjustments
Slit beam (Opened To)	Narrow to minimum width
Illumination (Intensity Of Light)	Maximum
Angle of slit beam and microscope	45 Degree
Magnification	16x-30x
Uses	Density of lesions/opacities (e.g. corneal lesions-depth/thickness, anterior chamber depth, anomalies of iris, lens, vitreous)

Conical beam:

Parameters	Adjustments
Slit beam (opened to)	Height and beam narrowed to smallest uniform section.
Illumination (Intensity of light)	Maximum
Angle of slit beam and microscope	45 Degree
Magnification	40x
Uses	Detect suspended particles in liquid (E.G. cells and flare in uveitis)

Specular reflection:

Parameters	Adjustments
Slit beam (opened to)	2mm wide
Illumination (Intensity of light)	Maximum
Angle of slit beam and microscope	Illuminator 30 Degree to one side and microscope 30 degree to the other.
Magnification	10x-16x
Uses	Integrity of cornea and lens surfaces (e.g. corneal endothelium visualization)

3. Indirect illumination (Slit beam is focused just beside the area of interest).

3a. Proximal.

Parameters	Adjustments
Slit beam (opened to)	Narrow beam
Illumination (Intensity of light)	Maximum
Angle of slit beam and microscope	Illuminator 30 Degree to one side and microscope 30 degree to the other.
Magnification	16x
Uses	Depth and density of lesion (e.g. lesions of cornea, iris, lens)

3b. Retroillumination.

• **Direct retroillumination from iris.**

Parameters	Adjustments
Slit beam (opened to)	Moderate wide beam
Illumination (intensity of light)	Maximum
Angle of slit beam and microscope	Moderate to maximum (slit aimed towards iris just behind corneal abnormality)
Magnification	16x
Uses	Lesions of cornea (e.g. keratic precipitates)

- **Indirect retroillumination from iris (same as above i.e. b(aa) but slit beam is focussed at the limbus (e.g. grade the anterior chamber angle)**

• **Retroillumination from fundus.**

Parameters	Adjustments
Slit beam (opened to)	2mm Wide and height just equal to pupil
Illumination (Intensity of light)	Moderate to maximum
Angle of slit beam and microscope	Slit beam and microscope being coaxial
Magnification	16x
Uses	Lesions of cornea, lens and vitreous (e.g. opacities)

3c. Sclerotic scatter.

Parameters	Adjustments
Slit beam (opened to)	1 mm and focussed adjacent to the limbus.
Illumination (Intensity of light)	Maximum
Angle of slit beam and microscope	60 Degree
Magnification	16x
Uses	Lesions of cornea