Extraocular Muscles (EOMs)

VERSIONS

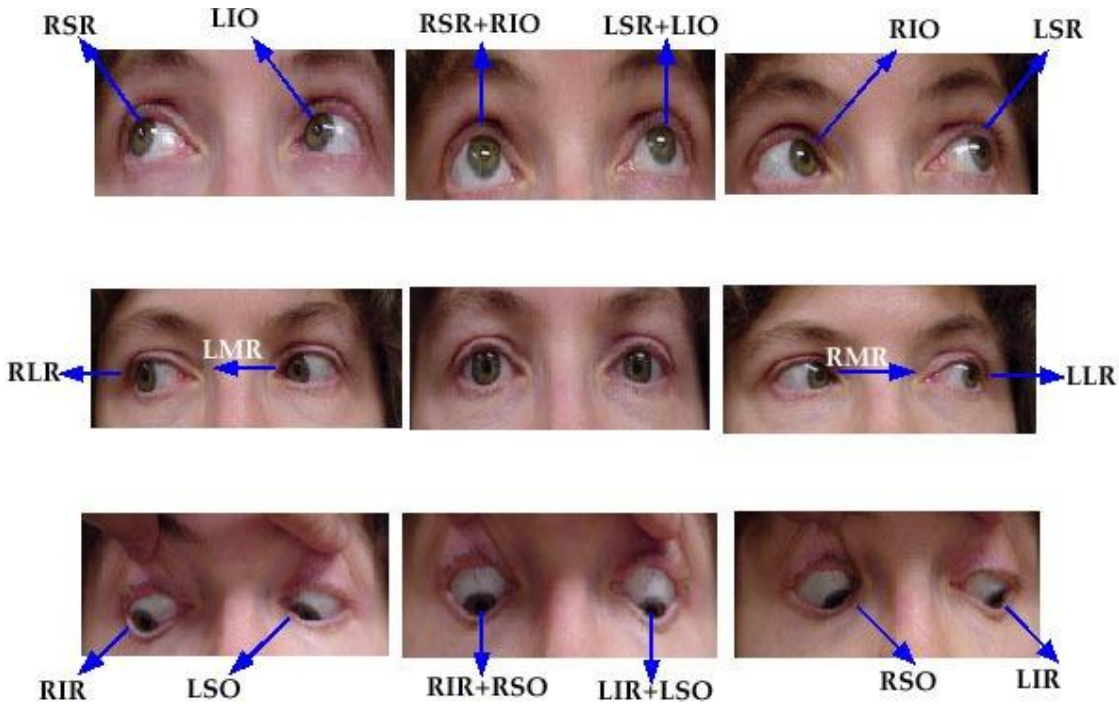
Purpose:
Assess the range of ocular movements in all gaze positions and how well the eyes move together—ensuring movements are Smooth, Accurate, Full, and Equal (SAFE).

Equipment:
Fixation target (e.g., finger, transilluminator, pen, red-capped dilation drop).

Notes:
Perform without glasses; contact lenses are acceptable. Keep room lights on.

Cautions & Interferences:

1. Ensure the patient follows the fixation target without anticipating movements.
2. Guide the eyes into extreme gazes ("bury the sclera") to detect subtle issues.
3. Test the 6 cardinal positions of gaze, and if needed, all 9 diagnostic positions.



Testing Process:

Sit at eye level with the patient.
Have them focus on your chosen fixation target. If using a transilluminator, turn the light off or cover the tip with your finger (allowing it to glow) to avoid shining it directly into their eyes.

Observe the patient in primary gaze (looking straight ahead). Note if the eyes look appear aligned.

With the fixation target in your right hand, ask the patient to follow your target with their eyes only, not moving their head. Move the target to your right until the patient cannot look any farther to their left, putting them in extreme left gaze.
**Speed of target is important! If it is moved too fast or too slow, the patient will not be able to follow the target smoothly.*

Keeping the patient in extreme left gaze, move the target up and observe.

Then move the target down while still in extreme left gaze and observe.

Then move them back into extreme left gaze and have them follow the target to their right (your left). *At the midline you may find it best to switch hands and move the target with your left hand to be able to get your hand over far enough to put the patient into extreme right gaze. This does need to be a smooth transition, since you are observing the smoothness of their eye movements.*

Keeping the patient in extreme right gaze, move the target up and observe.

Then move the target down while still in extreme right gaze and observe.

Bring them back to extreme right gaze and then back to primary gaze.

Have the patient follow the target straight up.

Then move the target straight down.
**When observing the gazes where the patient is looking down, you may need to physically raise their eyelids to observe their eyes as pictured.*

DUCTIONS

If the eyes do not move equally together, or if the patient is monocular, check ductions. A duction is the movement of only one eye. To test the patient's ductions, follow the above procedure while occluding one eye. Repeat the procedure on the fellow eye, if indicated.

Documentation:

A normal result is for the eyes to move **s**moothly (no jumping, or jerking motions), **a**ccurately follow the target (no overshooting or undershooting, lags, or anticipations), **f**ully (patient can move eyes to all extreme gazes), and **e**qually (eyes move together, and align in all positions of gaze) – remember the acronym **SAFE.**

Abnormal Results:

Look for misaligned eyes, eyes not moving together, limited movement to extreme gazes, nystagmus (involuntary eye shaking), or inability to smoothly follow the target.

If there's a previously documented abnormality, notify the doctor only if the patient reports a change in vision (e.g., new or worsening diplopia). For new deviations or abnormal findings, check the physician's protocol before dilating.

Documentation:

Record under "Extraocular Movement (EOM)" in the Ophthalmology Exam > Base tab.

- Click 'Full' if normal.
- Click 'Nystagmus' if present (note that it may only appear in extreme gazes).
- Add any additional info (e.g., H/O Left Exotropia, strabismus Sx) in the 'Note' section.