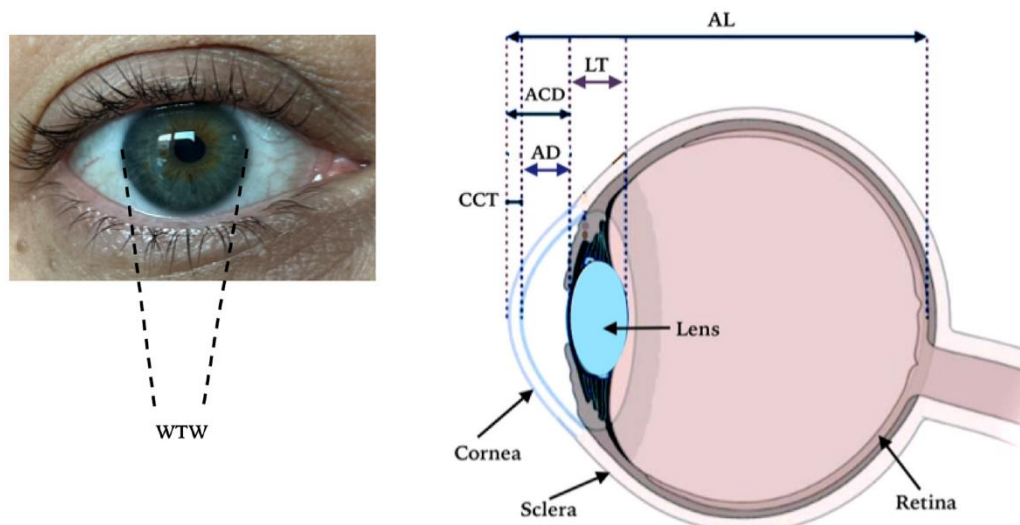


اهمیت و فواصل غربالگری بینایی

Growth and Development

Table 14-1 Dimensions of Newborn and Adult Eyes

	Newborn	Adult
Axial length, mm	17.5–19.5	23.0–24.0
Corneal horizontal diameter, mm	9.5–10.5	12.0
K value, diopters	52.00	42.00–44.00



- Newborns: Adjusting To Light and Beginning to Focus
- From 2 to 4 Months: Focusing and Tracking Moving Objects
- From 5 to 8 Months: Reaching, Recognizing, and Recalling
- From 9 to 12 Months: Gripping, Grasping, and on the Go



<https://www.aao.org/eye-health/tips-prevention/children-vision-development>
<https://share.google/images/x5qp4Toer69D9rMVr>

Vision and eye screening

- Early detection of various eye conditions
- Enabling timely intervention
- Management to prevent vision impairment and complications

https://cdn.who.int/media/docs/default-source/ncds/sdr/eye-care--vision-impairment-and-blindness/vesih-information-sheet.pdf?sfvrsn=96e123bf_4

Method

Indications for Referral

Red reflex test

Absent, white, dull, opacified, or asymmetric



Figure 2a. Normal red reflex



Figure 2b. Abnormal red reflex



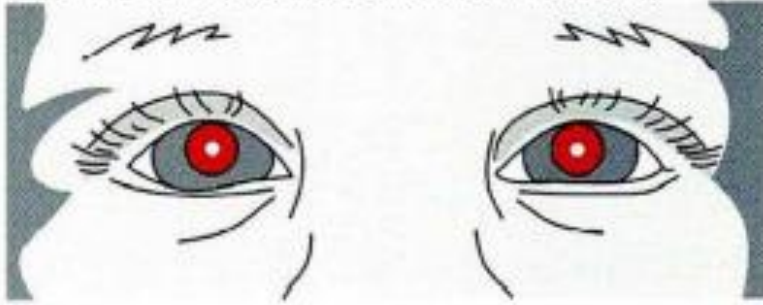
<https://www.aao.org/education/preferred-practice-pattern/pediatric-eye-evaluations-ppp-2022>

<https://www.who.int/publications/i/item/9789240082458>

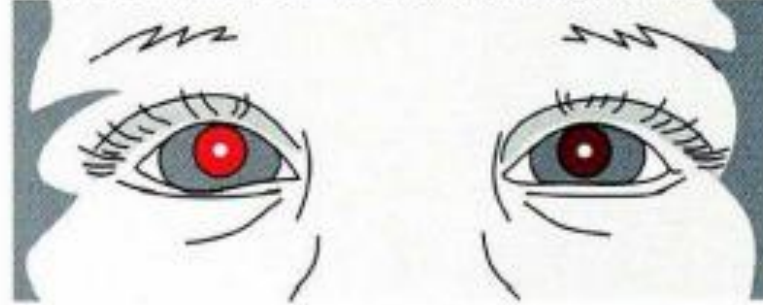
<https://www.insightnews.com.au/theive-screening-or-false-security/>

<https://www.mdpi.com/1648-9144/61/4/692>

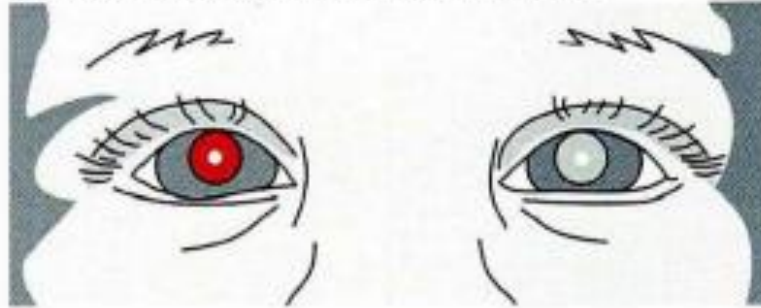
A. NORMAL— Child looks at light. Both red reflections are equal.



B. UNEQUAL REFRACTION—One red reflection is brighter than the other.



C. NO REFLEX (CATARACT) —The presence of lens or other media opacities blocks the red reflection or diminishes it.



D. FOREIGN BODY/ABRASION (LEFT CORNEA) — The red reflection from the pupil will back-light corneal defects or foreign bodies. Movement of the examiner's head in one direction will appear to move the corneal defects in the opposite direction. (Parallax)



E. STRABISMUS —The red reflection is more intense from the deviated eye.



<https://www.aao.org/education/preferred-practice-pattern/pediatric-eye-evaluations-ppp-2022>

Indications for Referral

Method

External inspection

Structural abnormality (e.g., ptosis)

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<https://www.who.int/publications/i/item/9789240082458>



Figure 3b



Figure 3c



Figure 3d



Figure 3e

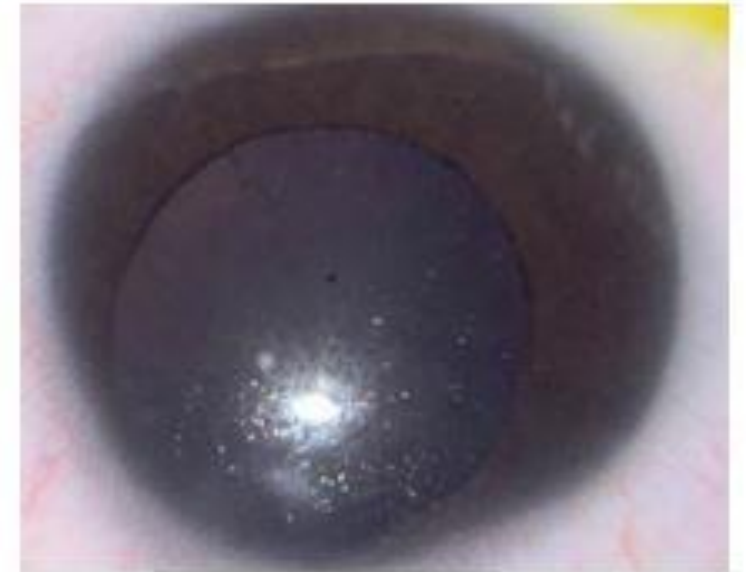
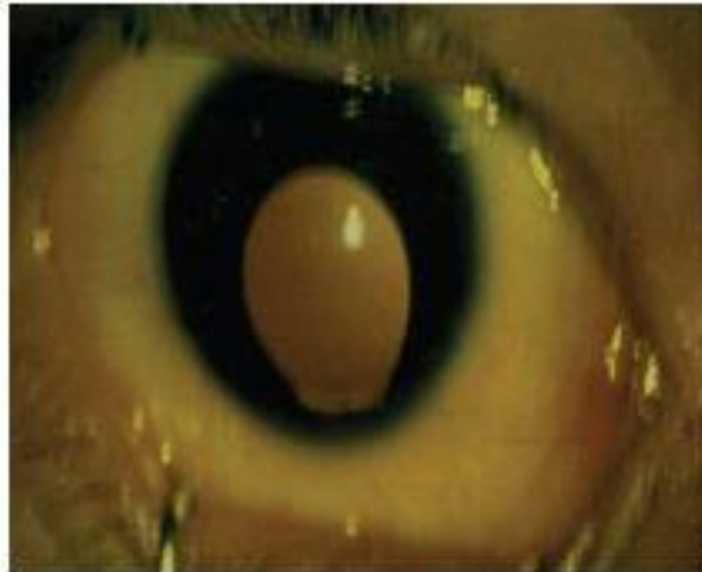


Method

Indications for
Referral

Pupillary
examination

Irregular shape,
unequal size, poor
or unequal reaction
to light



<https://www.who.int/publications/i/item/9789240082458>

Method

Indications for
Referral

Fix and follow

Failure to fix and
follow



<https://www.aao.org/education/image/fix-follow>

Method

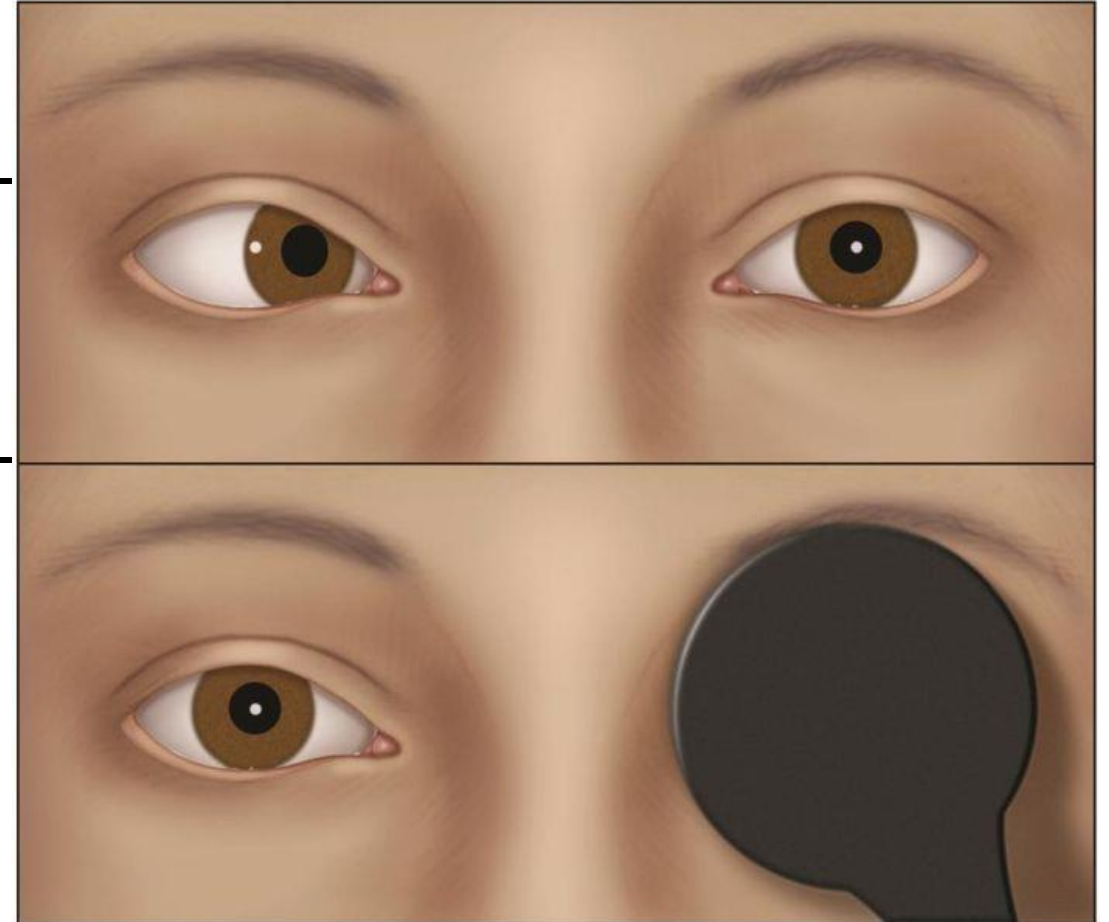
Indications for
Referral

Corneal light
reflection

Asymmetric or
displaced



Method	Indications for Referral
Cover test	Refixation movement of uncovered eye



- <https://www.aao.org/education/preferred-practice-pattern/pediatric-eye-evaluations-ppp-2022>

Method

Indications for
Referral

Instrument-based
screening*

Failure to meet
screening criteria



https://eyewiki.org/File:Measurement_setup_front_view_detail_S09.jpg

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Method	Indications for Referral
Distance visual acuity [†] (monocular)	Worse than 20/50 with either eye or 2 lines of difference between the eyes
	Worse than 20/40 with either eye or 2 lines of difference between the eyes

WHO DISTANCE VISION PRE-SCHOOL SCREENING CHART
(3 METRE TEST DISTANCE)

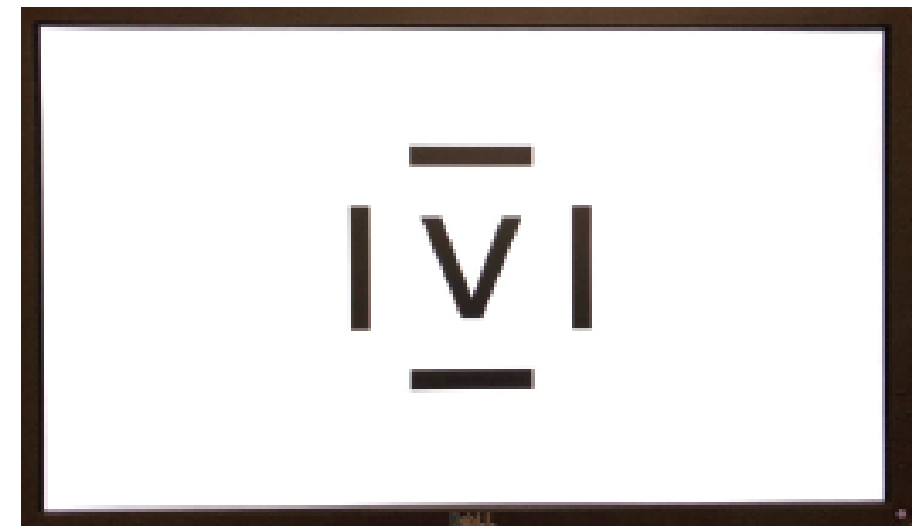
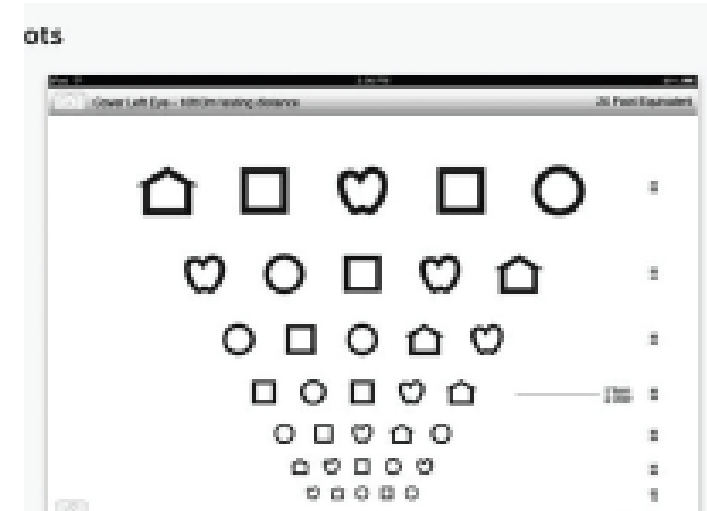


V O H T

6
60

V H T V O

6
12



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<https://www.who.int/publications/i/item/9789240082458>

TABLE 1 AGE-APPROPRIATE METHODS FOR PEDIATRIC VISION SCREENING AND CRITERIA FOR REFERRAL

Method	Indications for Referral	Recommended Age					
		Newborn–6 months	6–12 months	1–3 years	3–4 years	4–5 years	Every 1–2 yrs after age 5
Red reflex test	Absent, white, dull, opacified, or asymmetric	•	•	•	•	•	•
External inspection	Structural abnormality (e.g., ptosis)	•	•	•	•	•	•
Pupillary examination	Irregular shape, unequal size, poor or unequal reaction to light	•	•	•	•	•	•
Fix and follow	Failure to fix and follow	Cooperative infant ≥3 months	•	•			
Corneal light reflection	Asymmetric or displaced	Cooperative infant ≥3 months	•	•	•	•	•
Instrument-based screening*	Failure to meet screening criteria		Cooperative infant ≥6 months	•	•	•	•
Cover test	Refixation movement of uncovered eye				•	•	•
Distance visual acuity† (monocular)	Worse than 20/50 with either eye or 2 lines of difference between the eyes				•	•	•
	Worse than 20/40 with either eye or 2 lines of difference between the eyes					•	•

- <https://www.aao.org/education/preferred-practice-pattern/pediatric-eye-evaluations-ppp-2022>



Pediatric Eye Evaluations Preferred Practice Pattern



Vision and eye screening implementation handbook