Vision screenings in your practice play a vital role in early detection of potential visual impairment or eye conditions likely to lead to vision loss. Because children and parents are not always aware of visual impairment at an early age, a failed vision screen is often the primary indicator for referral to a pediatric ophthalmologist or optometrist for a comprehensive exam. Early diagnosis of a condition causing visual impairment is critical to a child’s long-term vision health.

**ASSESSMENT**

Perform vision screening using one of these methods:

**Objective**—inspect eye, pupil, red reflex and motility at every visit.

**Instrument-based screening (e.g., photoscreening)**—for children aged 12 months to 3 years; recheck annually until patient can participate in visual acuity testing.

**Recognition visual acuity testing**—by age 3 to 4 years, children generally can participate in matching/naming acuity testing with age-appropriate symbols (optotypes). Use an adhesive monocular patch for testing. In some cases, instrument-based can be considered (ages 3 to 6 years) when cooperation is limited. If the child is already wearing glasses, then glasses should be worn for testing.

**WHEN TO REFER**

Refer to Cincinnati Children’s Eye Clinic:

**Objective failure**—asymmetric/absent red reflex; pupil asymmetry especially associated with drooping eyelid or problems moving the eye (urgent referral); persistent red eye(s) or photophobia

**Pediatric vision screening test**—varies based on instrument, age-appropriate screening thresholds

**Visual acuity thresholds** (eye chart tests, age-dependent)

- Ages 3–4 years—Refer if worse than 20/50 line in one or both eyes
- Ages 4–5 years—Refer if worse than 20/40 line in one or both eyes

Note: If patient is non-cooperative with exam and you have a low suspicion for ocular pathology, consider a second screening attempt within 6 months. If retesting is inconclusive, refer to a pediatric eye care specialist for a comprehensive eye exam.

**FAST FACTS**

- **174K+** preschool-age children in the US have some form of visual impairment
- **26/50** states require vision screenings for preschool-age children
- **75%** of children with myopia are diagnosed between ages 3–12 years
- **2–4%** of children worldwide suffer from amblyopia
- **12 million** children worldwide are visually impaired due to uncorrected refractive error and amblyopia

If you have urgent clinical questions or wish to make an urgent referral, contact an Ophthalmologist via Physician Priority Link® at 513-636-7997 or 1-888-987-7997. For non-urgent questions, email eye@cchmc.org.

Tool developed by Cincinnati Children’s physician-hospital organization (known as Tri-State Child Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.
Vision Screening Failure

### Inclusion Criteria

Patients with pertinent ocular findings on examination that can inhibit vision development (e.g., strabismus, ptosis) and patients who do not pass a vision screening with instrument-based screener (ages 12 months to 3 years) or visual acuity-based screening (ages 3 to 4 years and up).

#### Patient Presents

#### Standard Workup

- Patient Medical History
- Family History
- Physical Exam

#### HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

**Patient Medical History**
- Strabismus (persistent eye misalignment after 4–6 months of age)
- Neurodevelopmental disorders, genetic disorders with known ocular impact: chromosomal disorders (e.g., Down syndrome), Neurofibromatosis, Stickler syndrome, acquired CNS injury (trauma, infection, malignancy)
- Premature birth (<32 weeks gestation)
- Conditions associated with ocular involvement

**Family History**
- Strabismus
- Amblyopia
- High refractive error
- Retinal disorders or eye malignancies (e.g. retinoblastoma)
- Congenital cataracts

**Physical Exam**
- Any abnormal or unusual findings such as:
  - Eye misalignment
  - Abnormal motility
  - Pupil abnormalities
  - Ptosis
  - Cloudy cornea, buphthalmos (associated with congenital glaucoma)
  - Leukocoria

#### Prompt Management Required

- Yes
  - Examples: Acute strabismus/ptosis, papilledema, abnormal red reflex, new onset pupillary abnormalities
  - Call Priority Link to speak with an Ophthalmologist—513-636-7997 or 1-888-987-7997

- No
  - Refer to Cincinnati Children’s Eye Clinic for eye exams. Patient’s family should call the Scheduling Center at 513-636-3200 to make an appointment.

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.