

KITSAP COUNTY CHILD HEALTH NOTES

Promoting early identification and partnerships between families, primary health care providers & the community.

Distributed by: Kitsap County Medical Home Leadership Network

Contributors: Washington State Department of Health and UW – Center on Human Development & Disability. Written by Katherine A. TeKolste, MD

Risk Factors for Vision Problems:

- Less than 1500 grams at birth
- History of maternal ‘TORCH’ complex infections*
- Family history of conditions causing or associated with eye problems (e.g. retinoblastoma, congenital cataract, glaucoma, strabismus, amblyopia)
- Neurological and developmental disorders or systemic disease
- Use of medications associated with eye or vision abnormalities

**Toxoplasmosis, Other (syphilis, hepatitis B, varicella zoster, HIV, parvovirus B19, enteroviruses, lymphocytic choriomeningitic virus), Rubella, Cytomegalovirus, Herpes simplex*



Vision Screening for Infants, Toddlers and Preschoolers

The first three years of life are critical in the development of good vision. One in twenty preschool age children has impaired vision, most commonly due to amblyopia, strabismus (misaligned eyes) or significant refractive error such as farsightedness, astigmatism and nearsightedness. Strabismus and refractive errors can lead to amblyopia – reduced vision due to lack of visual stimulation during early childhood. Equal input from both eyes is necessary for normal development of the brain’s visual cortex. In addition to permanent vision loss, undetected vision abnormalities can lead to cognitive, emotional, neurological and physical impairment.

Young children generally do not complain about poor vision. Serial screening in the medical home is the most effective approach to early detection and provides the best opportunity for effective treatment.

Ocular health should be assessed at birth and each routine well child visit, or any time a concern arises. Visual acuity can usually be assessed at 3 ½ years and should recur annually until 5 years of age.¹ Vision screening for preschool children (3-5 years) is a recommended Bright Futures well-child preventive care service.

WHAT MIGHT YOU DO IN YOUR PRACTICE?

- **Be familiar with the risk factors** for vision problems (see box above)
- **Educate parents about signs of eye problems** that require further evaluation (Refer parents to the AAP Healthy Children website: [‘Warning Signs of Vision Problems in Children’](#))
 - Misaligned eyes or poor visual fixation
 - Light sensitivity, itchiness, pain or discomfort
 - Pus or crusting in either eye
 - Redness lasting more than a few days
 - Persistent tearing
 - Nystagmus
- **Include a vision history and examination** at well-child visits beginning at infancy:
 - Fixation and following
 - Red reflex
 - Nystagmus
 - Asymmetries
 - Ocular misalignment (strabismus)
 - Visual acuity abnormalities
 - Structural defects (urgent referral required for opacities of the ocular media)

➤ **Strabismus** can be evaluated by the corneal light reflex symmetry, the cover-uncover and cross cover tests, or the Bruckner test (corneal light reflex examination through an ophthalmoscope from 2-3 feet away in a darkened room).²

➤ **Visual acuity** in infants and young children is most accurately determined by “preferential looking tests” (Teller Acuity Card test). Children 3 years and older can be screened with the Tumbling E, HOTV chart or LEA symbols chart (♡ ☠ □ ○). Older children can be tested with a Snellen chart.

➤ **Instrument-based Vision Screening (Photo-screening)** - Children 6 months to 5 years can benefit from this automated vision screening technology which does not depend on behavioral responses of the child. It is especially useful in the preverbal, preliterate or developmentally delayed child.³ Instrument-based screening does not measure acuity, but assesses for the presence of amblyopia risk factors. Note that visual acuity charts are acceptable for screening between 3 and 5 years of age and can be effectively used with many children in this age range.

Refer to Ophthalmologist for Screenings Showing:

Any child with risk factors for vision problems listed above. And....

Newborns and Infants

- Abnormal red reflex
- Structural abnormalities of the eye
- Poor visual tracking after 3 months
- Strabismus
- Nystagmus
- Chronic tearing or discharge
- Family history of retinoblastoma or other risk factors (see above)

Toddlers and Preschool Children

- Strabismus
- Nystagmus
- Persistent ptosis, eyelid mass or red eye
- Asymmetric pupil size (>1mm)
- Fail photo-screening
- Unable to read at least 20/40 with either eye on acuity chart

References

1. Policy Statement: Vision Screening for Infants and Children: A Joint Statement of the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) and the American Academy of Ophthalmology (AAO). 2013.
2. Clinical Statements: Eye Examination in Infants, Children, and Young Adults by Pediatricians – 2003: reaffirmed May 2007. American Academy of Ophthalmology.
3. Instrument-Based Pediatric Vision Screening Policy Statement. Joint policy statement of the American Academy of Pediatrics, AAO, AAPOS and American Association of Certified Orthoptists. *Pediatrics* 2012; 130:983-986.

Vision Resources

Regional:

- Healthy Eyes Washington, the Washington Academy of Eye Physicians and Surgeons <http://www.waeps.org/>
- Seattle Children's Hospital Ophthalmology <http://www.seattlechildrens.org/clinics-programs/ophthalmology/>
 - Referral information <http://www.seattlechildrens.org/healthcare-professionals/access-services/ambulatory-services/clinic-referrals/>
- Mary Bridge Children's Hospital Ophthalmology Clinic <http://www.multicare.org/marybridge/ophthalmology-clinic>
- Sacred Heart Children's Hospital Ophthalmology <http://www.nwpospokane.com/>

National:

- The American Association for Pediatric Ophthalmology and Strabismus (AAPOS) <http://www.aapos.org/>
 - The AAPOS disease library <http://www.aapos.org/terms>
- The American Academy of Ophthalmology <http://www.aao.org/>
 - The American Academy of Ophthalmology EyeSmart library <http://www.geteyesmart.org/eyesmart/diseases/index.cfm>
- The American Academy of Pediatrics 'Healthy Children - Eyes' website <http://www.healthychildren.org/English/health-issues/conditions/eyes/Pages/default.aspx>

KITSAP COUNTY SPECIAL NEEDS INFORMATION AND RESOURCES:

For children under age three:

Contact: Holly Ridge Center (360) 373-2536 or (800) 449-1660
5112 NW Taylor Road Bremerton, WA 98312

For children age three to 21:

Contact: All school districts have access to Teachers of the Visually Impaired

District:	Phone	District:	Phone
Bainbridge Island	206-842-1481	Central Kitsap	360-662-1040
Bremerton	360-473-1008	North Kitsap	360-396-3509
		North Mason	360-277-2111
		South Kitsap	360-443-3625