



GUIDELINE

Vision and eye health

Scope (Staff):	Community health
Scope (Area):	CACH, WACHS

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

To provide information on vision development, assessment, and early identification of vision impairment and/or eye disease in infants and young children.

Risk

A delay in recognising and managing vision impairment and/or eye disease can have a significant effect on a child's health and wellbeing, cognitive development, educational attainment, and long-term social and vocational outcomes.¹⁻³ If vision disruptions are left untreated in infancy and early childhood, they have the potential to cause lifelong vision impairment or blindness.⁴

Background

Normal visual function during infancy and early childhood is linked with several other developmental milestones, including fine motor skills, gross motor movements and social interaction.^{2, 5, 6} Deviations in visual acuity significantly contribute to quality of life and are associated with reading difficulties and poorer educational outcomes.^{1, 2, 4}

Vision impairment is the partial or complete loss of sight in one or both eyes, which may result from disease or injury.⁷ Vision impairment may progress over time, become permanent, or be corrected with vision aids or surgery.⁷ In 2017/18, approximately 12% of Australian children aged 0-14 years had a vision disorder, which represented an increase in prevalence from 9.2% in 2007/08.⁸ More boys than girls have vision impairment.⁶ The most commonly reported long-term conditions in 2017/18 were myopia (4.5% of children) and hyperopia (4.3% of children).⁹ Rates of myopia are projected to increase in the next ten years, but this can be prevented by encouraging children to spend more time outside and decrease near work activities.²

Hyperopia may resolve itself by adolescence, however if uncorrected, the child may develop strabismus or amblyopia¹. It is common for children with vision impairment to have secondary disabilities or health conditions. A child with a significant visual impairment should be a red flag for clinicians to investigate other developmental concerns.^{1, 6}

Eye diseases and vision problems affect 10.1% of Aboriginal children aged 0-14.¹⁰ Overall Aboriginal children have a lower incidence of poor vision than non-Aboriginal children.¹⁰ A recent Queensland study found that refractive errors and strabismus were significantly less common in Aboriginal children, but convergence insufficiencies (such as those detected by the cover test) were twice as common.¹¹

Trachoma is the world's leading infectious cause of preventable blindness. In Australia, trachoma is found primarily in remote Aboriginal communities.¹² In 2022 trachoma was present in 3.1% of the community (this is below the WHO elimination targets of trachoma prevalence, and reflects a decrease from 3.8% in 2017).¹³ In Western Australia the number of communities at risk from trachoma has decreased from 86 in 2010 to 31 in 2022.¹²

It is important that all children undergo regular vision screening and assessment.^{1, 3} The ability to detect and offer early intervention is critical due to the rapid development of the visual system and its sensitivity to interference during childhood.¹⁴ It may also facilitate the early detection of neurological, metabolic, or genetic disorders for which vision loss is a symptom.¹ Connecting children to eye care following a referral can be a challenge and it is important to address barriers to accessing follow up care from vision screening.^{14, 15}

Key points

- Vision and eye health observations and/or assessments are offered at all [Universal contacts](#). They can also be conducted for children as a [Universal Plus – child health](#) or a targeted vision assessment in primary school and secondary school settings, in response to concerns from families, clients or teachers.
- For children receiving the *Enhanced Child Health Schedule* (ECHS) through the WA Country Health Service (WACHS), vision and eye health assessments are conducted at each contact from six months to five years of age (see the [ECHS 0-5 Years Activity Summary](#) for more information).
- Nurses will conduct vision and eye health screening in accordance with the following vision Procedures in the *Clinical Nursing Manual*: [Corneal light reflex test](#), [Cover test](#), [Distance vision testing \(Lea Symbols Chart\)](#), and [Red reflex test](#).

*[MP 0097/18](#) – Within Western Australia, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of Western Australia. No disrespect is intended to our Torres Strait Islander colleagues and community.

(WACHS will use [Distance vision testing \(Snellen\)](#) for older children and adolescents).

- Vision screening must only be performed by community health staff who have undertaken the CACH Community Health Nurse Orientation or WACHS recommended training and have been deemed competent in the procedures.
 - After receiving training and prior to achieving competency, staff must work under the guidance of a clinician deemed competent.
- Nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based

For cultural considerations when caring for Aboriginal children and families, refer to [Related resources to assist service provision to Aboriginal clients](#).

- Nurses need to provide a culturally safe service delivery which demonstrates a welcoming environment that recognises the importance of the cultural beliefs and practices of all clients.

Development of vision

Development of the eye and vision system, (which includes the eye, optic nerve, connecting pathways through the visual cortex and parts of the brain) starts early in foetal life.¹⁶ The vision system is the last of the sensory systems to develop.¹⁶ At birth it is functional but is very limited, particularly in preterm infants.¹⁶ At birth, visual acuity (the clarity or sharpness of vision) is around 6/120.^{4, 17} The perception of colour and contrast sensitivity are present in newborns but are poorly developed.¹⁸

During the first six months of life, the eye undergoes rapid structural development. This leads to an improvement in the visual acuity, contrast sensitivity and colour discrimination⁴. Visual acuity at six months of age is around 6/36.¹⁷ After six months of age the visual system develops at a slower rate. Development of the vision system continues until around ten years of age.⁴

The eye movement system is incomplete at birth but develops rapidly in parallel with the development of vision. The eyes must be aligned to support development of binocularity (the ability to perceive vision from both eyes simultaneously) and stereopsis (integration of the images from the two eyes to produce a single image with depth perception). Both are important as an infant becomes more interested in visually exploring their environment. By three months of age infants can follow objects vertically and horizontally whilst the eye remains aligned. Misalignment or abnormal eye movements are detectable by this age.⁴

The expected milestones for vision development from birth to the age of two years are outlined in [Table 3: Childhood Vision Development Screening](#).

Risk factors for vision problems

In children, vision impairment or vision loss is most likely to be attributed to:

- Biological determinants:
 - Genetic determinants - family history of congenital or hereditary eye/vision conditions.^{2, 19}
 - Maternal nutrition ^{2, 19}
 - Maternal infections experienced during pregnancy (e.g., rubella, cytomegalovirus, syphilis, herpes, toxoplasmosis, Zika or any other illness with fever or rash during pregnancy) ^{2, 19}
 - Intrauterine growth restriction ¹⁹
 - Children born prematurely (under 37 weeks) or children with multiple disabilities ^{2, 6}
 - Medical risk factors (e.g. cerebral palsy, Down syndrome, autism spectrum disorders, hearing impairment, learning difficulties and speech delay).¹
 - Birth complications ¹⁹
 - Exposure to toxins antenatally (including alcohol and smoking)^{2, 16}
- Social and Environmental factors:
 - environmental risk factors, hygiene, access to health care, homelessness, transience and/or overcrowding and remoteness ^{2, 19}
 - Consequences of disease (e.g., diabetes, glaucoma, trachoma)^{2, 10}
 - Exposure to toxins ^{2, 16, 19}
 - Trauma ¹

Red-flag signs of possible vision problems

A full list of vision concerns that apply to each developmental stage can be found in [Table 3: Childhood Vision Development Screening](#).

- Sore watery or itchy eyes ²⁰
- No eye contact in an infant over 8 weeks of age ¹
- Abnormal head posture (head tilt or turn) ^{1, 20}
- Erratic eye movements ¹⁸
- Eyes that cross, turn in or out or move independently ²⁰

- Only using one eye to look at things (squinting) ^{1, 20}
- Signs of discomfort or resistance during vision screening ^{1, 20}
- Light sensitivity^{1, 20}
- Concerns with behaviour, concentration, coordination or reading^{5, 20}
- Headaches²⁰
- Recurring eye infections (inflammation of the eyelid or conjunctivitis)²⁰

The presence of any of these red flags, warrants a referral for a comprehensive examination.

Child Safety and Protection

Retinal haemorrhages can be an indicator of physical abuse and abusive head trauma (such as shaken baby syndrome) and should prompt further investigation and discussion with Line Manager and Child Protection Unit (see CACH - [Child Safety and Protection Policy](#) or WACHS - [Guidelines for Protecting Children 2020](#)).^{21, 22}

Vision and Eye Health Assessment in Community Health

Vision assessment is most meaningful when community health staff undertake a systematic enquiry of parental concerns, gather information about the child's current abilities and functions, identify risk factors, use appropriate tools for vision surveillance screening and act on professional judgement.^{1, 3}

A summary of vision and eye health screening performed during universal screening is provided in [Table 1: Universal Vision Assessment Screening](#). Each of the procedure's accuracy as a standalone test is limited and therefore, they should always be used in combination with other vision screening tests.²³ Vision screening in addition to those undertaken as part of the universal contact schedule may be required in response to concerns expressed by families, school staff or child. For guidance around performing screening see [Table 2: Additional Vision Screening](#).

Screening questions (Listed in [Table 3: Childhood Vision Development Screening](#)) are suggestions for asking age-appropriate questions of parents or caregivers to gather history about children's vision and eye health. Further health history may be relevant for individual children as based on risk factors.

Vision and eye health screenings schedule for WA Children

Table 1: Universal Vision Assessment Screening

	<u>0-14 days</u>	<u>8 weeks</u>	<u>4 months</u>	<u>12 months</u>	<u>2 years</u>	<u>SEHA</u>
Vision Surveillance Questions	✓	✓	✓	✓	✓	✓
Family History*	✓	✓	✓	✓	✓	✓
Assess eyes, vision behaviours and gaze as per <u>Physical Assessment 0-4 years</u>	✓	✓	✓	✓	✓	
Observe Eyes and Vision Behaviours		✓	✓	✓	✓	✓
<u>Corneal Light Reflex</u>		✓	✓			✓
<u>Red Reflex</u>		✓	✓			
<u>Cover Test</u>						✓
<u>Distance Vision (LEA Symbols Test)</u>						✓

*Family History: Including family history of cataracts, glaucoma, retinoblastoma, strabismus, review CDIS or CHIS for other relevant documented history

Table 2: Additional Vision Screening

Additional Screening	
<p>For any child 0-18 in clinic, community, or school setting:</p> <ul style="list-style-type: none"> In response to concerns expressed by families, school staff or child. As part of WACHS Enhanced Child Health Schedule, Universal Plus Child Health or Universal Plus school health 	<ul style="list-style-type: none"> Vision screening questions and observations Children < 3 years (as appropriate) <ul style="list-style-type: none"> Red reflex; Corneal light reflex Children >3 years (as appropriate) <ul style="list-style-type: none"> Red reflex; Corneal light reflex; Distance vision (Lea Symbols Test) Children 4 -18 (as appropriate) <ul style="list-style-type: none"> Cover test; Distance vision (Lea Symbols Test)

Table 3: Childhood Vision Development Screening

	NORMAL DEVELOPMENT	CONCERNS	SURVEILLANCE QUESTIONS	ASSESSMENT
0-14 DAYS	<ul style="list-style-type: none"> Blinks in response to bright light and pupils will constrict. ^{17, 24} Pupils constrict with bright light.¹⁴ Uncoordinated eye movements (may appear cross-eyed). ²⁴ Stares at light or a face/object approximately 20-25cm away. ²⁴ Visual acuity 6/120.^{17, 25} Fixation.¹⁴ Large, bright shapes might gain attention.¹⁴ 	<ul style="list-style-type: none"> Structural anomaly (e.g., hemangioma, ptosis, port wine stains).¹ Unequal pupil size (anisocoria). Poor reaction to light. Irregular pupil shape.¹ Dysmorphic feature.¹⁴ 	<ul style="list-style-type: none"> Are you worried about your baby's vision? Do they briefly stare at your face? Does your baby blink to sudden bright light and turn towards soft light? Has your baby had any severe eye infection or injury? Family history. 	<ul style="list-style-type: none"> Observe and document eyes and vision behaviours as per Physical Assessment 0-4 Years.
8 WEEKS	<ul style="list-style-type: none"> May still appear cross-eyed. ¹⁴ Stares at faces and black and white images. ²⁴ Follows an object up to 90 degrees. ²⁴ Watches parent/carer closely. ²⁴ Follow a moving object with their eyes. ²⁴ 	<p>As per 0-14 days plus</p> <ul style="list-style-type: none"> Not looking at carer's face or bright object when held close, by six weeks. ^{18,1, 3} Photophobia ¹ Torticollis– head tilt, turn chin up or chin down head posture. ²⁵ Small pupil (miosis). ¹ 	<ul style="list-style-type: none"> Are you worried about your baby's vision? Do they watch your face and make eye contact with you? Does your baby blink to sudden bright light, and turn towards soft light from a window? 	<ul style="list-style-type: none"> Observe and document eyes and vision behaviours as per Physical Assessment 0-4 Years Red reflex test. Corneal light reflex test.

	NORMAL DEVELOPMENT	CONCERNS	SURVEILLANCE QUESTIONS	ASSESSMENT
	<ul style="list-style-type: none"> Clear vision for object 25-30cm away.²⁵ 		<ul style="list-style-type: none"> Any severe eye infection or injury? 	
4 MONTHS	<ul style="list-style-type: none"> Watches own hands²⁴ and reaches for nearby objects.^{17, 26} Visually alert, attracted to human faces and follows human movement approx. 1.5m away.¹⁸ Fixates on and follows a slowly moving object 15-30cm from the face in an arc 90° from midline.¹⁸ Recognises objects.²⁵ Looks at self in mirror.²⁵ Visual acuity 6/60.¹⁷ 	<p>As per 8 weeks and:</p> <ul style="list-style-type: none"> Not fixing on and following objects 20-25cm from face by 4 months.^{18,3} Development delay of lively communication with social smile.²⁵ Persistent eye redness.²⁵ White or greyish colour in pupil.²⁵ Eye turn (when eye turns inward, outward up or down).²⁵ 	<ul style="list-style-type: none"> Are you worried about your baby's vision? Do they follow a small object up and down, side to side with their eyes? Does your baby watch you move around the room? Has your baby had any severe eye infection or injury? 	<ul style="list-style-type: none"> Observe and document eyes and vision behaviours as per Physical Assessment 0-4 Years. Red reflex test. Corneal light reflex test.

	NORMAL DEVELOPMENT	CONCERNS	SURVEILLANCE QUESTIONS	ASSESSMENT
5-8 MONTHS	<ul style="list-style-type: none"> Eyes move in unison with full colour vision and visual acuity 6/36.^{17, 18, 26} Turns head to view objects and depth perception is evident.^{17, 24, 26} Touches a mirror image of self.²⁴ Reaches for near and far objects and recognises carer.¹⁴ Menace reflex blink to visual threat.¹⁷ 	<p>As per 4 months and:</p> <ul style="list-style-type: none"> Erratic eye movements.²⁵ Does not appear to recognise parent/carer.²⁵ Not reaching for objects.²⁵ Not showing interest or attempting to pick up small toys by 5 months.¹⁸ 		
9-12 MONTHS	<ul style="list-style-type: none"> Looks and follows smaller objects people, objects, animals and happenings and grasp object between the thumb and forefinger.^{14, 17, 18, 24, 26} Developed final colour of eye.¹⁴ Development of depth perception independent eye movement.^{24, 25} 	<p>As per 5-8 months and:</p> <ul style="list-style-type: none"> Absence of sharp visual fixation to 1.5mm objects after 9 months.^{18, 25} Delay in recognition of facial features.²⁵ Poor development of pincer grip.²⁵ 		
12	<ul style="list-style-type: none"> Clear distance vision (Visual acuity 6/18).^{17, 24} Depth perception for objects further than 0.5 meters away.²⁴ 	<p>As per 9-12 months and:</p> <ul style="list-style-type: none"> Tearing.¹ Squinting.¹ 	<ul style="list-style-type: none"> Are you worried about your child's vision? Do they look at pictures with interest? 	<ul style="list-style-type: none"> Observe and document eyes and vision behaviours as per Physical

	NORMAL DEVELOPMENT	CONCERNS	SURVEILLANCE QUESTIONS	ASSESSMENT
	<ul style="list-style-type: none"> Refinement of eye movement.²⁵ Recognises familiar objects self in mirror.²⁴ Shows an interest in pictures familiar people approaching from a distance.¹⁸ 	<ul style="list-style-type: none"> Head tilt or face turn.¹ Eye pain or discomfort that doesn't resolve.¹ 	<ul style="list-style-type: none"> Does your child point to objects of interest at a distance? Has your child had any severe eye infection or injury? 	<ul style="list-style-type: none"> Assessment 0-4 Years. Red reflex test. Corneal light reflex test.
18 MTHS	<ul style="list-style-type: none"> Begins to focus on objects closer than 0.5 meters and clear distance vision.^{24, 25} Development of fine motor skills– attempts to draw.²⁵ 	<p>As per 12 months and:</p> <ul style="list-style-type: none"> Poor fine motor skills.²⁴ Unable to identify body parts.²⁴ Abnormal head posture.²⁴ 		
2 YEARS	<ul style="list-style-type: none"> Recognise shapes and objects and can perform match-the-picture tasks.^{17, 18, 24} Improvement of: close vision skills; convergence and focusing; binocular vision at all distances; change focus form distance to near depth perception.²⁵ Visual acuity 6/6.¹⁷ 	<p>As per 18 months and:</p> <ul style="list-style-type: none"> Cannot recognise simple shapes or objects.²⁵ 	<ul style="list-style-type: none"> Are you worried about your child's vision? Do they turn or tilt head to use only one eye to look at objects? Does your child hold an object too close to their eyes to look at them? Have you noticed any abnormal eye movement? 	<ul style="list-style-type: none"> Observe and document eyes and vision behaviours. See Physical Assessment 0-4 Years. Red reflex test. Corneal light reflex test.

	NORMAL DEVELOPMENT	CONCERNS	SURVEILLANCE QUESTIONS	ASSESSMENT
4-5 YEARS	<ul style="list-style-type: none"> Recognise orientation of letters and beginning of reading.²⁴ Possess a matured sense of depth perception.¹⁴ Clear single and comfortable vision at all distance.¹⁴ 	<p>As per 3 years, and:</p> <ul style="list-style-type: none"> Inattentive, uncooperative. Will not allow one eye to be covered for monocular testing.¹⁴ Does not understand the screening task.¹ 	<ul style="list-style-type: none"> Do you have any concerns about eyes or eyesight? Is your child under the care of a relevant specialist? Has your child had poor sight, squint, turned eye, eye injury, operation on eyes? Has your child been prescribed glasses? If so, when should they be worn? 	<ul style="list-style-type: none"> Observe eyes and vision behaviours see Universal contact School Health Entry Assessment. Corneal light reflex. Cover test. Distance vision (Lea Symbols Chart).

Childhood Eye Disorders

Normal vision development requires that focused images form in each eye and this is then integrated by the brain into a single image. Anything that interferes with a focused, fusible image will result in reduction in vision. The most common causes of vision disorders include a misalignment of the eyes (such as in amblyopia and strabismus), unequal refractive components of the eye where the images are not focused simultaneously (such as in myopia and astigmatism and) and deprivation of images (such as congenital cataracts, retinoblastoma, congenital glaucoma).¹ These disorders are screened for in universal screening. Details, main causes, signs, and symptoms and the next steps are described in [Table 4: Childhood Eye Disorders Screened in Western Australia](#).

Other eye conditions are seen in childhood but are not screened for regularly by community nurses. It is helpful for community nurses to be aware of these disorders and the next steps if they have been identified either through parental concerns raised or through observation. A description of these disorders with their associated risk factors and signs and symptoms are outlined in [Table 5: Childhood Eye Disorders Not Screened in Western Australia](#). For each of these it is important that nurses refer to their local process for follow up.

Follow up and referral pathways.

For universal developmental screening, staff must comply with the specific referral and follow-up processes identified in the individual vision and eye health procedures.

For a general referral pathway, see, [Appendix A: Universal Vision Screening Pathway](#).

Where available, refer to culturally appropriate services.

The eye disorders listed in [Table 5: Childhood Eye Disorders Not Screened in Western Australia](#) are not included in the universal developmental screening. These have been included for informational purposes. If there are concerns related to these disorders:

- **CACH:** Refer to medical practitioner for prompt eye exam. Include any results of vision screening and any signs of concerns.
- **WACHS:** Follow local processes as required; this may involve referral to medical practitioner or optometrist for further assessment.

Documentation

Nurses maintain accurate, comprehensive, and contemporaneous documentation of assessments, planning, decision making and evaluations according to CACH and WACHS process. CACH nurses must use a CDIS assessment screen to record the findings. WACHS nurses document the results of in CHIS. CACH and WACHS nurses must use the relevant *Clinical Notes/Comments* field in CDIS/CHIS to record any factors that may have interfered with the accuracy of the findings as well as findings around the observation of the eye.

Table 4: Childhood Vision Disorders Screened for in Western Australia

Disorder and description	Main Cause	Sign and Symptoms	Next Steps
<p>Amblyopia ⁴</p> <p>The preventable loss or lack of potential to see clearly in one or both eyes, due to deviation, defocus, or deprivation during the early years.</p>	<ul style="list-style-type: none"> • Refractive error. • Strabismus. 	<ul style="list-style-type: none"> • Underdevelopment of 3D vision. • Loss of vision. 	<ul style="list-style-type: none"> • Corneal light reflex. • Cover test. • Distance vision (Lea Symbols Chart).
<p>Astigmatism ²</p> <p>A common eye condition where the cornea is not perfectly curved. This means light enters the retina at two points instead of one.</p>	<ul style="list-style-type: none"> • Hereditary (may be present at birth). • Eye disease or injury. 	<ul style="list-style-type: none"> • Trouble focusing and blurred vision. • Headaches. • Head tilt. • Eye strains or difficulty seeing at night. 	<ul style="list-style-type: none"> • Distance vision (Lea Symbols Chart).
<p>Congenital cataract ^{2,4}</p> <p>Affects the lens of the eye, can vary in size and how much they affect the child's vision.</p>	<ul style="list-style-type: none"> • Congenital anomalies. • Maternal infections in pregnancy. • Trauma. 	<ul style="list-style-type: none"> • Can occur at birth or the first few months of life. • Cloudiness or opacity of the lens. 	<ul style="list-style-type: none"> • Red reflex test.
<p>Congenital glaucoma ⁴</p> <p>A congenital anomaly from incorrect development of eye's drainage system leads to optic nerve damage from increased pressure in eye.</p>	<ul style="list-style-type: none"> • Family history. 	<ul style="list-style-type: none"> • Buphthalmos (Enlarged eyes). • Cloudiness of the cornea. • Photosensitivity. 	<ul style="list-style-type: none"> • Red reflex test.

Disorder and description	Main Cause	Sign and Symptoms	Next Steps
<p>Myopia (short sighted)¹</p> <p>Also known as near-sightedness, it is a common condition that causes blurred distance vision.</p>	<ul style="list-style-type: none"> • Family history. • Lifestyle. • Low levels of outdoor activity. • Low light exposure. • Prolonged near task (such as reading). 	<ul style="list-style-type: none"> • Squinting. • Excessive blinking. • Sitting at the front of the classroom. • Nearby objects appear clear, faraway objects are blurry. 	<ul style="list-style-type: none"> • Distance vision (Lea Symbols Chart).
<p>Retinoblastoma⁴</p> <p>The most common cancer of the eye. Most cases occur before the age of 5 years.</p>	<ul style="list-style-type: none"> • Congenital anomalies. • Genetics. 	<ul style="list-style-type: none"> • Abnormal red reflex result. • Strabismus. • Eye redness or pain. • Poor vision. 	<ul style="list-style-type: none"> • Red reflex test.
<p>Strabismus (Squint)⁴</p> <p>Misalignment of eyes, which makes inhibits the eyes' ability to focus both eyes on a target.</p>	<ul style="list-style-type: none"> • Abnormalities in the muscles and nerves surrounding the eyes. 	<ul style="list-style-type: none"> • Misaligned eyes. • Double vision. • Uncoordinated eye movements. • Vision loss. • Loss of depth perception • Abnormal head position. 	<ul style="list-style-type: none"> • Corneal light reflex. • Cover test. • Red reflex test.

References

1. Loh AR, Chiang MF. Pediatric Vision Screening. *Pediatr Rev.* 2018 May;39(5):225-34.
2. World Health Organization. World report on vision. Geneva: World Health Organisation, 2019. Available from: <https://apps.who.int/iris/bitstream/handle/10665/328717/9789241516570-eng.pdf>.
3. Wallace DK, Morse CL, Melia M, Sprunger DT, Repka MX, Lee KA, Christiansen SP. Pediatric Eye Evaluations Preferred Practice Pattern®: I. Vision Screening in the Primary Care and Community Setting; II. Comprehensive Ophthalmic Examination. San Francisco: American Academy of Ophthalmology, 2017. Available from: <https://www.aaojournal.org/action/showPdf?pii=S0161-6420%2817%2932958-5>.
4. Lam M, Suh D. Screening, Diagnosis, and Treatment of Pediatric Ocular Diseases. *Children (Basel).* 2022 Dec 10;9(12). PubMed PMID: 36553382. Pubmed Central PMCID: PMC9777216. Epub 20221210. eng.
5. Sánchez-González MC, Palomo-Carrión R, De-Hita-Cantalejo C, Romero-Galisteo RP, Gutiérrez-Sánchez E, Pinero-Pinto E. Visual system and motor development in children: a systematic review. *Acta Ophthalmol.* 2022 Nov;100(7):e1356-e69.
6. Silveira S, Martin FJ, Flaherty M, Russell HC. Reporting on Australian childhood visual impairment: the first 10 years. *Eye.* 2022 Jul;36(7):1412-8.
7. Australian Institute of Health and Welfare. Eye health [Internet]. 2021 [updated 2021 Feb 11; cited 2024 Feb 16]. Available from: <https://www.aihw.gov.au/reports/eye-health/eye-health/contents/about>.
8. Australian Institute of Health and Welfare. Eye health: How common is visual impairment? [Internet]. 2021 [updated 2021 Feb 11; cited 2024 Feb 12]. Available from: <https://www.aihw.gov.au/reports/eye-health/eye-health/contents/new>.
9. Australian Institute of Health and Welfare. Australia's Children. Canberra: Australian Institute of Health and Welfare, 2020. Available from: https://www.aihw.gov.au/getmedia/6af928d6-692e-4449-b915-cf2ca946982f/aihw-cws-69_australias_children_print-report.pdf?v=20230921161957&inline=true.
10. Australian Institute of Health and Welfare. Indigenous eye health measures 2020. Canberra: Australian Institute of Health and Welfare, 2020. Available from: <https://www.aihw.gov.au/getmedia/093acbec-e584-4457-a615-404fb3890379/aihw-ihw-261.pdf?v=20230605181820&inline=true>.
11. Hopkins S, Sampson GP, Hendicott PL, Wood JM. A Visual Profile of Queensland Indigenous Children. *Optom Vis Sci.* 2016 Mar;93(3):251-8.
12. Foreman J, Xie J, Keel S, van Wijngaarden P, Sandhu SS, Ang GS, et al. The Prevalence and Causes of Vision Loss in Indigenous and Non-Indigenous Australians: The National Eye Health Survey. *Ophthalmology.* 2017 Dec;124(12):1743-52.

13. The National Trachoma Surveillance and Reporting Unit. Australian Trachoma Surveillance Report 2022. Report. Sydney: The Kirby Institute, UNSW Sydney, 2023. Available from: <https://www.health.gov.au/sites/default/files/2024-01/australian-trachoma-surveillance-report-2022.pdf>.
14. Boyd K. Vision Development: Newborn to 12 Months [Internet]. American Academy of Ophthalmology; 2022 [updated 2022, Feb 01; cited 2024 Feb 07]. Available from: <https://www.aao.org/eye-health/tips-prevention/baby-vision-development-first-year>.
15. Ambrosino C, Dai X, Antonio Aguirre B, Collins ME. Pediatric and School-Age Vision Screening in the United States: Rationale, Components, and Future Directions. *Children (Basel)*. 2023 Mar 2;10(3):490.
16. Graven SN, Browne JV. Visual Development in the Human Fetus, Infant, and Young Child. *Newborn and Infant Nursing Reviews*. 2008 Dec;8(4):194-201.
17. Gunjan Saluja SGP, Ujwala S Saboo,. Visual Acuity Assessment in Children [Internet]. American Academy of Ophthalmology; 2023 [updated 2024 Feb 04; cited 2024 Feb 20]. Available from: https://eyewiki.org/Visual_Acuity_Assessment_in_Children.
18. Sharma A. CH, and Sanctuary A. Mary Sheridan's from birth to five years: Children's developmental progress (Fifth edition). New York: Routledge; 2022.
19. Burton MJ, Ramke J, Marques AP, Bourne RRA, Congdon N, Jones I, et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. *The Lancet Global Health*. 2021;9(4):e489-e551.
20. Kruske S, Donovan, J. Healthy Under Five Kids Program: Education Package. Darwin: Charles Darwin University and NT Department of Health and Families, 2009. Available from: https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjAzb3mj9-EAxXesFYBHbYTCFwQFnoECBIQAQ&url=https%3A%2F%2Fdigitallibrary.health.nt.gov.au%2Fprodjspui%2Fbitstream%2F10137%2F424%2F3%2FHealth%2520Kids%2520Under%25205.pdf&usq=AOvVaw2BugOaNSvjDBnEZ_uMHg4x&opi=89978449.
21. Christian CW, Levin AV, Council On Child A, Neglect, Section On O, American Association Of Certified O, et al. The Eye Examination in the Evaluation of Child Abuse. *Pediatrics*. 2018 Aug;142(2):e20181411.
22. Di Fazio N, Delogu G, Morena D, Cipolloni L, Scopetti M, Mazzilli S, et al. New Insights into the Diagnosis and Age Determination of Retinal Hemorrhages from Abusive Head Trauma: A Systematic Review. *Diagnostics (Basel)*. 2023 May 12;13(10):1722.
23. Jullien S. Vision screening in newborns and early childhood. *BMC Pediatrics*. 2021;21(1):1-12.
24. Lazarus R. Vision Development and Milestones [Internet]. Canada: Optometrists Network; 2020 [updated 2020 May 04; cited 2024 Feb 21]. Available

from: <https://www.optometrists.org/childrens-vision/guide-to-visual-development/guide-to-vision-development/>.

25. American Academy of Ophthalmology. Vision Development: Newborn to 12 Months [Internet]. 2023 [updated 2022 Feb 01; cited 2024 Feb 07]. Available from: <https://www.aao.org/eye-health/tips-prevention/baby-vision-development-first-year>.

26. American Optometric Association. Infant Vision: Birth to 24 Months of Age [Internet]. [cited 2024 Feb 07]. Available from: <https://www.aoa.org/healthy-eyes/eye-health-for-life/infant-vision?sso=y>.

27. National Eye Institute. Coloboma [Internet]. [updated 2023 Nov 15; cited 2024 Feb 28]. Available from: <https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/coloboma#:~:text=Coloboma%20is%20an%20eye%20condition,the%20most%20of%20their%20vision>.

28. Child and Adolescent Health Service. Retinopathy of Prematurity [Internet]. Perth2019 [updated 2021 June 18; cited 2024 Feb 27]. Available from: <https://cahs.health.wa.gov.au/Our-services/Neonatology/Resources/Library/Retinopathy-of-prematurity#:~:text=At%20King%20Edward%20Memorial%20Hospital,film%20does%20in%20a%20camera>.

Related internal policies, procedures and guidelines
The following documents can be accessed in the CACH Clinical Nursing Policy Manual HealthPoint link or CACH Clinical Nursing Policy Internet link
Clinical Handover - Nursing
Corneal light reflex test
Cover Test
Distance vision testing (Lea Symbols Chart)
Factors impacting on child health and development
Red Eye Reflex
Universal contact 0-14, 8 weeks, 4 months, 12 months, 2 years, School Health Entry Health Assessment
Universal plus – Child Health, Universal Plus - School Health
The following documents can be accessed in the WACHS Policy Manual
Consent for Sharing of Information: Child 0-17 years Procedure - Population Health

Enhanced Child Health Schedule
Health Record Management
Home and Community Visits in Remote Community Setting
Open Disclosure
Work Health and Safety Policy
The following documents can be accessed in the CAHS Policy Manual
Child and Family Centred Care
Child Safety and Protection
Communicating for Safety
Confidentiality, Disclosure and Transmission of Health Information
Work Health and Safety

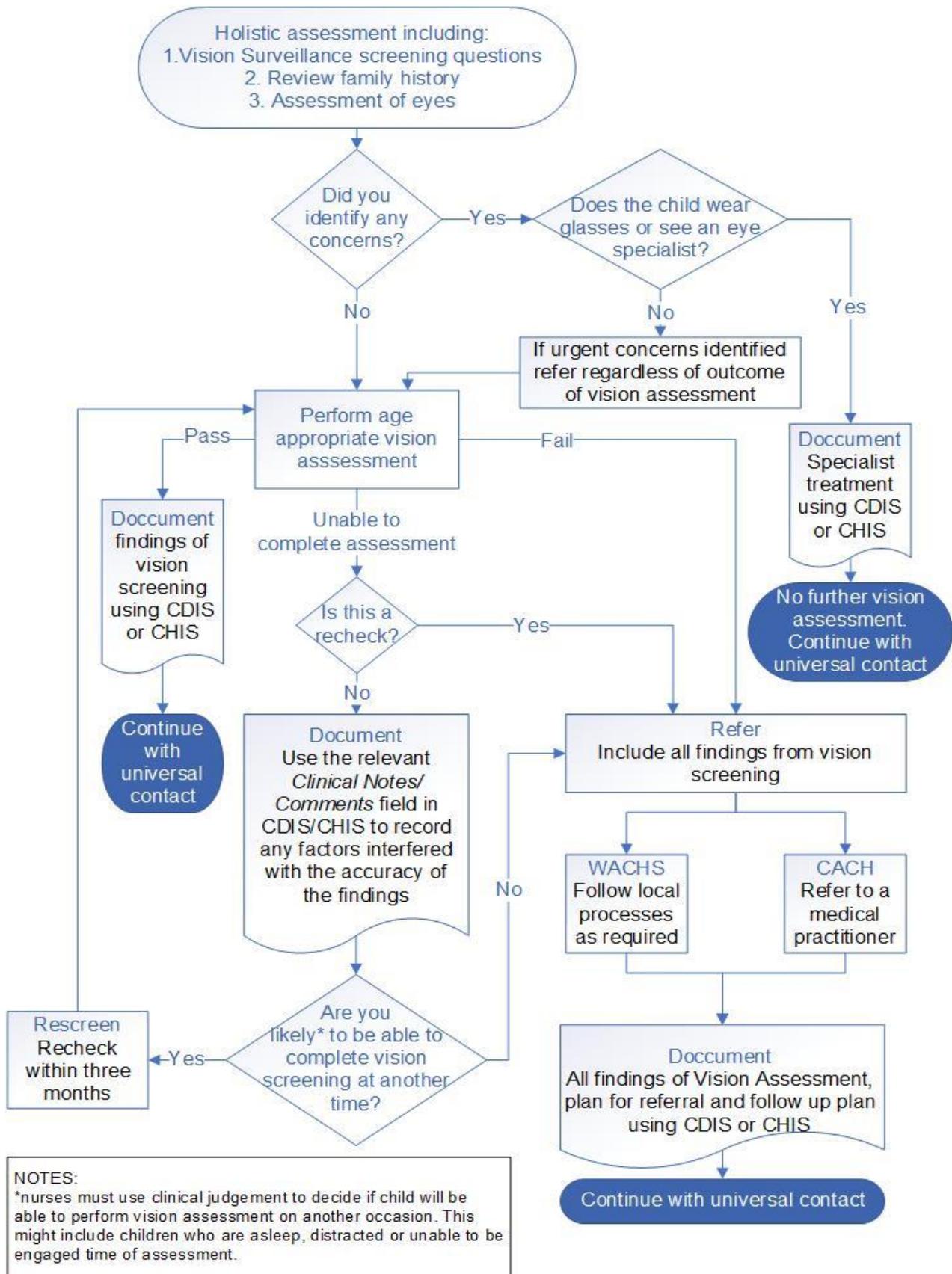
Related external legislation, statewide mandatory policies, and
Clinical Handover Policy
Clinical Incident Management Policy

Related resources to assist service provision to Aboriginal clients
The resources below can be accessed on CAHS-Aboriginal Health page via HealthPoint
Cultural Information Directory
Effective and appropriate communication with Aboriginal people
Keeping our Mob healthy: Strabismus, Trachoma
The following resource can be accessed from WACHS Aboriginal Resources
WA Aboriginal Health and Wellbeing Framework 2015–2030
WACHS Aboriginal Health Strategy 2019-2024

Useful external resources (including related forms)
Raising Children Network: Lazy Eye or amblyopia , Blocked Tear Duct , Cleaning baby eyes, ears and noses , Colour Blindness , Conjunctivitis , Lazy eye , Long

[sightedness](#), [Ophthalmologist](#), [Optometrist](#), [Orthoptist](#), [Short sightedness](#), [Squint](#),
[Stye](#), [Vision Impairment](#)

Appendix A: Universal Vision Screening Pathway



Appendix B: Vision and eye conditions not screened for by community nurses in Western Australia

Table 5: Vision and Eye Disorder not screened for in Western Australia

DISORDER AND DESCRIPTION	MAIN CAUSE	SIGNS AND SYMPTOMS (Including concerns expressed by families, school staff or child)	NEXT STEPS
<p>Colour vision deficiency (colour blindness) ¹⁵</p> <p>One or more of the types of retinal colour cone cells are absent, not working, or detecting a different colour than normal.</p>	<ul style="list-style-type: none"> Genetics, affecting 5 to 10% of all males, and rarely females. Eye injury or disease. 	<ul style="list-style-type: none"> Unable to identify colours, and sort by colour. Uses the wrong colours for object – e.g., purple leaves on trees. 	<ul style="list-style-type: none"> Refer to local CACH/WACHS referral pathway. See Useful External Resources for additional info.
<p>Coloboma ²⁷</p> <p>A part of the tissues in the eye is missing (can affect any part of the eye).</p>	<ul style="list-style-type: none"> Genetic. Environmental factors (such as exposure to alcohol in utero). 	<ul style="list-style-type: none"> Vision Loss or Blindness. Low Vision. Sensitivity to light. 	<ul style="list-style-type: none"> Refer to local CACH/WACHS referral pathway. See Useful External Resources for additional info.
<p>Conjunctivitis ^{2, 4}</p> <p>A common eye infection causing inflammation of the conjunctiva. Most common in children under 7 years of age.</p>	<ul style="list-style-type: none"> Bacterial or viral infections. Allergic reactions. Exposure to smoke or fumes. 	<ul style="list-style-type: none"> Red or pink eye (one or both). Swollen, puffy eyelid. Yellow/green discharge around the eyelids. Itchiness and eye rubbing. 	<ul style="list-style-type: none"> Refer to local CACH/WACHS referral pathway. See Useful External Resources for additional information.
<p>Hyperopia (Long sighted) ⁴</p> <p>A focussing disorder that occurs when the eye does</p>	<ul style="list-style-type: none"> Family history. 	<ul style="list-style-type: none"> Blurry vision. Eyestrain. Squinting. 	<ul style="list-style-type: none"> If concerns noted refer to local CACH/WACHS referral pathway.

DISORDER AND DESCRIPTION	MAIN CAUSE	SIGNS AND SYMPTOMS (Including concerns expressed by families, school staff or child)	NEXT STEPS
not refract (bend) light properly to a single focus.			<ul style="list-style-type: none"> • See Useful External Resources for additional information.
<p>Nasolacrimal Duct Obstruction (Blocked Tear Duct) ⁴</p> <p>Membrane persistently blocks nasolacrimal duct. It is common in infants, although 78-96% resolve on their own before 12 months of age.</p>	<ul style="list-style-type: none"> • Crusting of eye lids, eyelashes. • Pooling or overflowing of tears. 	<ul style="list-style-type: none"> • Watery eye. • Yellowish-green discharge. • Crusted mucus on eyelashes. • Frequent eye infections. 	<ul style="list-style-type: none"> • If concerns noted, refer to local CACH/WACHS referral pathway. • See Useful External Resources for additional information.
<p>Nystagmus¹</p> <p>Rapid, involuntary eye movements in one or both eyes.</p>	<ul style="list-style-type: none"> • Congenital anomalies. • Eye Trauma. • Infection. 	<ul style="list-style-type: none"> • Blurred vision. • Abnormal head posture. 	<ul style="list-style-type: none"> • If concerns noted, refer to local CACH/WACHS referral pathway.
<p>Ptosis (Drooping eye) ⁴</p> <p>The drooping of the upper eyelid due to underdeveloped/weak levator muscle.</p>	<ul style="list-style-type: none"> • Muscular disease. • Eyelid tumours. • Refractive errors. 	<ul style="list-style-type: none"> • Abnormal head posture. • Drooping of one or both eyelids. • Abnormal eye movements. 	<ul style="list-style-type: none"> • If concerns noted, refer to local CACH/WACHS referral pathway.
<p>Retinopathy of Prematurity (ROP) <small>2, 4, 28</small></p> <p>Abnormal development of retinal blood vessels after birth</p>	<ul style="list-style-type: none"> • Birthweight less than 1250g. • Premature birth at less than 31 weeks. 	<ul style="list-style-type: none"> • None – only detected by an ophthalmologic examination. 	<ul style="list-style-type: none"> • All babies under 31 weeks and all babies born <1250g will be screened at four weeks of age (but not before 31 weeks)

DISORDER AND DESCRIPTION	MAIN CAUSE	SIGNS AND SYMPTOMS <small>(Including concerns expressed by families, school staff or child)</small>	NEXT STEPS
in some premature infants.			corrected gestation).
<p>Trachoma^{2, 10}</p> <p>Highly infectious disease of the eye, which can result in scarring, blindness and turned in eye lashes if left untreated.</p>	<ul style="list-style-type: none"> Chlamydia trachomatis infection. 	<ul style="list-style-type: none"> Mild itching and irritation. Mucus or pus. Eyelid swelling. 	<ul style="list-style-type: none"> Refer child to local Aboriginal Medical Service or medical practitioner. Public Health Units provide screening for Trachoma in specific WACHS regions.

This document can be made available in alternative formats on request.

Document Owner:	Nurse Director, Community Health		
Reviewer / Team:	Clinical Nursing Policy Team		
Date First Issued:	December 2014	Last Reviewed:	March 2024
Amendment Dates:		Next Review Date:	March 2027
Approved by:	Community Health Clinical Nursing Policy Governance Group	Date:	22 nd March 2024
Endorsed by:	Executive Director, Community Health	Date:	5 th April 2024
Aboriginal Impact Statement and Declaration (ISD)		Date ISD approved:	1 st February 2024
Standards Applicable:	NSQHS Standards:  Child Safe Standards: 1, 2, 3, 4, 7, 9, 10		

Printed or personally saved electronic copies of this document are considered uncontrolled



Healthy kids, healthy communities

Compassion
Excellence
Collaboration
Accountability
Equity
Respect

Neonatology | Community Health | Mental Health | Perth Children's Hospital