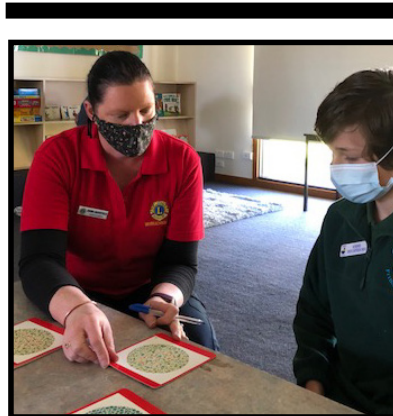




LEHP-Australia
Lions Eye Health Program



CHILDREN'S VISION SCREENING SCREENER MANUAL



LEHP - Australia
1800 010 234 lehp.org.au



Proudly Supported by:
Centre for Eye Health

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The LEHP children's vision screening program is for screening purposes only.

It is critical that persons undergoing screening and/or their parents or guardians understand that this is NOT a substitute for a comprehensive eye examination.

It aims to identify '*common vision problems*' and make a referral to an Optometrist or Ophthalmologist when required.

Vision screening and the spot vision screener is indicated for use by LEHP accredited screeners, healthcare professionals or under the guidance of a healthcare professional to screen or evaluate individuals for potential refractive errors associated with poor vision.

Lion volunteers and/or partners must adhere to all policy and procedures set out by LEHP-Australia in this manual.

The Importance of Eye Screening

Eye disorders are one of the most common long-term health conditions suffered by children. **1 in 5** Australian children have an undetected vision problem.

According to educational experts, as much as 80% of learning comes from the eyes. If a child can't see clearly it can have a profound effect on their social and educational development.

Most children will accept vision problems and adapt to their poor sight. They rarely complain as they believe everyone sees the world like they do. Identifying and correcting issues early is paramount to a child's ongoing development. Some common conditions can also become more difficult to treat as the child gets older.

When to get Screened?

The Australian age-by-age recommendations for eye testing are as follows:

Newborns: An eye examination is essential to detect any abnormality.

6-8 weeks: Infants should be fixing and following their parents' faces as a guide, and eye movements should be normal. Turned or crossed eyes require immediate examination by a GP, paediatrician, optometrist or ophthalmologist.

Preschool-aged children: Eye screening or examination is critical for this age group for the detection of lazy eye or other causes of poor vision. Without testing these conditions are often undetected as there are few outward signs or symptoms.

Optometry Australia recommends that children should have a full eye examination before starting school and regularly as they progress through primary and secondary school.

School-aged children: In particular, if a child has ongoing problems with reading, concentrating on near tasks, complains of difficulty seeing the board or watching TV, headaches or sore or tired eyes - an examination by an optometrist is required.

Medicare rebates cover part or the entire fee for regular eye examinations for Australians of all ages.

What screenings are performed by LEHP?

1. **Visual Acuity** - using a Lea 3m - 15 line Symbol Chart
2. **Colour Vision** - using a Quick 6 - Basic Colour Screening Book
3. **Depth Perception** - using a Stereo Fly Screening Tool
4. **Spot Vision Screener** - designed to screen for the following common vision problems:
 - Myopia (near sightedness)
 - Hyperopia (far sightedness)
 - Astigmatism (blurred vision)
 - Anisometropia (unequal refractive power)
 - Binocular Vision - Gaze - (eye misalignment)
 - Anisocoria (unequal pupil size)

Screening is not a diagnosis but an indication that one of these conditions may be present and if so a complete eye examination by an eye health professional is strongly recommended.

The Role of the Screener

The LEHP Vision Screener is responsible for competently implementing the 4 screening stations and recording the children's results onto their individual results slip. A general understanding of the processes and paperwork involved is also required.

Qualifications

- Complete online screening course
- Complete 'hands on' workshop
- Complete 'practical' screening session (under the guidance of a LEHP Instructor).
- Hold a valid 'working with children' certificate/card or equivalent.

Responsibilities

- To work with a team of screeners.
- To manage children on the day of screening.
- To conduct screening station tasks.
- To record results of screening activities on individual result slips.
- To act in an appropriate manner.
- To advise the Facilitator of inability to attend a screening session.

What to Wear and Bring Along

- Club or Lions shirt with name tag
- Screener ID Badge
- Proof of 'working with children' check/card or equivalent
- Valid photo identification card (e.g. driver licence) to positively confirm identity of person where photo not displayed on holder's working with children card.

Interacting with Screening Participants

- Make it fun! Smile at the child to make them feel comfortable.
- Ensure the child being examined is aware it is not a test.
- Never touch the child or be alone with a child in a room or location that is isolated from view of the other vision screeners.
- Tell the child that there are no wrong answers.
- Don't have too many children lined up at one time.
- Do not show frustration if a child is not cooperating. Pass them onto the next station or try an alternate screener.
- Always tell the child they "did a great job".
- Give clear instructions as to what the screening is doing (e.g. it works a bit like a camera to see if your eyes are working well, it is quick, it doesn't hurt and you can't get anything wrong).
- If you give out stickers to a child hand it to them so they can place it on them-self.
- Ensure the children do not exchange result slips with others during screening.
- If it seems that the instructions are not being understood, try explaining them in a different way.
- When a result is not possible, identify on the Individual Results Letter to parent/guardian that a visit to the Optometrist is recommended.



Visual Acuity Lea Chart

Screening Instructions



Purpose

To determine how sharp vision is at longer distances? This is called distance visual acuity.

Set Up

- 2 volunteers are required per Lea Chart station.
- Find a space on a wall, door or white board to hang the Lea Chart.
- Place a mark on the floor 3 metres from the chart.
- The centre of chart is to be at head height for the average child being screened.
- The room requires good lighting, however watch for reflections on the chart.
- If a child is easily distracted, and to avoid children memorising or copying answers, it is best to perform the screening without other children nearby.

Method

- With **both** eyes open, start with the largest symbols on the top line of the chart to give the child some confidence and to determine what the child calls each symbol (e.g. heart or apple). You can use the shapes card for a child to point out the shape, especially if they are shy or unsure about talking.
- Screen the top two lines in this way. Rather than using a finger, hold a pointing device, large knitting needle or a dark thick pen for example, directly above or below the symbol. Your pointer should not cover symbols but be clear which symbol is being pointed to.
- Cover **one** eye, the child may hold their hand over the eye but be aware of the child peeking through fingers. If available hold an occluder, or something similar over the eye.
- From the third line test two symbols each line for the next four lines down, then check 5 symbols for the next two lines ending on the 6/12 line which is 10mm high (there is no need to go to smaller symbols below this line).
- Move the cover over the other eye and repeat the step immediately above.
- Mark child's Individual Results Slip with the agreed symbol to signify the test results as being either 'completed successfully' or 'requires a referral'.

Refer if child misses 1 of the 10mm (6/12) symbols with either eye.

Tips

- For younger children especially, one volunteer should point at the chart and one should stand with the child to assess their answers.
- A child may call a shape by a different name, i.e. servo instead of circle. As long as they consistently identify the shape, whatever the name they use, this is acceptable.
- If a child does not know the names of shapes, or is shy or unsure of talking, use the shapes card provided in the kit for them to point out the matching shape.
- The kit provides two Lea charts, both of which can be run at two separate stations for occasions when screening large groups or to clear a backlog waiting to complete the Lea Chart screening. However, it will be necessary to have an additional two volunteers available at the time to work the additional Lea Chart station.



Explanation of Result when a Referral is Required - Visual Acuity

“When the symbols become smaller as you progress down the chart you seem to have a little difficulty seeing them. It's important to find out why. I will suggest to your parents that you visit an optometrist. They are experts at finding out why and also finding ways to help, if its needed.”

Colour Vision Screening

Screening Instructions



Purpose

To determine if the child perceives colours as most people do?

Set Up

- Cotton bud applicators to be supplied for use by those participants needing to trace out the number of the card.
- One volunteer is sufficient to manage this station.
- Screener to be seated 1 metre in front of or alongside of child.
- The room requires good lighting, however watch for glare on the cards.
- Colour screening can be conducted in the same room as the other screening stations.

Method

- Explain this activity by saying “we are looking to identify the hidden numbers on these cards”.
- The cards are to be individually shown in order starting with **Demo** and then from **1 to 7**.
- With children having both eyes open, show each card in turn and ask what number can be seen.
- If a child is not confident with their numbers, each digit can be read singularly (i.e. ‘1’ and ‘6’ rather than 16), or if necessary, each number can be traced using a cotton bud applicator.
- **DO NOT** allow the use of a finger, end of pen or a stick to trace numbers as this can damage the cards.
- If a child reads a number incorrectly, or cannot trace it, place that card aside and continue showing each of the remaining cards before returning and reshowing any card/s where the number could not be correctly identified or traced on the first attempt.
- Mark child’s Individual Results Slip with the agreed symbol to signify the test result as being either ‘completed successfully’ or ‘requires a referral’.

Refer if a child answers 2 or more cards incorrectly.

Correct answers for the cards when shown in the correct order are: 16, 2, 42, 74, 15, 5, 7 & 35.

Note: Card 8 - basic colour chart, is not required. This card tests for a blue yellow loss, rare in the absence of eye disease.

Tips

- It is preferable to be seated away from other children as well-meaning friends will sometimes call out a number if a child appears to be struggling.
- If there is no response to the first/demo card plate the answer can be shown, to give the child an idea of what is required.
- The plates can be hole punched and contained in an A5 ring binder to make it easier to flip them in order and keep them clean.
- Cleaning cards with a light cloth will stop film forming on them from being handled.
- Avoid using the term ‘colour blind’. Colour blindness is a bad expression. Everyone sees colours, some just see colours differently.

Explanation of Result when a Referral is Required - Colour Vision

“You seem to perceive colours differently to most people.”

Note: The colour gene is carried in the ‘X’ chromosome. Boys have a one in ten chance of colour vision disorder, whilst girls have a one in a hundred chance. Boys have one ‘X’ chromosome whilst girls have two. For girls to experience colour vision loss, both ‘X’ chromosomes need to be affected.

One of the charts will define if the loss is red based (protanomaly) or green based (deuteranomaly), the red based is more significant in that stop lights and brake lights can be difficult to see, it may also be difficult to work out which apples are ripe etc.

Depth Perception Fly Stereo

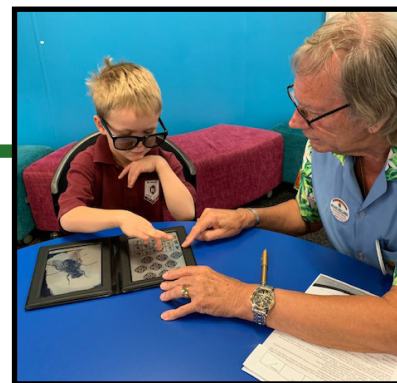
Screening Instructions

Purpose

To assess the binocular function of the eyes at near tasks. This is called stereo acuity.

Set Up

- One volunteer is sufficient to manage this station.
- Screener to be seated 1 metre in front or alongside of child.
- The room requires good lighting, however watch for glare on the book.
- Depth Perception can be conducted in the same room as the other tests.
- Place closed Stereo Fly Test book on table.



Method

- Ensure 3D glasses are wiped with an 'anti-bacterial' wipe between each child and the lenses cleaned regularly.
- Screening is conducted with child's two eyes open.
- Open the Stereo Fly Test book and ask the child to look at the fly for a few moments.
- Close the book and ask the child to put on the 3D glasses.
- Reopen the book and ask the child "does the fly look the same, or if not, what is different now that you are wearing the special glasses?". There may also be visual cues from their facial expression.
- Ask if the child can flick the wings of the fly or pick it up by the wings.
- Explain this next activity by saying "we are looking for animals which jump off the page".
- Ask the child to identify which animal, in each on the three rows, is jumping out of its box, or standing out like the fly on the other page.
- The response can be either given verbally, by pointing, trying to pick up the animal or pushing it back into the box.
- Mark child's Individual Results Slip with the agreed symbol to signify the test result as being either 'completed successfully' or 'requires a referral'.

Refer if the fly is not seen as standing out or if any of the required animals are missed on the three rows.

Correct answers are: A Cat B Rabbit C Monkey

Note: The circle chart is used to better define the extent of any stereo anomaly but is not required for our purposes.

Tips

- Avoid other nearby children observing the screening being conducted as they may be learning cues as to what is expected of them when it comes their turn.
- Some children are quite vocal about the difference they see while others may be shy or quiet.
- It is recommended that the 3D glasses are stored in a suitable case to protect them from damage during transit.

Explanation of Result when a Referral is Required - Depth Perception

"Good clarity of vision and good eye coordination are required to perceive the stereo effect. Your eyes do not seem to be working perfectly together today".

Note: Some young people find stereo a difficult concept and may miss seeing the stereo even though they have good binocularity and clarity of vision. That is why we say the word 'today' implying that on repeat the child may have "normal" stereo vision at another time and with other types of tests.

Spot Vision Screener

Screening Instructions

Purpose

To screen for abnormalities with the child's eyes. In particular; Myopia (near sightedness), Hyperopia (far sightedness), Astigmatism (blurred vision), Anisometropia (unequal refractive power), Binocular Vision (eye misalignment) and Anisocoria (unequal pupil size).

Set Up

- Ensure Spot Vision camera is fully charged prior to screening session.
- One volunteer is sufficient to manage this station.
- Find somewhere to sit or stand where the lighting is subdued – too much light makes the pupils too small to screen.
- Do a 'test run' with a trial participant to ensure that room lighting and distance from the camera are correct for a successful reading.
- Place paper footprints or a mark, using tape, on the floor where you want the participant to stand, or the participant may sit in a chair.
- Using a camera tripod does not usually help. To allow for subtle adjustments it is easier to hold the camera.
- While a location with subdued lighting is required to conduct this screening ensure that other vision screening volunteers have unrestricted view of it. Do not set up use of camera in a secluded location or area away from other volunteers.



Method

- Turn on the camera, select the appropriate age range for the child being screened.
- Ensure the front of the camera is approximately 1 metre (3.3 feet) from the participant's eyes when conducting the screening.
- Press 'Start' on bottom right-hand part of camera display and slowly raise the device upward to meet both of the child's eyes.
- Ask the child to look at the flashing lights in the camera lens.
- Adjust your distance from the subject until both eyes are clearly displayed on the screen, ensure the camera is level and squarely pointed at the child's eyes. If the camera is tilted up or down, twisted right to left, too close or too far it will be difficult to obtain a good reading.
- Once the camera has identified the eyes both the screener and participant must momentarily remain still until a successful reading has been captured. Movement by either the camera operator or subject at that time could result in a 'failed' reading.
- If the distance changes due to movement slowly rock forward or backward.
- Remember you must hold the camera at the height of the participant's eyes – do not aim the camera down to them. The camera will indicate if you are "too close" or "too far".
- Take a stance with one foot slightly forward of the other. This will aid, and assist later, if needing to move slightly forward or backward to adjust the focal distance between the camera lens and child's eyes in response to the "too close" or "too far" appearing on the camera display.
- The camera has a pupil size detector and will notify you when there is an issue with pupil size (e.g "Pupils too small" appears on screen. If this occurs adjust the light brighter to achieve smaller pupils or darker to achieve larger pupils.
- If room lighting is insufficient, ask the child to close their eyes and count to 15 before re-opening them.
- A message "Screening Complete", all test results taken by the Spot Vision Camera are within range or "Complete Eye Examination Recommended", a referral is required, will appear on the screen. Once this has occurred, save the image on the camera, with the child's ID number and first name or initials, taken from their Individual Results Slip.
- Mark the child's Individual Result Slip with the agreed symbol to signify that the test result as being either 'completed successfully' or 'requires a referral'.

Refer if a valid measurement cannot be acquired or one is prompted by the results from the camera.

All Measurements in Range



No referral required

Screening Abnormality Detected



Referral for full eye examination recommended

Tips

- Children should be kept in a darkened area prior to screening by the camera to ensure their pupils are suitably dilated.
- Small children or babies can be held by a suitable adult to get the best position for screening.
- For info on use of Spot Vision Camera, refer to:

Quick Reference Guide

- <https://www.hillrom.com/content/dam/hillrom-aem/us/en/sap-documents/LIT/80024/80024004LITPDF.pdf>

User Manual

- <https://www.hillrom.com/content/dam/hillrom-aem/us/en/sap-documents/LIT/80024/80024081LITPDF.pdf>

How to videos

- Screen a Subject https://assets.hillrom.com/is/content/hillrom/MC16213-EN-R1_Spot-Vision-Screener-Screen-a-Subject_Video-HR-2
- Export Screening Results to a Computer https://assets.hillrom.com/is/content/hillrom/MC16213-EN-R1_Spot-Vision-Screener-Export-Screening-Results-to-a-Computer_Video-HR

Explanation of Result when Referral is Required - Spot Vision Screener

Myopia (Short sighted)

“ You have no problem seeing close things, but your long distance vision could be improved. Sometimes it might be hard to read a teaching board when sitting at the back of a class.”

Hyperopia (Long sighted)

“ You see clearly but your eyes have to focus harder to see. The extra focusing can put strain on your eyes, especially at near distance, for example, when your are reading a book. The eye is a little short so the subject has to ‘zoom’ in forcibly to see.

Astigmatism

“ Your eyes are a little out of shape, this may require correcting with glasses so a further test by an optometrist is recommended.” Sometimes things may appear blurry not clear and sharp.

Anisometropia

“One eye is a little different to the other, this may require correcting with glasses so a further test is recommended. One eye may be perfectly in focus but the other needs correcting with glasses.

Binocular Vision (Gaze) e.g. Strabismus

“Your eyes are not quite parallel so a further examination by an optometrist is recommended in order to see if this is significant. Each eye has 6 muscles controlling alignment. Only one needs to be over or under-acting to create a misalignment”.

Anisocoria

“Your pupils, the holes letting light into your eyes, seem to be different sizes. There can be many reasons for this and it is probably just the special way you were born. A further examination by an optometrist is recommended.”

Recording of Results

For privacy reasons, the ID field on the Individual Results Slip will contain their first name and allocated number only. All slips will be provided by the Lions Vision Screening Facilitator.

It is important to ensure that children do not exchange Individual Result Slips during the screening activities.

As a child completes the requirements of each dedicated screening station, the Vision Screener marks their Individual Results Slips using agreed symbols to signify the screening result as being either “completed successfully” or “requires referral”.

Rather than using “tick” to indicate pass or “cross” for fail (which could cause upset for a participant), agreed symbols to be used must be decided, clearly understood and consistently used by all vision screeners e.g. asterisk, circle, triangle, hyphen, diagonal slash etc.


Upon completion Individual Results Slips are to be returned to the CVSP Reception or the facility’s representative. Results are then transcribed onto the corresponding Individual Results Letter to the Parent/Guardian.

1. Individual Result Slip

ID	Chart:	Colour:	3D Fly	Camera

2. Individual Results Letter to Parent/Guardian

These are to be completed per child, sealed in an envelope or given to the facility for distribution to parents/guardians. Information for this form is gathered from the Individual Result Slip along with the child’s pdf file downloaded from the Spot Vision Camera (if applicable).



Individual Results

Date: _____

Vision Screening Report
To the parents / guardians of _____

Your child underwent vision screening today at _____
The screening evaluates vision clarity and eye co-ordination. It is however a screening and not a complete eye examination. Comprehensive eye checks are advised at least every 2 years throughout your child’s school life.

Results
On the basis of your child’s vision screening, the current results have been categorised as:

Passed - The vision screening did not detect any problems in the areas that were assessed.



Further Assessment Required - On the basis of the results today we recommend that you arrange for your child to have a comprehensive vision examination with an optometrist. Results that were found to be outside normal limits were:

- Visual Acuity** - The sharpness of vision or ability of the eyes to distinguish the details and shapes of objects.
- Colour Vision** - Ability to identify a range of colours on differing backgrounds.
- Depth Perception** - Ability to determine distances between objects and see the world in three dimensions.
- Spot Vision Screener (a print out from the machine is provided)**
 - Myopia (near sightedness)
 - Hyperopia (far sightedness)
 - Astigmatism (blurred vision)
 - Anisometropia (unequal refractive power)
 - Binocular Vision (gaze) - (eye misalignment)
 - Anisocoria (unequal pupil size)
 - Other
 - Unreadable Result - Spot Vision Screener unable to make a satisfactory reading

Thank you for your participation in the LEHP-Australia Children’s Vision Screening Program.

3. Group Data Results

CVSP Facilitator to complete from result slips and send to LEHP National Program Manager



Appendix 6

Group Data Results

Date: _____ Location: _____
Facilitator: _____ Age Group: _____
Lions Club: _____ District: _____

All measurements in range		Total	
Complete Eye Examination Recommended	Visual Acuity	Total	
	Colour Vision	Total	
	Stereo Depth Perception	Total	
	Spot Vision Screening		
	Myopia (near sightedness)	Total	
	Hyperopia (far sightedness)	Total	
	Astigmatism (blurred vision)	Total	
	Anisometropia (unequal refractive power)	Total	
	Binocular Vision (gaze) - (eye misalignment)	Total	
	Anisocoria (unequal pupil size)	Total	
Unreadable		Total	

Summary of Results
Total Number Screened _____ Total Number Referred _____

Please send completed form to: enquiries@lehp.org.au or PO Box 433 Wahroonga NSW 2076

Answering Questions

Questions from the participant or parent/guardian regarding the screening results should be answered properly without diagnosing.

- If asked why a child needs to be referred we cannot diagnose as we are not registered health practitioners. The only thing we may say is that based on the guidelines provided with each screening station it is recommended that the child visit an optometrist for a complete eye examination.
- Do not enter into a debate on the merits of screening or the equipment used. If questioned, make it clear that it is used for vision screening purposes only and is not a comprehensive eye examination.
- Without indicating why a particular child failed the screening you may discuss the various conditions the screening detects and why they are important. Again we can NOT indicate why a child needs a referral. This is diagnosing and is beyond the scope of the vision screening conducted by the accredited Lions volunteers in accordance with the policies and procedures set out by Lions Eye Health Program Australia.
- Any advice should be limited to recommending follow up action and the explanations of particular conditions that may be discovered during the screening activities. Refer to the user manual under each particular station section for an 'Explanation of Result when a Referral is Required'.
- As the scope of the LEHP children's vision screening program is purely screening, the answer that Lions should give to any technical question raised at the screening or later is "you should ask an optometrist, medical practitioner or health care professional".
- If a qualified optometrist is in attendance at a screening they may choose to answer other questions from their own knowledge or experience.
- The LEHP Children's Eye Health brochure can be given to parents.

Photograph/Video Policy

Permission needs to be provided in writing by the school or community facility, parent/guardian or individual before any photographs or video are taken and especially published.

Please check with your Lions Vision Screening Facilitator before taking any photographs or video.

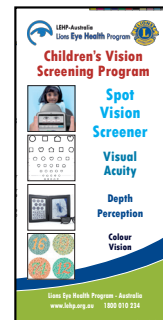
After the Screening

At the conclusion of a screening session Screeners may be required to:

- Make certain all items from the screening kit and used at the reception desk are collected.
- Return CVSP ID Badges.
- Tidy the screening room and restore it to its original configuration.
- Confirm that their details are recorded correctly and clearly on the Sign-on Sheet.
- Dispose of any rubbish and used disposable screening items.
- Check for any 'lost property' items left by participants or screeners.
- Attend a meeting to; debrief, obtain feedback regarding any issues or processes and mark the conclusion of the screening session.

Further Information

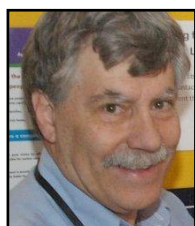
- LEHP - Australia Website - lehp.org.au
- CVSP Brochure - <https://www.lehp.org.au/assets/files/CVSP-Brochure-2021-Final.pdf>



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