



# RETINAL CAMERA TOOLKIT

## The Provision of Eye Health and Equipment Training Project

funded by the Australian Government Department of Health

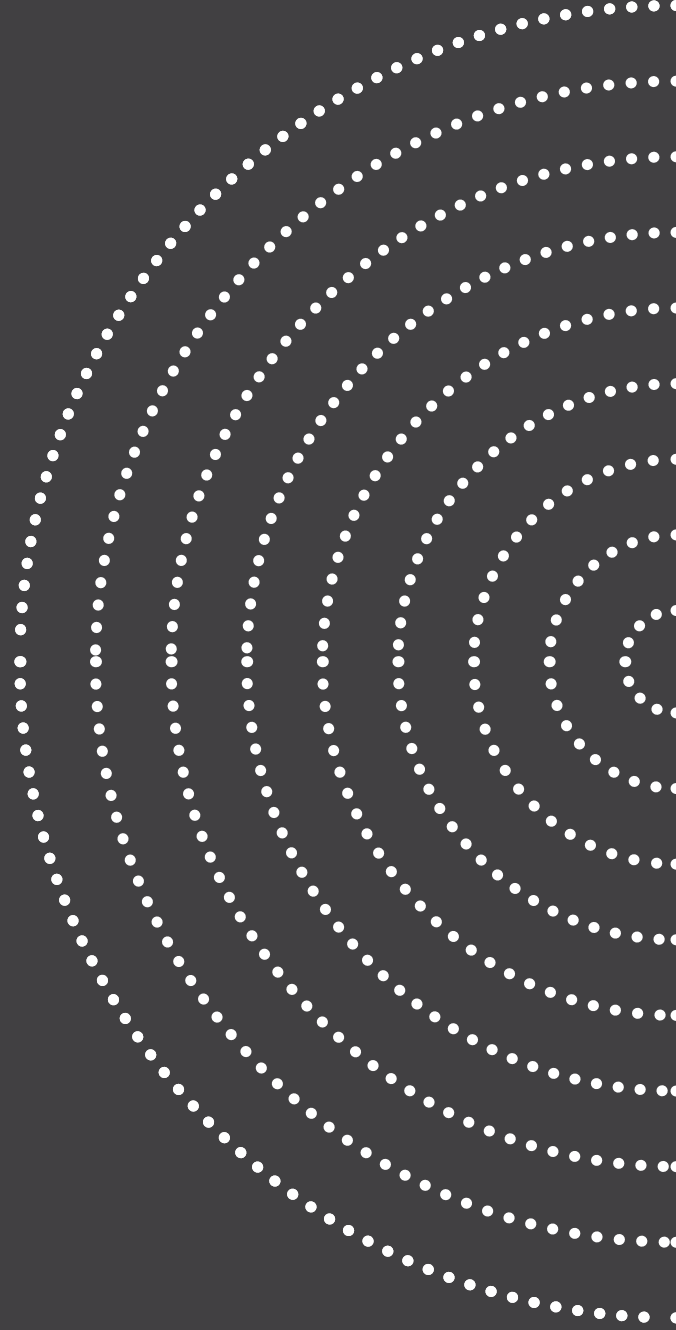
This Toolkit is designed to aid the embedding of retinal cameras into a primary health care service. Although it is designed to accompany the Canon CR-2AF camera, most of the resources are relevant for the embedding of any retinal camera.

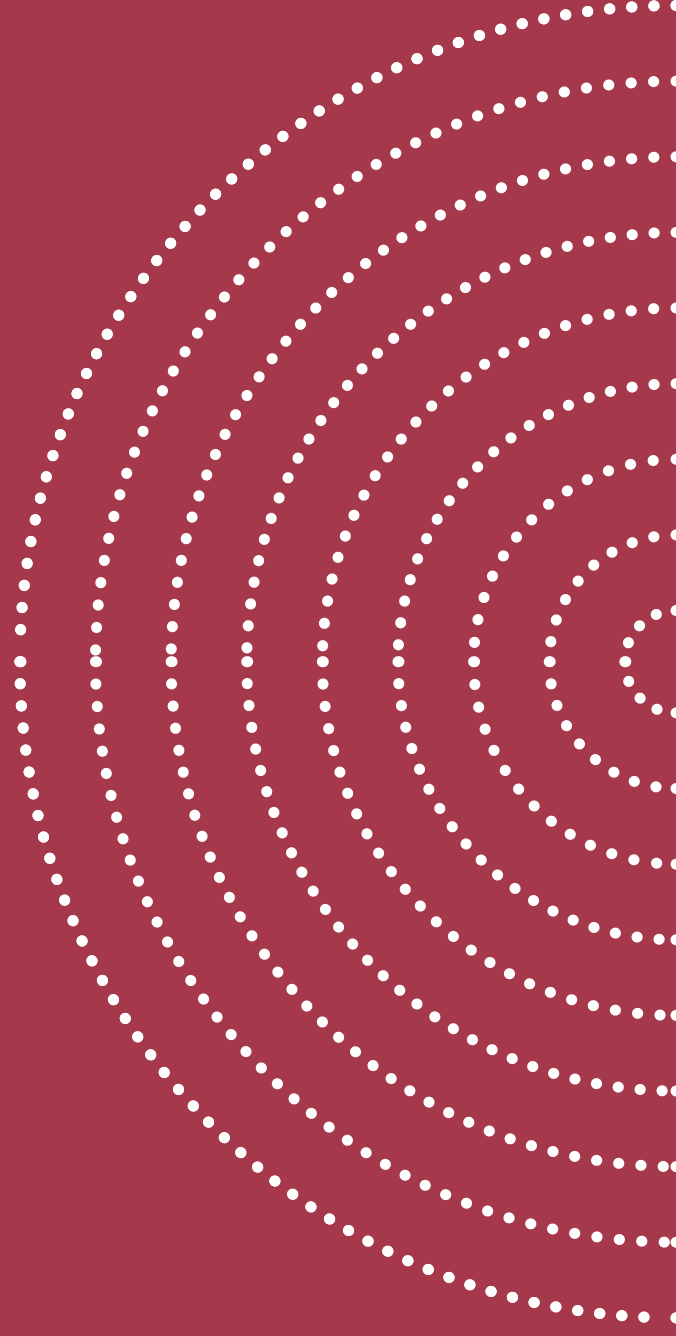


We acknowledge the traditional Aboriginal and Torres Strait Islander Custodians of the many lands that we live and work on, and their continuing connection to Country and Culture.

We pay our respects to Elders past, present and emerging.

We thank all Aboriginal and Torres Strait Islander Peoples whose participation and contribution has been key to the success of this project.



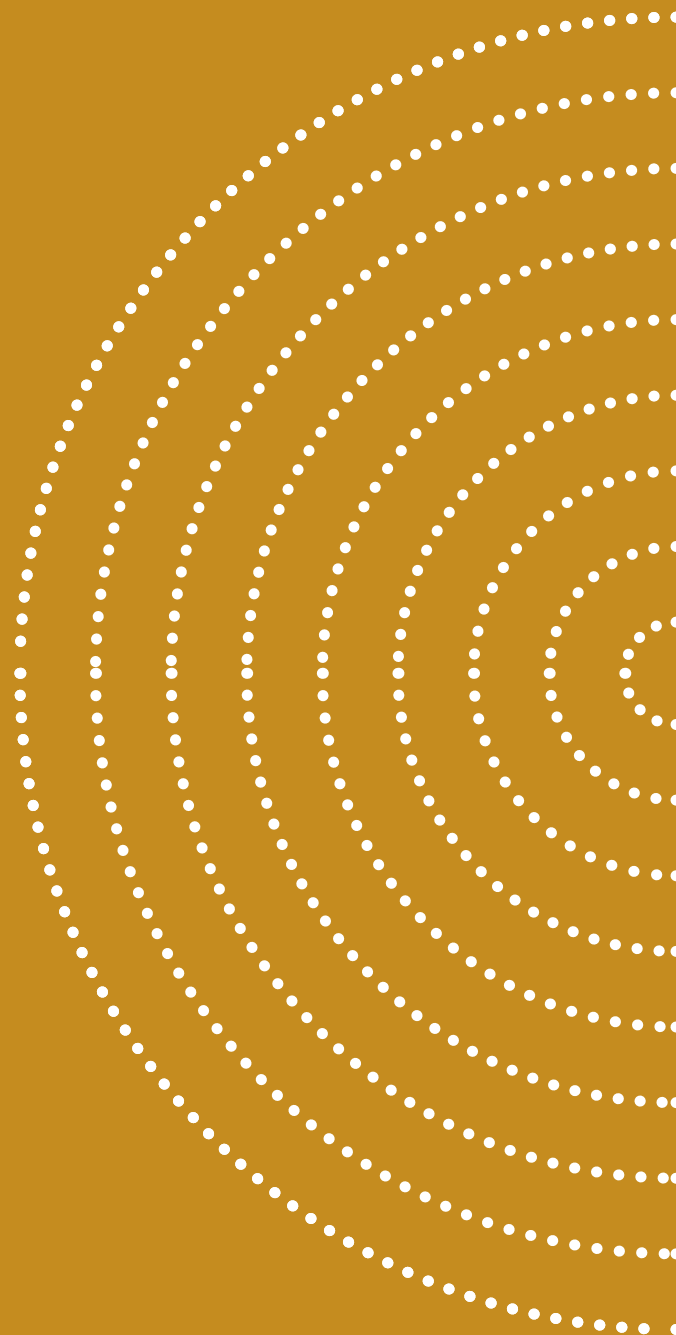


The Consortium thanks those who attended the 2018 November Embedding Workshop and all others who have contributed in the making of this Toolkit.



# RETINAL CAMERA TOOLKIT

Section 3  
Measuring  
Visual Acuity



## Distance VA

### 1. Set up

- use a well-lit 3m chart at eye-height with patient at **3m**
- if the person usually wears glasses for distance, they should leave them on

### 2. Measure

- test right (R) eye first – left (L) eye should be gently covered with their palm
- ask the patient which chart they want to use (letters or E chart)
- start with a large letter / E first and gradually move down the chart (one letter per line) until it becomes difficult or incorrect
- go across the line above the difficult or incorrect line, and keep going (ask the patient to try) until they get half or more of a line wrong
- repeat for L eye

### 3. Record

- record DISTANCE VA as the smallest line where half or more letters were seen
- measure and record for: R eye, L eye, and both eyes (binocular)
- record if it was unaided (without glasses) or aided (with glasses)

### 4. Pinhole (PH) – if VA is 6/9 or worse#

- measure VA through a pinhole occluder
- record PINHOLE VA as 'Pinhole VA [R or L]', or 'VA with PH'
- if vision improves with pinhole, the person would benefit from glasses



**REFER TO OPTOMETRIST IF: Distance VA is 6/9 or worse (or any symptoms with distance vision)**

## Near VA

### 1. Set up

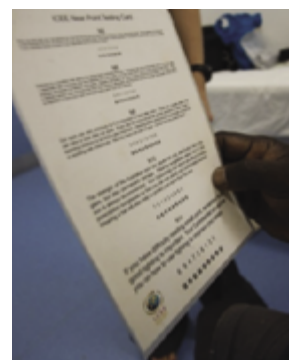
- in good light, give the patient the near point VA card to hold at their comfortable reading distance (usually around **40cm**)
- if the person usually wears glasses for near, they should put them on

### 2. Measure

- the patient keeps **both eyes open**
- starting with N6 size, ask the patient to read some words, some numbers, or indicate the direction of the Es
- if they cannot read N6, go larger (N8) until they can
- if they can read N6, go smaller (N5)

### 3. Record

- record NEAR VA as the **smallest N size print** they can see
- record if it was **unaided** (without glasses) **or aided** (with glasses)



**REFER TO OPTOMETRIST IF: Near VA is N8 or worse (or any symptoms with near vision)**

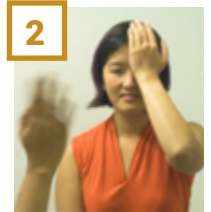
\* Please refer to CARPA Clinical Procedures Manual, Section 6: 'Eyes: Checking near and distance vision' for further information

# Note: CARPA recommends using a pinhole if not able to see 6/6

## VA worse than the top line of the chart (eg.6/60 or 6/120)

### 1. Counting fingers

- cover eye not being tested
- ask the patient to count the number of fingers you are holding up at 3m
- if they are not able to count the number of fingers at 3m:
  - come closer to 2m
  - and again to 1m if unable to see them at 2m
- record the result as CF @ # m, where # is the distance between your fingers and the patient
  - for example: Unaided R CF @ 1 m



### 2. Hand movements

- if the patient cannot count fingers, ask the patient if they can see your hand waving at 1m
- if seen, record the results as HM @ 1 m
  - for example: Unaided R HM @ 1 m

### 3. Light perception

- if the patient cannot see hand movements, shine a pen torch or equivalent into the patient's eye
  - if they are able to see the light, record as LP (light perception)
  - if they are unable to see the light, record as NLP (no light perception)

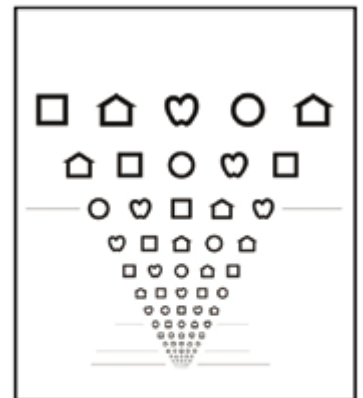
## Children's VA

### 1. Recommended variations

- use the Lea shape chart if the child does not know letters yet
- ask the child to name the shape, or point to the shape on a matching card that they hold
- cover the eye with a palm or 'pirate patch'

### 2. Handy tips

- enlist the help of parents/family members as needed
- be as quick as possible before the child loses interest 😊
- the results may be variable



### Expected vision ranges for children are:

- 3 years            6/12
- 4 years            6/9
- 5 years            6/7.5
- 6+ years          6/6



## VISUAL ACUITY TEST

### PATIENT INSTRUCTIONS

**ENSURE** that the room is set up correctly for vision testing

1. “We’re going to test your distance vision.”
2. “Please stand on this line for me.” OR “Please take a seat there for me.”
3. “Do you normally wear glasses or contact lenses for distance/far away?”
4. **If YES:** “Please put them on for me.”

Always test with their distance glasses on if they have brought them along; record this as Aided VA. If no glasses or contact lenses, record as Unaided VA.

5. “Would you like to use the letter chart or the E chart?”

If using the **letter** chart

“As I point to each letter, just call out what letter it is.”

If using the **tumbling E** chart

“See the big E right at the top? See how the 3 ‘arms’ of the E are going this way? Good. So just show me with your hands which way the 3 bars are going for each one I point to on the chart.”

6. “We will test the right eye first, so please cover your left eye with the palm of your left hand.”  
*PROCEED to test right eye, and RECORD results.*
7. “Now let’s swap around and test the left eye, so you’ll need to cover up your right eye.”  
*REPEAT process for left eye, and RECORD results.*

- IF vision is **worse than 6/60** in either eye, PROCEED to CF/HM/LP tests & RECORD.
- IF vision is **worse than 6/9** in either eye, REPEAT with a Pinhole Test & RECORD.

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