Vision Impairment Conference for Educators 2014
Early visual assessment to detect

- **Ocular pathology**
- **High refractive errors**
- **Threats to normal VA & BV development**
- **Visual impairment**

- 6 months
- 36 months
- 6 years
VA testing in infants and toddlers

- Add sound to the test object
- Size and test distance not critical in infancy
- Concerned with fixation ability only
- Use thumb occlusion
VA testing in older children

- Use parent to liaise between you and child
- Use standard examination routine
- Test both eyes first, then try for monocular VA
- Communication important
- Explain procedures
- Establish rapport
- Praise good performance
VA measurement in children

- Primary interest—principal index of ocular integrity
- Need to establish ability of child to perform test
- Demonstration and familiarisation with “key” card useful
Objective VA tests

- For the very young, need objective methods, OKN, FPL, VER
- Response from the child, the examiner makes an observation of visual behaviour
Many VA tests – the child must be old enough to understand the concept of the test and what is expected of them. If they don't understand, the results will be inaccurate.

Very important to do the test up very close to the child first and make sure they understand how to perform the particular test that you have chosen.
Selection of VA tests

- Schematic picture cards
- Stycar test
- Bead test
- Dot VA test
- Lighthouse flash card test
- Broken wheel test (BWT)
- HOTV test
- Illiterate E test
Stycar test

- Various sub-tests not many are useful today
Stycar Test

Rolling Ball test
### Rolling balls approximate VAs

<table>
<thead>
<tr>
<th>Min Obs.</th>
<th>Min sep.</th>
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<tbody>
<tr>
<td>$\frac{3}{4}$&quot; 6/12</td>
<td>6/120</td>
</tr>
<tr>
<td>$\frac{1}{2}$&quot; 6/9</td>
<td>6/72</td>
</tr>
<tr>
<td>3/8&quot; 6/6</td>
<td>6/48</td>
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<tr>
<td>$\frac{1}{4}$&quot; 6/4.5</td>
<td>6/36</td>
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<td>3/16&quot; 6/3</td>
<td>6/24</td>
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<tr>
<td>1/8&quot; 6/2.5</td>
<td>6/18</td>
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Smarties and 100s and 1000s

Chocolate smarties
Observable size correction
at 0.5m = 3/60
at 2.0m = 6/36

Hundreds and thousands
at 0.5m = 6/12
100s and 1000s VA testing
Lea-Hyvarinen (L-H) VA test
VA testing - point at the letters
Difficulties with VA testing

- Difficult to obtain accurate VA equivalents in Snellen notation
- Isolated letter or symbol presentation masks amblyopia
- Moving targets easier to see than stationary target
Difficulties with VA testing

• “Point-at-the-card” condition more difficult than verbalisation

• A 6m test distance significantly more difficult than 3 m

• VA measures not equivalent across different charts; record chart used
Children's near VA tests

- Maclure near test
- L-H near test
- Thomas the tank engine test
Practical implications

- VA will be < 6/18 (low vision)
- Student must sit to the front of the classroom, provides a relative magnification.
- Use of high contrast material
- Avoid glare
- Reduce clutter, crowding of material
Practical implications

• Need more time to complete the task
• Need to consider visual field defects if present
• Near working distances will be very close ie approx 10 to 20cm
Any Questions?