Lea SYMBOLS® Single Symbol Book

The S*ingle Symbol Book* is used if the child/adult cannot perform in testing with line tests. It is also used if one wants to determine what is the smallest size of optotypes recognised by a child/adult with amblyopia or impaired vision.

Instructions

- Establish a method of communication such as naming (signing) or pointing (matching). Decide with the child which names will be used to identify the symbols. When needed, train with the *Lea Puzzle* (#251600), *Response Key Card* (#251700), or *Flash Cards* (#251800).
- If only two out of four symbols are identified correctly, show one of the symbols a second time to give a fifth choice. The visual acuity threshold is defined as the level (smallest symbol size) at which the child can correctly identify at least three out of five symbols.
- If the child/adult correctly identifies two of the five symbols, report visual acuity as that of the previous larger symbol size. To get more information for follow-up examinations, write down (+2) after the visual acuity value to record that two symbols were identified correctly in the next smaller size. For example, "20/32(+2)" indicates the child/adult passed the 20/32 line and also correctly named two 20/25 symbols.
- When testing visually impaired children /adults, the test is often used as a single symbol near vision test instead of the *Lea Symbols Domino* or *Playing Cards*.

Testing at Different Distances:

If the test is used at a distance other than the usual 3 meters (10 feet), measure and record the viewing distance and the symbol size (the value M).

$$VA = \frac{\text{Viewing Distance Used (meters)}}{\text{M-value}}$$

OR

$$VA = \frac{\text{Viewing Distance Used (meters or feet)}}{\text{3 meters (10 feet)}} \times \text{VA value for 3 meters (10 feet)}$$

Examples:

If the viewing distance used was 6 feet (180 cm) and the smallest optotypes correctly recognized were on line 20/50 (0.4).

$$VA = \frac{6 \text{ feet}}{10 \text{ feet}} \times \frac{20}{50} = \frac{6 \times 2/5}{10} = \frac{12/5}{10} = \frac{12}{50} = \frac{12/1.2}{50/1.2} = \frac{10}{42} \approx \frac{20}{80}$$

OR

$$VA = \frac{1.8 \text{ m}}{3 \text{ m}} \times 0.4 = \frac{1.8 \times 0.4}{3} = 0.24$$

Note that it is incorrect to report ' V.A. 20/25 at 5 feet' if the child could read the 20/25 (10/12.5)-line (3.8M line) at 5 feet. Visual acuity is in that case: 5'/10' x 20/25 = 1/2 x 20/25 = 20/50. (When using the British notation: 6/9 line at 150cm equals: 1.5m/3m x 6/9 = 1/2 x 6/9 = 6/18. When using the decimal notation 0.8 line at 1.5m equals 1.5m/3m x 0.8 = 1/2 x 0.8 = 0.4)

When the distance is one half (or one third) of the standard distance, the visual acuity value is also one half (one third) of the value printed next to that line.

If you do not want to do the calculations, report the result as M-unit value, i.e. in the previous case 3.8M at 5 feet (1.5m). Visual acuity is easy to calculate based on these values:

$$VA = \frac{1.5 \text{ m}}{3.8 \text{ m}} = 0.4 = \frac{40}{100} = \frac{20}{50}$$

The calculation is based on metric measurements. The corresponding visual acuity values in the American and in the British notation you most often find also on the visual acuity chart. If the exactly corresponding value is not printed on the chart, calculate it as follows: For example 0.07= 7/100= [7x3/100x3]=21/300 or 20/300; or for the British notation: 0.07=7/100=6/86 (6x100/7=86).

You multiply both the numerator and the denominator with the number that makes the numerator equal or closely equal to 20 or 6.