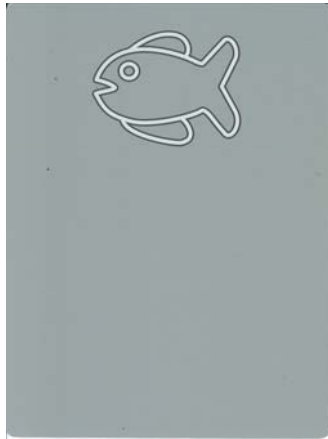


CARDIFF PEDIATRIC CONTRAST TEST



Sample Card shows 6 %
Contrast level

This test is designed for contrast sensitivity measurement in toddlers and young children, and in older children or adults with intellectual impairment.

THE VALUE OF CONTRAST SENSITIVITY

Contrast sensitivity is the ability of the visual system to detect large but faint targets. There are some pathological conditions that reduce contrast sensitivity without impairing visual acuity, and the test will help in the identification of these conditions. However, reduced contrast sensitivity and reduced visual acuity often occur together, so that some (by no means all) children with visual impairment also have reduced contrast sensitivity. Tests for the two functions are therefore complementary and obtaining a measure of both will give a fuller description of visual deficits than will one alone.

A child with visual impairment who retains good contrast sensitivity will benefit from enlargement of tasks – he or she sees large faint objects well. A child with an equivalent acuity but with reduced contrast sensitivity has a much more severe impairment, and will not get the same benefit from enlargement. Large objects as well as small objects are difficult to see. So a measurement of contrast sensitivity can help determine appropriate management of a child's impairment.

Treatment for visual deficits (including amblyopia therapies) can result in improved contrast

sensitivity sometimes in the absence of increased visual acuity. Contrast sensitivity can therefore be an essential tool in monitoring therapies. Some progressive eye conditions will result in changes in contrast sensitivity, so that monitoring contrast sensitivity alongside visual acuity (and other visual functions) may be essential in determining progress of the condition.

THE TARGETS

Like its 'sister' test, the Cardiff Acuity Test, the Cardiff Contrast Test uses vanishing optotypes. The targets are drawn with a light band bordered by two darker bands, each of half the width of the light band, all on a neutral grey background; thus the average luminance of the target is equal to that of the grey background. If the target lies beyond the subject's contrast limit, it merges with the grey background, and simply becomes invisible.

Card	Picture	Contrast (%)	Contrast Sensitivity
A	House	46	2.17
B	Train	32	3.13
C	Boat	22	4.55
D	Duck	16	6.25
E	Train	12	8.33
F	Car	8	12.5
G	Fish	6	16.67
H	Boat	4	25
I	Duck	3	33.33
J	House	2	50
K	Car	1.5	66.66
L	Train	1	100

The targets employed by the test are pictures, all of the same overall size, but decreasing in contrast between the light and dark bands. The contrast sensitivity is given by the faintest bands for which the target is visible.

The test covers 12 Contrast levels using three Cards at each per level (36 cards total) using the preferential looking technique. These contrast levels start at 46% and decrease to 1 % which equates to Sensitivity levels from 2.17 to 100.

When the Cardiff Contrast Test is carried out at a distance of 50 cm the targets represent 1.9 cycles per degree (or 6/90, 20/300) and at a distance of 1 m the targets represent 3.8 cycles per degree (or 6/45, 20/150). At a distance of 25 cm the targets represent 1.0 cycle per degree (or 6/180, 20/600).

Results from the test are presented in a manner that is consistent with scoring of the Pelli-Robson Contrast Test for adults.



Butterfly occluding glasses are included with each Cardiff Test Contrast Sensitivity set.

Clinical trials of the testing at Cardiff University are being reviewed for publication.

Developed by:



4746R Cardiff Pediatric Contrast Sensitivity Test with occluding glasses