OMICS Group Conferences
Accelerating Scientific Discovery
3rd International Conference on
Clinical & Experimental Ophthalmology
April 15-17, 2013 Hilton Chicago/Northbrook, USA

# Why is it important to use both optotype and grating tests at full and low contrast levels in the assessment of visual functioning in infants and children within the framework of ICF-CY?

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## Abstract

In infants only a few clinical tests can be used for assessment of form perception: low contrast pictures of faces (Hiding Heidi test) for measurement of communication distances, detection of gratings (Teller Acuity Test, LEA GRATINGS), figure-in-motion (Pepi-test) and small objects at low and high contrast.

If a child can match forms, it is possible to measure optotype acuity with single optotypes, optotypes in standard line tests and more crowded line tests printed at full and low contrast levels.

If a child can define the direction of grating lines and describe whether the lines are straight or tangled in the middle, grating acuity can be measured at full and low contrast levels.

Both measurements result in a contrast sensitivity curve. The curve based on optotype acuity tests differs from the curve based on grating acuity tests and from the values based on detection tests in nearly all cases of impaired or atypical vision.

Since we use recognition of details and detection and discrimination of line structures in our environment, both types of tests are necessary for understanding the structure of the images used by children. Since recognition of forms is different from discrimination of line directions, grating acuity values should not be converted to optotype acuity values, which is now common when using the Teller Acuity Test.

## Biography

Lea Hyvärinen gave the first version of the LEA test in 1976. She is a Finnish pediatric ophthalmologist. Lea Hyvärinen completed her thesis on fluorescein angiography and helped start the first clinical laboratory in that area while serving as a fellow at the Wilmer Eye Institute of John Hopkins Hospital in 1967. During her time with the Wilmer Institute, she became interested in vision rehabilitation and assessment and has been working in that field since the 1970s, training rehabilitation teams, designing new visual assessment devices, and teaching. The first test within the LEA Vision Test System that Hyvarinen created was the classic LEA Symbols Test followed shortly by the LEA Numbers Test which was used in comparison studies within the field of occupational medicine.