

# JT News

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\*\*\*\*Volunteers needed for infant  
eye development research

DALLAS--Babies, babies, babies. They are fascinated by looking, touching and tasting. An infant's curiosity about the world is a delight to watch; however, sensory development is complex, and the potential for abnormality is great at certain times. Researchers at The University of Texas Health Science Center at Dallas say these developmental processes need to be more clearly documented to understand possible problems. They have begun studies on infant visual development and need more volunteers.

Previous research has shown that dramatic changes in visual development occur during the first year of life. These changes are very prominent in the area of visual acuity. Visual acuity is another name for the degree of keenness or sharpness of vision, and the proportion "20/20" refers to normal visual acuity.

Dr. Richard Srebro, associate professor of ophthalmology at U.T. Southwestern Medical School, and Peggy Hutchison-Clutter, research assistant, have been studying visual acuity in infants using two types of tests: one that measures brain-wave responses and one that monitors behavioral responses.

To measure visual development through behavioral testing, the researcher observes an infant's "preferential looking" by determining which of two slightly different objects an infant spends the most time looking at.

In the health science center studies, the infant is given two circles to observe, a gray one and a striped one. The baby tends to spend more time looking at the "interesting" object -- the striped circle. Bold stripes are recognized by most infants; however, an infant with less developed visual acuity will find it hard to distinguish between thin stripes and solid gray and will therefore spend an equal amount of time looking at both objects.

A more objective and accurate test monitors brain cell activity by observing visual evoked potentials. Visual evoked potentials are graphic representations of

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electrical activity; they rise and fall according to the level of brain cell activity in a manner similar to an EEG (electroencephalograph).

Using visual evoked potentials and preferential looking tests, Srebro and Hutchison-Clutter hope to pinpoint more accurately critical periods of visual development in human infants. The researchers would like to use the data obtained to set basic standards for evaluating visual development in infants. Such standards potentially could be used to identify visual problems at an early age when treatment could begin immediately and would, in many cases, be highly successful. One example of a potential problem would be amblyopia, or "lazy eye." Children who have this problem and are not treated by school age can lose the ability to see normally in their "lazy eye."

Srebro says the research, which is in its third month, is producing useful data; however, more studies and more volunteers are needed to determine normal development in infants accurately.

"We need to test a large number of children to be able to draw definitive conclusions about what we've found," Hutchison-Clutter says. "For that reason, we're hoping to find more babies to test. We're looking at some kids who are changing dramatically in a short period of time; and, with typical differences between children, we need to observe many kids before we can establish what 'normal' really is."

There are many advantages to participation in the visual study. Parents receive a record of their child's visual acuity. If their child is tested and an abnormality suspected, the parents are referred to appropriate medical sources. The earlier most abnormalities are discovered, the more successful the treatment.

The non-invasive research project needs infants between one month and one year old. The time required for testing is less than one hour. Because many families have busy schedules, the testing time is extremely flexible. Times are available during working hours and on weekends. Interested volunteers should call Peggy Hutchison-Clutter at 214/688-2587.

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Note: The University of Texas Health Science Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and the School of Allied Health Sciences.