

# SOUTHWESTERN NEWS

Contact: Emily Martinez  
(214) 648-3404

## NEW SEIZURE MONITORING SYSTEM AVAILABLE FOR INFANTS

DALLAS — April 13, 1995 — Doctors now believe that up to 50 percent of newborns diagnosed with neurological problems suffer from seizures, but the subtle signs of a baby's seizure are likely to go unnoticed by even the most attentive physician, nurse or parent.

A new electronic monitoring system developed by a neurologist at UT Southwestern Medical Center at Dallas, however, will provide improved opportunities for observing neurologically ill infants and evaluating how seizures affect their conditions.

Dr. Van Miller, assistant professor of neurology, is now able to focus a video camera — for hours or days at a time — on an infant who also is hooked up to an electroencephalogram (EEG) machine. The infant's brain waves will be measured by the EEG while the camera records the child's obvious external movements. Both the EEG and the infant's behavior are monitored continuously by EEG technical specialists around the clock.

The system, which is believed to be the only long-term monitor of its kind in the country, has been installed in the special-care nursery at Parkland Memorial Hospital.

Miller will compare what the EEG records to what he sees on tape as he attempts to learn more about seizures and how they affect the overall health of the child. Dr. Maurine Packard, formerly a pediatrician at Children's Medical Center and now a neurology fellow, also is involved in the project, assisting with the monitoring and evaluation of data. Besides practicing at Parkland, Miller also sees neurologically damaged newborns at St. Paul Medical Center, Baylor University Medical Center and Methodist Medical Center.

While seizures are more easily detected in adults, who might jerk or "black out" suddenly, a baby experiencing a seizure might not draw attention and cannot communicate its discomfort or fright to adults. The eyes of a baby having a seizure sometimes jerk to one side and lock for a minute or two, or the child's arms and legs may make a rowing motion. A parent or nurse could easily miss these seizure signals, the seizure occurrences would not be noted and possible further neurological damage could result. Perhaps more importantly, babies often have normal, involuntary movements that sometimes are misdiagnosed as seizures, Miller said. Eyes

(MORE)

THE UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER AT DALLAS  
Southwestern Medical School • Southwestern Graduate School of Biomedical Sciences • Southwestern Allied Health Sciences School  
Affiliated teaching hospitals and outpatient clinics

Office of News and Public Information • 5323 Harry Hines Blvd., Dallas TX 75235-9060 • Telephone (214) 648-3404 • FAX (214) 648-9119

## SEIZURE MONITOR — 2

of a normal baby often drift downward and jerk back up, which is a sign of a common maturational delay in eye movements, not a seizure.

Doctors are not sure of the part seizures play in neurological damage — whether they are a cause of brain disorder, a result of other neurological problems or just temporary malfunctions that have no lasting effect on most babies.

Because of this continuing uncertainty and the difficulty in identifying seizures, a cautious pediatrician or neurologist who has noticed signs of seizures in his or her young patients is likely to prescribe an anti-convulsant drug to combat seizures, Miller said. The medication usually is effective immediately in stopping the seizures. However, there is a small risk in prescribing drugs to babies because they may inhibit development of the brain. If doctors had better ways to diagnose seizures and if they could better understand the effects of these seizures, they would have a considerably easier time deciding how far to go with treatment.

It is likely that quite a few of the babies who are treated with drugs would grow out of the seizures without medication, Miller said. As researchers learn more about neonatal seizures, they will be able to distinguish between the different types and have a better grasp on cause and effect.

The causes of seizures can range from genetic defects of the brain or complications during child birth to drug use by the mother. Fortunately, the number of babies born with damaged brains resulting from maternal drug abuse has not been as large as predicted a few years ago. Still, 10 percent to 15 percent of babies born at Parkland last year had cocaine in their blood. Of the 16,000 babies born at Parkland last year, one out of 10 was at high risk for brain damage. The most common problems are bleeding in the brain (usually in premature infants) and low oxygen levels in the brain.

Miller recommends that any baby showing signs of neurological problems be monitored for some length of time by an EEG. The baby does not feel any pain or discomfort as a result of the testing. The Parkland system is useful in cases where long-term observation is needed. Two babies can be watched at one time. Doctors usually will monitor the children for 24 or 48 hours.

###