

Hearing: New technology measures newborn reception

By Scott Stafford
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NORTH ADAMS — Listen up.

Newborns have a better chance of correcting hearing problems now that the North Adams Regional Hospital has invested in a new technology to screen their hearing ability.

Usually within the first day of birth, babies are brought to the audiology department, fitted with headphones over their ears and a couple of sensors taped to their foreheads.

With a hand-held device resembling a child's video game, a series of soft clicks are sent through the headphones and the sensors sweep for electronic impulses generated



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A new device tests newborns' response to sounds.

by brain activity reacting to the sounds.

Since 1998, Massachusetts has required that babies be

screened for hearing loss.

According to NARH audiologist Tracy Blair, it is essential that hearing loss in babies by

discovered as early as possible, because even at very early stages hearing is essential to development of speech and language.

Research has shown that babies who have hearing issues addressed early on, Blair said, "develop essentially the same as those who hear."

For three out of four babies who are discovered to have hearing problems with early screening, further testing shows their hearing to be fine, and the great majority of those with hearing issues have a problem in only one ear.

The test is called the Automated Auditory Brainstem Response, or AABR, and is considered the "gold stan-

dard' in hearing screening for newborns.

The tests are usually done overnight, because it is quieter, meaning less external auditory stimulation for the baby.

Ideally, the baby dozes through the entire procedure. If the baby is fussy or otherwise stimulated, brain activity would be too intense to sweep for activity resulting from the clicking noises. Occasionally, a parent is brought in and has the baby sleep on his or her torso while the test is conducted.

"Some kids won't rest well without lying on their parent's chest," Blair said.

Once the baby is asleep, the test only takes about 30 seconds, or up to 15 minutes if there are hearing issues.

Those shown to have hearing issues are tested two more times before being referred for further testing and treatment.

"It's hard when they come back for the third time and they know they're not going to pass," said Linda Kemp, RN



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Tracy Blair, audiologist at North Adams Regional Hospital, demonstrates the new hearing test.

and co-director of the hearing screening program. "It's difficult to watch."

But it doesn't happen often. Hospital records show that in 2008, out of 268 babies that were screened, only two were shown to have hearing loss,

and one of them had the potential to recover hearing with treatment.

The equipment formerly used to test hearing on babies was antiquated technology that was cumbersome and slow to process information, Blair said.

The new technology only cost the hospital \$12,000, she added, and was delivered in April 2010. HQ

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