

# First Study to Examine Cognitive Development in Deaf Babies Finds Differences Begin in Infancy

*Hearing impairment doesn't just affect language skills, but also visual learning*

The Ohio State University Wexner Medical Center

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## NEWS PACKAGE



<b>SUGGESTED TEASE</b>	DEAF CHILDREN FACE MANY CHALLENGES, BUT A NEW STUDY SHEDS LIGHT ON JUST HOW EARLY DEVELOPMENTAL DIFFERENCES BEGIN AND HOW FAR THEY EXTEND BEYOND HEARING. DETAILS, COMING UP
<b>ANCHOR LEAD</b>	ADVANCEMENTS LIKE COCHLEAR IMPLANTS HAVE HELPED DEAF CHILDREN COMMUNICATE AND INTERACT WITH THE WORLD AROUND THEM LIKE NEVER BEFORE, BUT DEVELOPMENTAL CHALLENGES STILL EXIST. A NEW STUDY SHOWS THAT LEARNING DIFFERENCES IN DEAF CHILDREN ARE NOT LIMITED TO HEARING, AND THAT THESE DIFFERENCES BEGIN EARLIER THAN YOU MAY THINK. BARB CONSIGLIO HAS THE DETAILS.
<b>(PACKAGE START) -----</b> <b>CG: Courtesy: The Ohio State University Wexner Medical Center</b> <b>:00 - :03</b> Shots of Macey playing with Zealand	(Nats - Sound) :02  WHEN HER SON ZEALAND WAS BORN DEAF, MACEY KINNEY KNEW SHE WOULD HAVE TO FIND WAYS FOR HIM TO LEARN WITHOUT USING VERBAL CUES. :06
<b>CG: Macey Kinney</b> <b>Mom of deaf child</b>  Shots of Macey playing with Zealand Closeup of Zealand and hearing aid	<i>"They have baby signing times that we look up, and he'll watch them, and we'll do the colors and his name."</i> :09  WHILE DEAF CHILDREN OFTEN STRUGGLE WITH LANGUAGE, A NEW STUDY SHOWS THAT DIFFERENCES ACTUALLY BEGIN IN INFANCY AND EXTEND FAR BEYOND THE AUDITORY SYSTEM. :07
Shots of infant looking at screen	(NATS - Zealand in study) :02  IN THE FIRST STUDY TO EXPLORE COGNITIVE DIFFERENCES BETWEEN DEAF AND HEARING

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<p>in study</p> <p><b>CG: Claire Monroy, PhD</b> Ohio State Wexner Medical Center</p> <p>Shots of researchers watching study footage Shots of baby's eyes from camera in study room</p> <p><b>CG: Derek Houston, PhD</b> Ohio State Wexner Medical Center</p> <p><b>Claire Monroy (CG'd earlier)</b></p> <p>Shots of Houston and Monroy reviewing data</p> <p>Shots of Zealand in study</p> <p><b>Derek Houston (CG'd earlier)</b></p> <p>Shots of Macey playing with Zealand</p> <p><b>(PACKAGE END) -----</b></p> <p><b>ANCHOR TAG</b></p>	<p>INFANTS, RESEARCHERS AT THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER TESTED HOW THEY PROCESSED VISUAL OBJECTS BY SHOWING THEM DIFFERENT IMAGES ON A SCREEN. :11</p> <p><i>"When infants start to get bored as they encode a stimulus, they then start to look away from it."</i> :07</p> <p>DEAF BABIES TOOK LONGER TO LOSE INTEREST AND LOOKED AWAY FROM THE SCREEN LESS OFTEN, INDICATING THAT THEY WERE SLOWER TO BECOME FAMILIAR WITH THE OBJECTS. :08</p> <p><i>"The faster a child can process the visual information, the quicker they'll habituate to it."</i> :07</p> <p><i>"Many people assume that deaf infants and children compensate for the lack of hearing by being better at processing visual things or their visual attention is enhanced and, actually, these findings show the opposite."</i> :15</p> <p>BUT THE RESULTS MIGHT NOT INDICATE THAT DEAF INFANTS LEARN MORE SLOWLY, BUT SIMPLY DIFFERENTLY, SINCE THEY PRIMARILY USE SIGHT TO INTERPRET THE WORLD AROUND THEM. :08</p> <p><i>"This might mean that they pay more attention, not necessarily because they are slower at visual processing, but it might be because they are actually processing more about the visual object."</i> :14</p> <p>MACEY SAYS ZEALAND IS LEARNING NEW THINGS EVERY DAY... :02</p> <p><i>(NATS - Playing with Zealand "Let's take the hammer."</i> :04</p> <p>AND SHE'S CONFIDENT THAT HE'S ON TRACK FOR A BRIGHT FUTURE. AT THE OHIO STATE WEXNER MEDICAL CENTER, THIS IS BARB CONSIGLIO REPORTING. :09</p> <hr/> <p>FUTURE RESEARCH WILL EXAMINE WHY THESE EARLY DIFFERENCES EXIST AMONG DEAF BABIES SO THAT EXPERTS CAN DEVELOP UNIQUE WAYS TO TEACH THE HEARING IMPAIRED AND ADDRESS ANY DEVELOPMENTAL DIFFERENCES AS THEY GROW.</p>
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## SOCIAL MEDIA

<p> <b>Share it! Suggested tweet:</b></p> <p> <b>Suggested post:</b></p>	<p>In the first study to examine cognitive development in deaf infants, researchers at <a href="#">@OSUWexMed</a> find that the consequences of hearing impairment extend far beyond language skills and that developmental differences begin surprisingly early in life. <a href="http://bit.ly/2CJPQZ">http://bit.ly/2CJPQZ</a></p> <hr/> <p>A new study by <a href="#">The Ohio State University Wexner Medical Center</a> finds deafness not only affects children's language skills, but also their basic cognitive development. Researchers found that deaf infants took longer to become familiar with new visual objects, surprising results in a test that has nothing to do with hearing. <a href="http://bit.ly/2CJPQZ">http://bit.ly/2CJPQZ</a></p>
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## EXTRA BITES

<p><b>CG: Derek Houston, PhD</b> Ohio State Wexner Medical Center</p> <p><b>CG: Claire Monroy, PhD</b> Ohio State Wexner Medical Center</p> <p><b>CG: Macey Kinney</b> Mom of deaf child</p>	<p>Houston says identifying differences will help to address them: <i>"It's really about identifying the differences in cognitive processes, understanding why there are differences and then being able to develop, through educational interventions, how to address these differences."</i></p> <p>Houston says the results of the visual test were surprising: <i>"We really didn't expect, necessarily, that deaf infants would show any difference in this very basic, non-verbal, visual-only habituation task."</i></p> <p>Houston says future research will explore cognitive differences: <i>"There are differences in cognitive processing, but it's still unclear why there are difference and what these differences really mean."</i></p> <hr/> <p>Monroy says differences exist before language skills develop: <i>"What we found is that there are differences in cognitive skills early, in the first year of life, before advanced language starts to emerge in these infants."</i></p> <p>Monroy says research will help tailor interventions for infants: <i>"Understanding the source of these differences can really help us to tailor interventions specifically for these kids, and the earlier that happens the better."</i></p> <hr/> <p>Macey says it was hard to find ways to communicate with her son: <i>"It was tough. We just did some signing, and we just kept doing it. I think he got used to it."</i></p> <p>Macey says she's excited for her son to receive cochlear implants: <i>"The time that he gets his cochlear turned on then I'm</i></p>
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**CG: Macey Kinney**  
**Mom of deaf child**

*ready to see his reaction.”*

Macey says Zealand’s smile makes everyone happy:  
*“He smiles at everybody. People tell us that his smile made their day.”*

### References

<sup>1</sup>*Visual Habituation in Deaf and Hearing Infants*, **PLOS ONE**, February 6, 2019. Online:  
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0209265>

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