

Up close: 14-year-old's invention helps premature babies hear

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SALT LAKE CITY, Utah – A school science project has turned into a very impressive invention for a 14-year-old girl. As a result, Olivia Washburn is hoping to help premature babies across the world through her newborn intensive care unit caps.

“(With) premature babies, their auditory system is not fully developed. They are born early, so these sounds that can seem normal to us are actually really hurting their ears,” Olivia told KSL reporter Dan Rascon. “I feel like it’s a really good problem to address.”



Olivia actually engineered a sound box and discovered what materials might work to bring down the decibels in order to build the special hearing device for NICU babies.

The NICU cap invention is the result of months and months of research, planning and science projects. That had to do with articles Olivia discovered about how noises in the NICU can be harmful to the babies' ears.

The idea for the project all started at Olivia's school, American Heritage School, when she entered a science project a year ago. As a result, she's won several prestigious awards, including the grand champion at the central Utah STEM fair at BYU and a \$7,000 check as the grand prize winner in the Utah entrepreneur challenge.

"I would never thought when I started, that it would have come this far," said Olivia.

Her main motivation came because she herself was a preemie baby. She was born six weeks early, resulting in a two-week stay in the NICU.

"I've always had a special connection to premature babies," she said.

Through trial and error, and meeting with engineers, Olivia came up with four materials.

"Silicone, foam, 120-pound card stock and a foam," she said.

Those materials are placed inside the earpiece, which can be adjusted for a snug fit across the babies' head, working as a head warmer and ear protector.

The next step for this young entrepreneur is getting it in the hands of those who need it.

Olivia currently has two patents pending on her cap. By this summer, she hopes to get the cap into the hands of a hundred families for testing. If all goes well, she hopes to get it into the market place in about a year-and-a-half.