

Smart baby pillows for flat head syndrome prevention

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Smart Baby Pillow. Credit: UNIST

Babies are born with highly malleable skulls, and therefore lying on their backs to sleep may lead to some positional flattening or molding of the head. A team of students at UNIST has recently introduced a smart baby pillow to prevent and correct mild cases of flat head syndrome.

Flat [head](#) syndrome occurs when a child's head is asymmetrical and

flattened on one side more than the other. Although this does not harm brain development nor cause any lasting appearance problems, simple practices like placing them in different positions over the course of each day can easily prevent a baby from developing an asymmetrical skull shape.

"We came up with the idea to help new parents who are in drastic need of sleep," the students say. "We wanted to help them relax and rest at least when their babies are asleep."

The new smart baby pillow is designed to induce the correct sleeping posture, thereby preventing [babies](#) from developing [flat head syndrome](#). This new device features an embedded air volume control system, as well as the image-based soft tactile sensor, developed by the Korea Institute of Industrial Technology (KITECH).

"A soft tactile sensor has been applied to monitor the position of a newborn's head in real time," says Tae Hun Chung in the School of Materials Science and Engineering. "We have also added a system that automatically controls the volume of air in the pillow for a perfectly symmetrical skull. This saves the trouble of attempting to change a newborn's head in different positions every one to two hours."

The team plans to commercialize the product and later expand into the medical device market. The engineers behind this smart baby [pillow](#) expect that their product will be in great demand for both medical and cosmetic purposes, as it can drastically reduce the risk of cot death, as well as unusual facial asymmetry. They plan to build a prototype in the first half of this year.

"The device itself would certainly be a great help for those stressed-out parents," says HyeWon Cho in the School of Life Sciences. "By allowing mothers to have some relaxation time, it can also help prevent or treat

symptoms of postnatal depression and anxiety."

Provided by Ulsan National Institute of Science and Technology

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