

Three companies receive seed funds to develop medical devices for children

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This powered orthotic arm brace, called a MyoPro device, amplifies weak muscle signals in a patient's arm. Credit: Myomo, Inc.

The Philadelphia Pediatric Medical Device Consortium (PPDC) has announced seed grants to three companies developing medical devices for children. The Consortium chose those companies from eight finalists

in a competition to receive seed grants of \$50,000 each.

The devices under development are a powered orthotic arm brace that amplifies weak nerve signals, a hand-operated rapid blood delivery system for emergency situations and a device that gradually corrects deformed ears in babies.

Funded by the U.S. Food and Drug Administration and based at [Children's Hospital of Philadelphia \(CHOP\)](#), the PPDC provides know-how and seed funding to help innovators translate promising ideas into commercial [medical devices](#) for use in children. The PPDC is a collaboration among CHOP, Drexel University and the University of Pennsylvania. New this year, the PPDC partnered with the [Childress Institute for Pediatric Trauma](#) to fund a device that can be used during the so-called "golden hour of care" immediately following a traumatic injury.

The new round of awards is the third by the PPDC, following seed grants announced in February 2015 and January 2016.

"We are once again delighted to support promising, innovative medical devices geared to the unmet clinical needs of children," said engineer Matthew R. Maltese, PhD, of Children's Hospital of Philadelphia, the Consortium's executive director and principal investigator. He added that extra support dedicated to [pediatric trauma](#) allowed the PPDC to support a third award in this round of grants.



The Life Flow device is a hand-powered infuser for rapid delivery of fluids to critically ill patients Credit: 401 Medical, Inc.

[Myomo, Inc.](#), of Cambridge, Mass., is developing a powered orthotic device to assist with motion and function in children with neuromuscular disorders. The MyoPro Motion-K device is a child-sized version of the company's MyoPro device, a custom-fabricated brace that assists patients with a weak or deformed arm in performing activities of daily living. The device amplifies weak muscle signals to help patients move and use their arms.

A device designed by EarGear, LLC, of Philadelphia, aims to correct ear deformities in infants. The EarGear System uses silicon conformers placed along the ear to reshape and correct the deformity over time. It would avoid the need for costly, labor-intensive and painful surgical

procedures.

The third seed grant will go to [410 Medical](#), Inc. of Durham, N.C., for the Life Flow [device](#), a hand-powered infuser used to quickly deliver fluids to critically ill patients. A newer version of the Life Flow is in development for rapid delivery of blood products in patients with severe hemorrhage. The grant will enable the company to conduct research supporting a second FDA application for blood delivery, which will have important applications for the care of injured children.

The PPDC is currently reviewing proposals for its fourth round of funding opportunities, and will announce the award recipients later this year. Applications are accepted from throughout the U.S. and from foreign companies. The Consortium also accepts applications year-round for in-kind services and expert advice.

Provided by Children's Hospital of Philadelphia

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