

## Cool Idea Award: Healthcare Grant from Protolabs Spurs a Pair of Creative Feeding Tube Inventions

*MedStar Health device improves NICU feeding while Cleveland Clinic Innovations' feeding tube enhances quality of life for patients*

MINNEAPOLIS, MINN.—Dec. 12, 2019—Digital manufacturing leader [Protolabs](#) (NYSE: PRLB) has announced [MedStar Health](#) and [Cleveland Clinic Innovations](#) as joint winners of the Cool Idea Award: Healthcare Grant. These grants provide in-kind manufacturing services to support development of medical products, spurring innovation in the field.

“Protolabs is proud to champion innovation in the medical field,” said Vicki Holt, President & CEO of Protolabs. “These healthcare grants and the manufacturing services that come with them help important health-focused projects improve hundreds of thousands of lives each year.”

### **MedStar Health Concept Improves Feeding Process for both Newborns and Nurses**

MedStar Health’s gravity feed syringe holder simplifies the feeding of newborns who spend their early days in special, temperature-controlled incubators while being cared for in the neonatal intensive care unit (NICU). Currently, depending on the number of newborns and how often they feed, a nurse can spend hours each day holding a syringe above an incubator while milk or liquid formula drains into the baby via a stomach tube.

Use of this invention alleviates the need for a nurse to hold the syringe above the baby during the feed and frees the nurse to other duties while still attending to the baby during feeding. The compact device can hold four different sizes of syringes and was designed to be suspended from the top of the incubator or attached to an IV pole expanding its use outside the NICU.

This invention illustrates the premise that simple, well-designed solutions can have a substantial impact on patient care.

“Protolabs’ assistance will help us move our gravity feed syringe holder from concept to a working part of our neonatal practice,” said its inventor Tiffany Morris, RN, BSN, who works in the NICU at MedStar Franklin Square Medical Center. “Our team hopes this small device can be a major step forward for NICU nursing and potentially for patient care in other settings.”

The Protolabs grant was used to improve the device’s design. The iterative 3D-printing process helped identify several improvements to the prototype, including: smoothing the corners, adding sturdier syringe clips, and incorporating gaskets to keep infants safe while protecting the incubator. Clamps securely fasten the gravity feeder device to an IV pole.

“We are proud that this award recognizes the innovative ideas our MedStar Health associates have to treat people and advance health,” said Stephen Kinsey, director of MedStar Inventor Services. “The award also demonstrates the power of our partnerships with Cleveland Clinic Innovations and Protolabs, as we work together to transform ideas into clinical practice.”

### **Innovative Feeding Tube Device Could Change Half a Million Lives**

Life for people with enteral (feeding) tubes can be difficult. Inventor Andy Williams knows this well. He has struggled with an enteral tube for years. “I was in the hospital in the emergency room on average once a week, sometimes two times a week, for infections caused from leakage around my feeding tube,” said Williams. “I was hospitalized once a month for infections—sometimes for up to a week-long period. Then, I’d have to take antibiotics at home for three to four weeks.”

Williams teamed up with Dr. Eric Blumrosen of Cleveland Clinic in an effort to improve outcomes for these patients. In current practice, a feeding tube is surgically placed directly into the digestive tract, but that interface is prone to significant leakage. The highly acidic fluids can irritate and injure patients such as Williams, requiring emergency room visits and sometimes hospital stays. Leakage can make social lives very difficult, preventing patients from living a normal life.

The device protects the stoma by forming a wide seal around an enclosed hole into which the tube is inserted. This eliminates issues with friction where the tube rubs against the skin. Also, it provides a more focused opening that enhances the seal surrounding the tube, and allows limited motion of the tube. In the end, the device will be more comfortable, reduce irritation, and significantly improve long-term quality-of-life.

“The leak stopper will let bedridden patients lead a more active life,” said Williams. “Right now, for most people who experience leaks, it’s the number one thing on their mind all day. This invention will let them push it to the back of their minds and go on with normal activities.”

Protolabs’ in-kind manufacturing grant gave Cleveland Clinic Innovations access to manufacturing engineers who helped improve the device’s design for commercial use. It also helped fund prototype injection molded parts.

### **About the Cool Idea Award: Healthcare Grant**

The Cool Idea Award: Healthcare Grant is an extension of Protolabs’ flagship Cool Idea Award program. This extension is open to members of the Cleveland Clinic Healthcare Innovations Alliance, a network of healthcare institutions and corporations focused on innovation. Selected winners are awarded in-kind manufacturing services from Protolabs to support product development, such as building prototypes or supporting initial production runs, with a target for eventual commercialization of products.

### **About Protolabs**

Protolabs is a leading digital manufacturing source for rapid prototyping and on-demand production.



Injection Molding  
Sheet Metal Fabrication  
CNC Machining  
3D Printing

The company produces custom parts and assemblies in as fast as one day with automated 3D printing, CNC machining, sheet metal fabrication, and injection molding processes. Its digital approach to manufacturing enables accelerated time to market, reduces development and production costs, and minimizes risk throughout the product life cycle. Visit [protolabs.com](https://www.protolabs.com) for more information.

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