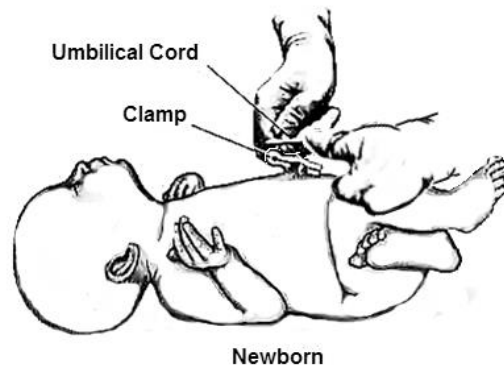


## Umbilical Cord Clamp Increases Control and Reliability

OTT ID #1456

### TECHNOLOGY

Umbilical cord clamps, which are used in hospital and home birthing suites, have a tendency to slip from the care provider's hand and result in contamination as well as a delay in care. A collaboration between neonatologist, Dr. Charles Potter, and assistant professor of engineering, Dr. Ilya Avdeev at the University of Wisconsin-Milwaukee along with their team addresses this concern ensuring greater control and reliability in use of umbilical cord clamps. A recent focus group of neonatologists expressed that this new design would increase the consistency of use and would allow physicians to deliver a higher standard of care to mothers and children.



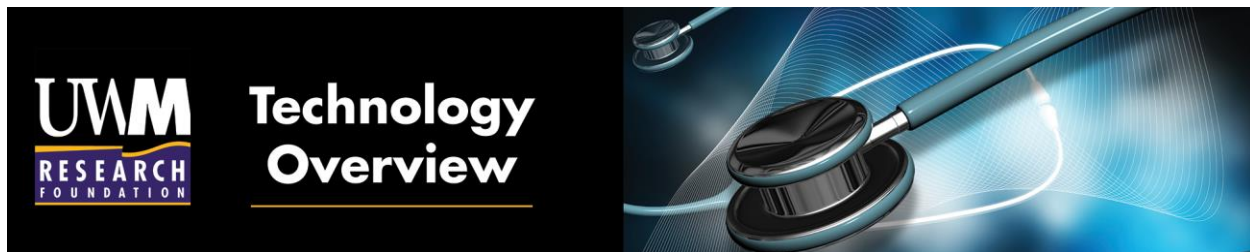
In many cases, an umbilical cord is clamped and cut immediately so the infant can receive medical attention and reduce the risk of blood complications such as jaundice. If a clamp is mishandled or dropped while being removed from the packaging, or being secured on the umbilical cord, not only does a new one have to be used, vital time is lost in providing the infant immediate medical treatment.

Current clamp designs do not have the utility for medical professionals to more reliably remove them from their sterile packaging, accurately place and quickly apply the clamps with the level of control desired. The new clamp is designed to give medical professionals more control in using the clamp and reduce mishandling, contamination and ultimately wasted material and time. The new design does not require additional tools to apply the clamp and maintains a non-obstructive form.

Overall, this new design of umbilical cord clamp will improve delivery room efficiency whenever a clamp is necessary. Improved control, increased consistency and reduced risk of contamination will not only prove valuable to medical professionals but also provide a higher standard of care for mothers and their children.

### FEATURES/BENEFITS

- **Improved Control:**  
Design allows for greater control in handling, placing and applying clamps.
- **Increased Consistency and Reliability:**  
Less likelihood of mishandling or dropping the clamp, increasing consistency of use.
- **Reduced Contamination Risk:**  
Greater control of the clamp results in a reduced possibility of contamination. This will translate of a more efficient use of materials and time for care providers.



## **INTELLECTUAL PROPERTY**

A US Utility Patent 2017-0007257 is pending.

This technology is part of an active and ongoing research program and is seeking partners for commercialization of the final product. It is available for licensing under either exclusive or non-exclusive terms.

## **MARKETS**

The market for umbilical cord clamps is well established and growing as global birth rates continue to rise. Delivery room supplies are an important piece of the medical supply and equipment market as in 2013, approximately four million infants were born in the United States alone. The UWM Research Foundation estimates that the market for umbilical cord clamps is approximately 32 million dollars. Even if an umbilical cord clamp is not used for every birth, it is a necessary device for obstetricians, midwives and other care providers to use if needed. Whether clamps are sold to hospitals directly or to distributors for use in birthing kits, suppliers could expand and improve their product line with the new clamp designed by Dr. Potter, Dr. Avdeev and their team.

## **INVENTORS**

### **Dr. Charles Potter:**

Dr. Potter currently has his own practice in neonatal and perinatal medicine in Milwaukee. Previously, he was the director of newborn services at Memorial Medical Center as well as director of neonatology at Mercy Medical Center of Canton, Ohio. His academic positions include associate professor of pediatrics, specializing in neonatology at Southern Illinois University School of Medicine and assistant professor in pediatrics at Case Western Reserve University. He received his medical degree from the Medical College of Wisconsin and conducted his residency at the University of Michigan. He is board certified in pediatrics and neonatology and is a member of the American Academy of Pediatrics.

### **Dr. Ilya Avdeev:**

Dr. Avdeev is an assistant professor of mechanical engineering at the University of Wisconsin-Milwaukee. He is also the founder and director of the Advanced Manufacturing and Design Laboratory, co-founder and executive director of the UWM Student Startup Challenge as well as Director (PI) of NSF/RET Site of the Milwaukee Regional Energy Education Initiative. Dr. Avdeev received his Ph.D. in mechanical engineering from the University of Pittsburgh.

## **For further information please contact:**

### **Jessica Silvaggi, Ph.D.**

Senior Licensing Manager  
UWM Research Foundation  
1440 East North Avenue  
Milwaukee, WI 53202  
Tel: 414-906-4654

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