

Umbilical Arterial Catheterization Device

Intellectual Property

Patent Pending

Lead Inventor

David Paul

Licensing Contact

Catherine Burch cburch@christianacare.org

Desired Partnership(s)

Licensee Medical Grade Manufacturer

Categorized As

Care Coordination Medical Devices

Unmet Need

Acutely ill infants requiring continuous blood pressure and/or arterial gas pressure monitoring, medications and/or fluids administration, and/or blood samplings may benefit from umbilical arterial catheterization. Unfortunately, catheterization of the arterial lumen is challenging both for highly skilled, clinical professionals and newborn infants. The umbilical cord is flaccid, requiring a skilled professional to devote one hand to stabilize it, reducing range of motion for the stabilizer and/or demanding the use of a second skilled professional. The arterial lumen is small and only about 1 mm or less in diameter, resulting in difficulty from the skilled professional to see and properly place the catheter within the arterial lumen. Each unsuccessful attempt contributes to increased utilization of highly skilled clinical professionals, increased time consumption in an acute unit and lack of central access to better monitor acutely ill infants. Continuous, unsuccessful attempts to catheterize also causes distress for the infant, increasing the risk of arterial perforation and decreases overall survival rates.

Solution/Technology

This brace stabilizes an infant's umbilical cord to reduce utilization of highly skilled clinical professional resources. The illumination feature increases visibility of the arterial lumen and the dilator, which encompasses a hook and catch, grips, expands, and secures the opening of the arterial lumen, all increasing the success rate of catheterization and overall survival rate of the infant.

Advantages

- Hook and catch counterpart device facilitates dilatation and stabilization of arterial lumen
- Stabilizing brace device decreases clinical, professional resource utilization
- Illuminating feature on brace increases visibility of arterial lumen
- Device design supports successful, single-attempt catheterizations