

Infant Sleep Pod

OTT ID #1306

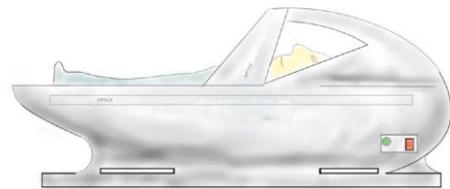
TECHNOLOGY

Dr. Doering and her colleagues have combined their expertise in nursing science, ergonomics and electronics to take a unique approach toward creating an infant sleep environment that minimizes both the physical threats to the infant's safety and the barriers between parent and infant. The I-SleepPod incorporates a cozy, enveloping interior and a space-minimizing, ergonomic exterior that enhances the human connection between parent and child. Recent advances in technology give us the ability to incorporate technology into the I-SleepPod to improve safety beyond that of any previously made product. Parents may choose to place the I-SleepPod on a crib, adult bed, or the floor. It is lightweight and easy to transport, making it convenient to bring along to a friend's or relative's house instead of a bulky playpen. The I-SleepPod is designed with simplicity and affordability in mind but can be easily adapted to include additional features for customers seeking a higher end product.

The primary job of parents is to protect their infant. Parents worry about their infant's safety when the parent sleeps. Parents also want their infant to sleep peacefully and want to sleep peacefully themselves. While many parents have concerns about the risks associated with their infant's sleep environment, they also worry about missing out on the numerous health benefits of being close to their infants. Being close to their infant at night promotes bonding, facilitates breastfeeding, and often results in a better night's sleep for the infant and parent. Additionally, a young infant can have greater stability in body temperature, heart rhythms and breathing patterns by being close to their parent. Sleeping close to their infant can be especially attractive to parents who work full time and have limited time to bond with their infants and to parents who breastfeed at night. The I-SleepPod's huggable shape promotes bonding by enabling the parent to cuddle with the pod while still ensuring a safe sleeping space for the infant. Both mechanical and electronic safety features are integrated into the design to address parents' safety concerns. Parents can sleep peacefully knowing the I-SleepPod will alarm and wake them if an unsafe sleep event occurs. The interior of the pod meets the American Academy of Pediatrics criteria for a safe sleeping environment by providing a firm, flat, proximate, yet separate and dedicated sleep space.

FEATURES/BENEFITS

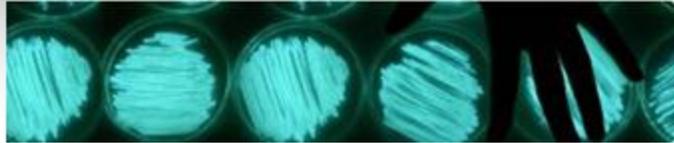
- **Safe** – Protects infant from risks commonly associated with unsafe sleep environments
- **Ergonomic** – Comfortable design for infant and parent
- **Affordable** – Designed to be cost competitive
- **Transportable** – Lightweight
- **Multi-use** – Can be used when visiting friends or family and in several sleep environments
- **Insect protection** – Option for protection from insect-borne disease using additional netting



INTELLECTUAL PROPERTY

A United States provisional patent application has been filed for this invention.

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



MARKETS

Researchers and parents alike are calling for innovative harm-reduction strategies to make adult sleep environments safer for infants, since 20 to 60 percent of infants will continue to sleep on adult beds, couches, and recliners in spite of heightened public health efforts to end these practices (Kendall-Tackett, Cong, & Hale, 2010). Commercially available co-sleeper products are an unsafe choice for parents, because they do not protect the infant's air space by utilizing design or safety mechanisms that reduce risk of harm from the common causes of death within unsafe sleep environments. This device will save lives, because the I-SleepPod's use of technology will reduce infant mortality, especially for African-American infants, who have three times higher mortality rate of other racial and ethnic groups.

The I-SleepPod has great potential for the untapped niche this device would open in the US infant consumer product market. According to a report by Transparency Market Research, the global infant care market was worth \$44.7 billion in 2011 and is expected to reach \$66.8 billion in 2017. The market growth is fueled by the growing infant population in developing nations where the disposable income of parents has increased considerably. The average age of parents has also increased across the world which often means older parents are more financially stable leading to more spending on infant care and convenience. The U.S. juvenile products industry is a \$17.8 billion market comprised of companies manufacturing goods for children from infancy to age five. These products include cribs, high-chairs, bedding, strollers, car seats, carriages, and toys. With the numerous recalls on various infant sleep devices and cribs in recent years, many parents are particularly aware of and interested in the safety aspects of their infant's sleep environment. The I-SleepPod will provide a novel and safe alternative for parents and their infants.

http://www.capstonellc.com/research/industryreports/2012/Capstone%20Juvenile%20Report_Mar2012.pdf

<http://www.tmrblog.com/2012/04/baby-care-products-market-global.html>

Kendall-Tackett, K., Cong, Z., & Hale, T. W. (2010). Mother–Infant Sleep Locations and Nighttime Feeding Behavior. *Clinical Lactation*, 1, 27-31.

INVENTORS

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Dr. Doering is an Associate Professor at the University of Wisconsin-Milwaukee and alumna of the Robert Wood Johnson Foundation Nurse Faculty Scholar program. She received a Ph.D. in Nursing from the University of Arizona in Tucson. Her research has focused on building interventions to promote sleep and reduce fatigue and by extension, postpartum depression in urban women. Her research is community-based in which she is invited into women's homes. As a result, her understanding of infant sleep environments is both pragmatic and nuanced for the real world perspective she offers to science. Her clinical experience includes postpartum, high-risk antenatal, newborn, neonatal intensive care, obstetric, gynecologic and emergency nursing.

Mr. Krzecki has over 25 years experience in industrial manufacturing design and aerospace maintenance and management and is an avionics specialist.

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