

## WHAT IF there were, finally, a tiny heart assist device for children?

**Heart disease is the most frequent birth defect in children born in the United States. Not all will survive.**

With an incidence of nearly 1 per 100 live births, congenital heart disease is the most prevalent birth defect in children. Heart surgery is estimated to be necessary in 2.3 per 1,000 children who otherwise would die during their first year of life. Heart transplantation has been an efficacious treatment for many of these children. However, because the pool of donor hearts is limited, the mortality rate while on a pediatric heart transplant waiting list has been reported to be 23%. No doubt, there is a dire need for mechanical circulatory assistance in children.

The lack of a blood-pump specifically designed for infants and the likely advantages of such a device prompted WorldHeart to develop the *PediaFlow*® VAD in conjunction with a consortium lead by principal investigator Dr. Peter Wearden at the University of Pittsburgh. The *PediaFlow*® VAD consortium is being funded through the federal government's National Institutes of Health (NIH). The consortium also includes Carnegie Mellon University (Chicago); Children's Hospital of Pittsburgh; and LaunchPoint Technologies (Goleta, CA).

Opinions about the need for a ventricular assist device (VAD) for pediatric patients...



**John Campbell Woodard, MD**  
Senior Vice President, Scientific Affairs, WorldHeart

*"Congenital heart defects in infants and children can disrupt the normal flow of blood through the heart. Many of these infants and children could therefore benefit from a miniaturized ventricular assist device."*



**Peter D. Wearden, MD, PhD**  
Assistant Professor, Pediatric Cardiac Surgery  
Children's Hospital of Pittsburgh

*"One-third of babies born in the U.S. each year with a congenital heart defect will require surgery to prevent death in their first year of life. We feel a great obligation to develop an effective solution to this serious problem."*



**Harvey Borovetz, PhD**  
Chairman, Department of Biomedical Engineering  
University of Pittsburgh

*"The PediaFlow consortium is developing a miniaturized, magnetically levitated VAD specifically designed for children with congenital and/or acquired cardiac disease."*

### WorldHeart's Tiny *PediaFlow*® VAD for Pediatric Patients



WorldHeart's *PediaFlow*® VAD, about the size of a AA-battery, is intended for use for Bridge-to-Transplant (BTT) or as a Bridge-to-Recovery (BTR) in the pediatric patient population. The breakthrough device is now being tested *in vivo*.

Any forward-looking statements in this release are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and include all statements relating to WorldHeart's MiFlow™ VAD and PediaFlow® VAD, and the progress of WorldHeart's clinical development program.