

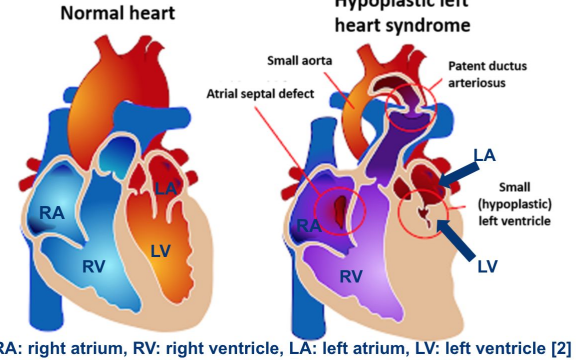
Rapidly Deployable Pediatric Blood RV-PA Conduit

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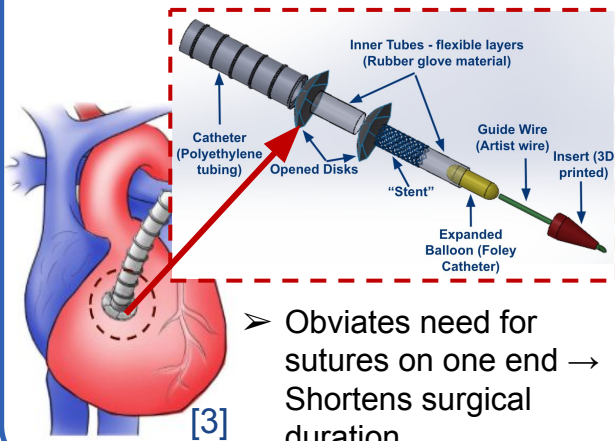
Advisors: Dr. Throckmorton - Drexel University, Dr. Stevens - St. Christopher's Hospital for Children

PROBLEM

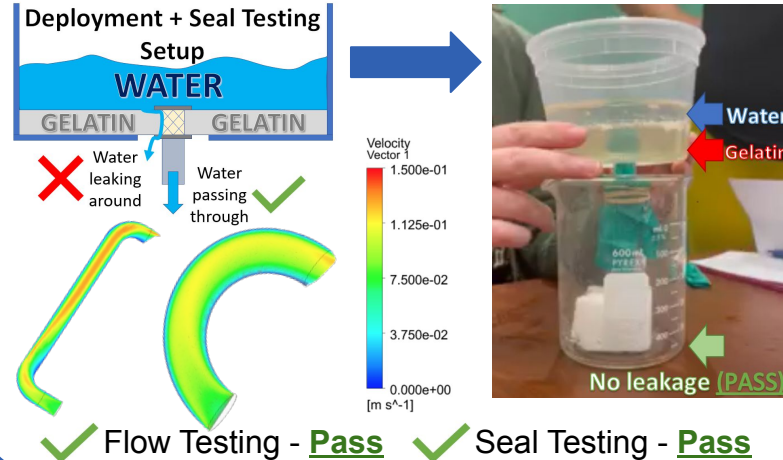
- **Hypoplastic Left Heart Syndrome** → congenital (develops during *pregnancy*) heart defect occurring **1 every 5,000 births**
- The left portion of the heart is *severely* underdeveloped → oxygen-rich blood **can't be routed to properly meet the metabolic demands of the body**
- Infant mortality rate: untreated → 100%, treated → 15-20% [1]
- Current solutions have disadvantages such as **long surgery time**



SOLUTION BUILD



TEST RESULTS



IMPACT

- Reduce rate of infant mortality
- First of its kind designed for infants

FUTURE PLANS

- Redesign prototype with sterile materials
- Reduce the scale of the design

[1] Cincinnati Children's Hospital
[2] File: Hypoplastic left heart syndrome.svg - Wikimedia Commons
[3] Courtesy of Dr. Stevens