PECA labs®

...utilizes a model of direct collaboration with surgeons and interventionalists to develop the next generation of synthetic cardiovascular devices. From expandable vascular grafts to synthetic transcatheter valves, PECA Labs focuses on improving outcomes through innovative technologies.

The technologies described in this document are in development and are not available for clinical use

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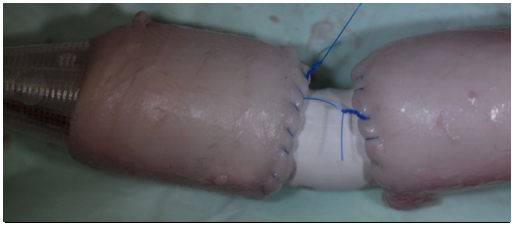
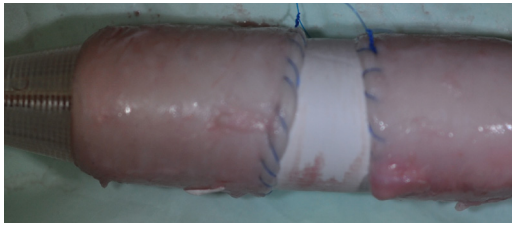
EXPAND

The First Controllably-Expandable Vascular Graft

Balloon at 2 ATM



Balloon at 6 ATM



Balloon Removed

PECA Labs has developed a synthetic vascular graft that is capable of controlled expansion with a standard angioplasty balloon.

The expandable vascular conduit is capable of providing conduit growth potential of over 250% while maintaining its suture retention strength, burst strength, kink radius, and other critical properties.

The expandable vascular conduit utilizes a bioinert material with well-known clinical performance, and capitalizes on a unique microstructure to provide capabilities beyond any currently marketed vascular graft.

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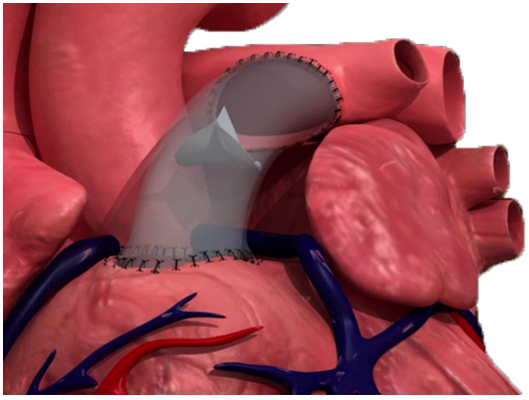
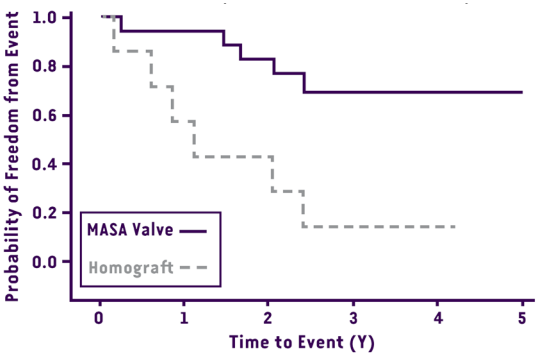
IMPROVE

The First Synthetic Valved Conduit for RVOTR

The MASA Valve



Freedom from Reoperation in Patients <1 Year Old



PECA Labs has developed a synthetic valved conduit for pediatric right ventricular outflow tract reconstruction (RVOTR): the MASA Valve.

The MASA Valve utilizes synthetic materials to avoid the problems of immune response and calcification which are inherent to biologic valved conduits.

After more than 5 years of implants in over 70 patients with intra-operative construction[1] of an equivalent design, the MASA Valve has shown statistically-significant improvements in rates of reoperation and reintervention compared to homograft.

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[1]Mid-term data presented at: 2011 Society of Thoracic Surgeons Annual Meeting by Yoshida, M; Bernstein, D. et. al. "Midterm Results for Bicuspid Valved PTFE Conduit for Right Ventricular Outflow Tract Reconstruction."

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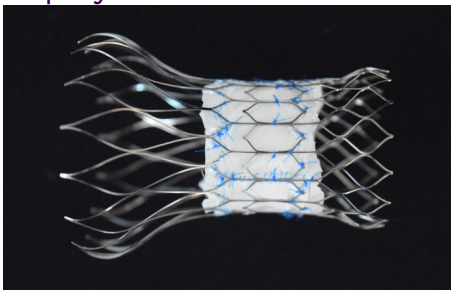
PERSIST

The First Fully-Synthetic Transcatheter Valve

Crimped

Deployed



PECA Labs is developing a transcatheter valve that utilizes fully-synthetic materials towards providing longevity beyond current options, which all utilize biologic valves.

The synthetic transcatheter valve features a leaflet material which has a known bio-inert profile, and an advanced microstructure to provide excellent strength and stability.

Although still in development, early testing with PECA's synthetic transcatheter valve has demonstrated that the design and materials can withstand the most extreme hypertensive pressures without loss of integrity or function.

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Who We Are

PECA Labs is a spin-off of Carnegie Mellon University and the University of Pittsburgh. Our passion is the development of improved devices for cardiothoracic and vascular surgery.

Founded in 2012, PECA's original focus on surgical devices to improve the treatment of congenital heart defects has since broadened into the research and development of an array of cardiovascular surgical devices.

Our model of direct collaboration with surgeons from around the globe is fueling the development of groundbreaking new devices, from expandable vascular conduits to synthetic transcatheter valves.

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