CardioGRAFT®

Pediatric Solutions

Allograft solutions for
cardiac repair and reconstruction
for pediatric applications

LifeNet Health®
Biologics | Cardiovascular

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CardioGRAFT® Pediatric Solutions

LifeNet Health grafts consistently perform as they should, allowing medical professionals to focus on the procedure, and patients to focus on healing. Year after year, this dedication to quality is validated internally and vetted by health-care organizations and industry partners, as well as government and industry regulators.

Our comprehensive portfolio allows customers to get more solutions from a single source – freeing time and resources to focus on providing the highest quality patient care. Our responsive client service department is available 24 hours per day and our Specialists are available to consult with surgeons or conduct in-service programs for operating room staff on allograft preparation.

Dear Donor Family:

First, our family would like to thank you for choosing to give the gift of life. Our daughter, Callie, received a pulmonary conduit from your family at 25 months old. She would not be able to survive had you not made the choice of giving.

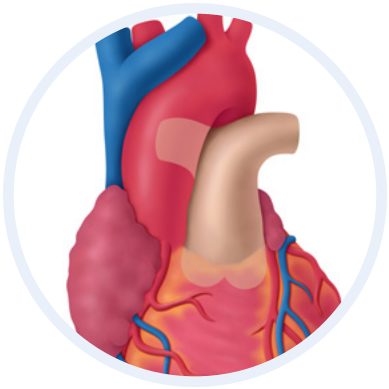
Callie was born with Truncus Arteriosus. It's a severe CHD (Congenital Heart Defect) that requires heart surgery throughout her life to replace her conduit as she grows. The donation from your child is the second pulmonary conduit Callie has received, and we are praying this will last her well into her teen years. Because of your donation, our daughter is back to being a spunky, happy and energetic two year old. Callie is extremely stubborn and one of the sweetest babies you will ever meet.

I wanted to reach out to your family in hopes of helping in your healing process. I wanted you to see that the loss of your loved one saved our baby girl. Without your loved one's donation, Callie would not have received the perfect fit for her little body. I hope that the pictures of Callie and hearing our story will in some way help heal your pain. We will forever be grateful for your decision to help save our little girl!

Love Always,

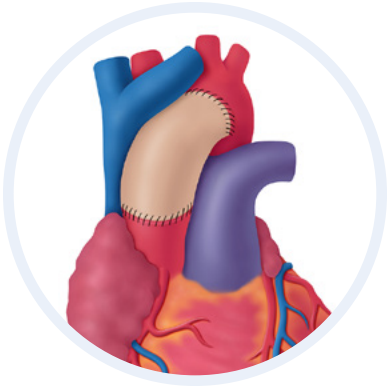
—Jamie, Jessica, Chloe and Callie

Our record of safety, quality, innovation, and service enables us to produce the highest quality allografts, including a full portfolio of cardiac surgical solutions.



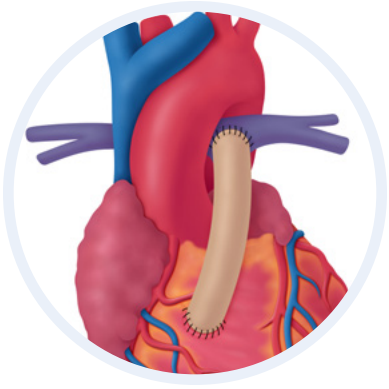
Cardiac Valve Replacement

Clinical Applications:	Clinical Solutions:
• Tetralogy of Fallot	• CardioGraft Aortic Valves (HVA)
• Pulmonary Stenosis	• CardioGraft Pulmonary Valves (HVP)
• Ross Procedure	• CardioGraft Pediatric Conduits - Femoral/Saphenous Vein with competent valve (PFV-C, PCV-C)
• Valve Incompetence/Regurgitation	• AngioGraft Femoral/Saphenous Vein Allografts (FV<21, CV21-30)
• Valve Atresia	



Cardiac Reconstruction with Conduits Without Leaflets

Clinical Applications:	Clinical Solutions:
• Tetralogy of Fallot	• AngioGraft Femoral/Saphenous Vein Allografts (FV<21, CV21-30)
• Pulmonary Atresia	
• Truncus Arteriosus	
• Transposition of the Great Arteries	

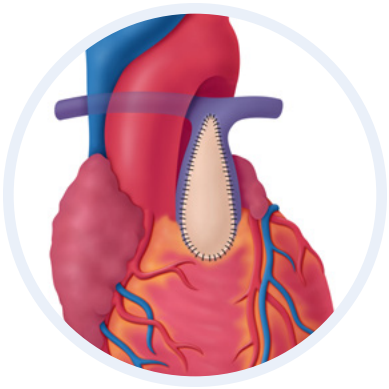


Cardiac Outflow Tract Repair and Reconstruction

Clinical Applications:	Clinical Solutions:
• Tetralogy of Fallot	• CardioGraft Hemi-Pulmonary Artery (LHPA/RHPA)
• Hypoplastic Left Heart Syndrome	• CardioGraft Mono Cusp (MCPL)
• Truncus Arteriosus	• CardioGraft Pulmonary Patch (PPGK/PPGN)
• Transposition of the Great Vessels	• CardioGraft Pediatric Conduit (PFV-C, PCV-C)
• Pulmonary Stenosis/Atresia	• AngioGraft Femoral/Saphenous Vein Allografts (FV<21, CV21-30)
• Outflow tract/Root reconstruction	

Features & Benefits

- Natural ability to resist infection[1,2,3]
- Alleviates the need for anticoagulation therapy[4]
- Reduced thrombosis potential[3]
- Allografts most closely resemble native tissue, making them compliant, flexible and easy to handle



Matracell® Decellularized Cardiac Repair and Reconstruction

Clinical Applications:	Clinical Solutions:
• Repair of the right ventricular outflow tract for Tetralogy of Fallot • Truncus Arteriosus • Transposition of the Great Arteries • Pulmonary Stenosis/Atresia	• CardioGraft-MC® Decellularized Pulmonary Patch (DPPGK/DPPGN) • CardioGraft-MC Decellularized Hemi-Pulmonary Artery (DLHPA, DRHPA)

CardioGraft-MC Features & Benefits

- Clinical effectiveness – lower potential for reoperation or intervention[5,6]
- Patented, validated Matracell decellularization and disinfection process that removes ≥99% of donor DNA[7]
- Resists calcification and stenosis[5,6]
- Potentially reduces operating room time and cost by reducing the rate of serious adverse events and reoperations[8]
- Maintains the biomechanical strength of the native collagen and elastin scaffold[9]

MATRACELL®
The FUTURE Of Xenograft Bio-Implant DECELLULARIZATION

Matracell Technology

Matracell decellularization is a validated, patented process unique to LifeNet Health. It renders tissue acellular without compromising the strong and biocompatible matrix that facilitates cell proliferation and migration for our cardiovascular patches.

Amos (featured on the cover) received a Matracell decellularized pulmonary patch graft shortly after birth. Today, Amos is a lively 4-year-old who loves to eat ice cream and dreams of becoming a fireman.

Heart Valves | CardioGRAFT®

Description	Size	Cryopreserved
Aortic	16 mm and less	HVA-S
Pulmonary	16 mm and less	HVP-S
	17 to 21 mm	HVP-M

Conduits | CardioGRAFT®

Description	Size	Cryopreserved
Pediatric Conduit (Femoral Vein with Competent Valve)	≥6 cm length/≥6 mm diameter (OD)	PFV-C
Pediatric Conduit (Saphenous Vein with Competent Valve)	≥6 cm length/≥4 mm diameter (OD)	PCV-C

Conduits | AngioGRAFT®

Description	Size	Cryopreserved
Femoral Vein	<21 cm length/5-17mm diameter	FV<21
Saphenous Vein	21-30 cm length/3-10mm diameter	CV21-30

Repair | CardioGRAFT®

Description	Size	Cryopreserved
Hemi Pulmonary Artery - Left (No Leaflet)	Varies	LHPA
Hemi Pulmonary Artery - Right (No Leaflet)		RHPA
Mono Cusp Patch (With Leaflet)	22 mm and greater	MCPL
Pulmonary Patch Graft - Trunk	W = 25-50 mm in 5 mm increments; L = 30-60 mm in 5 mm increments	PPGK
Pulmonary Patch Graft - Branch		PPGN

Repair | CardioGRAFT-MC®

Description	Size	Frozen
Matracell® Decellularized Hemi Pulmonary Artery - Left	Varies	DLHPA
Matracell® Decellularized Hemi Pulmonary Artery - Right		DRHPA
Matracell® Decellularized Pulmonary Patch Graft - Trunk	W = 25-50 mm in 5 mm increments; L = 30-60 mm in 5 mm increments	DPPGK
Matracell® Decellularized Pulmonary Patch Graft - Branch		DPPGN

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References

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2. Tuna et al. Results of Homograft Aortic Valve Replacement for Active Endocarditis. Ann Thorac Surg 1990; 49: 619-24
3. Hopkins et al. Cardiac Reconstructions with Allograft Tissues. Springer 2005
4. Pettersson, Coselli, et al. 2016 The American Association for Thoracic Surgery (AATS) consensus guidelines: Surgical treatment of infective endocarditis. Journal of Thoracic and Cardiovascular Surgery, 2017; 153: 1241-1258
5. Lofland GK, et al. Initial pediatric cardiac experience with decellularized allograft patches. Ann of Thoracic Surg, 2012;93:968-71
6. Hopkins RA, et al. Pulmonary Arterioplasty With Decellularized Allogeneic Patches. Ann of Thoracic Surg, Vol. 97, Issue 4, April 2014, Pages 1407-1412
7. LifeNet Health data on file: PQ-07-078
8. CardioGraft-MC (also known as Matracell®) Decellularized Cardiac Patch Allograft Cost-Effectiveness Analysis Musculoskeletal Clinical Regulatory Advisors, June 2014
9. LifeNet Health data on file: TR0082

68-40-379.01

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