Bio ModiVasc INC.

NVC™ NON-VALVED CONDUIT

ALL-BIOLOGICAL

Bio ModiVasc® BIFURCATED VASCULAR GRAFT

The only biological graft that compares well with the autogenous vein

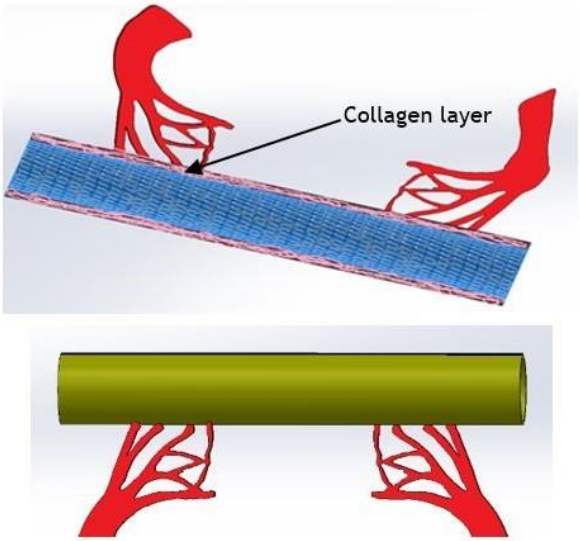
What's the secret? A Monolayer of endothelium on all blood contacting surfaces

A Totally Biological Perima™ and Perima™ Bifurcation

- Clinical experience with over 400 patients and 9000 BioConduit implants, prove resistance to infection at least as good as the autogenous vein [1,2,3]
- Overwhelming results show resistance to stenosis, calcification, dilatation, and thrombosis
- Made from bovine pericardium for superior strength
- Substitute for replacing vascular bifurcated grafts or tissue in patients with infection or at high risk of infection
- Saves 3 to 4 hours in tailoring the autogenous bifurcation (see complete clinical manual)

The Bio ModiVasc® Technology

The Bio ModiVasc® biomodified technology functions to allow growth of the endothelium on all blood contacting surfaces.



- Reduced toxicity
- Enhanced biocompatibility
- Lower rates of infections, adhesions and calcifications[4]
- Allows for endothelialization, thus enhances patency better than any other vascular graft[3,5,8]

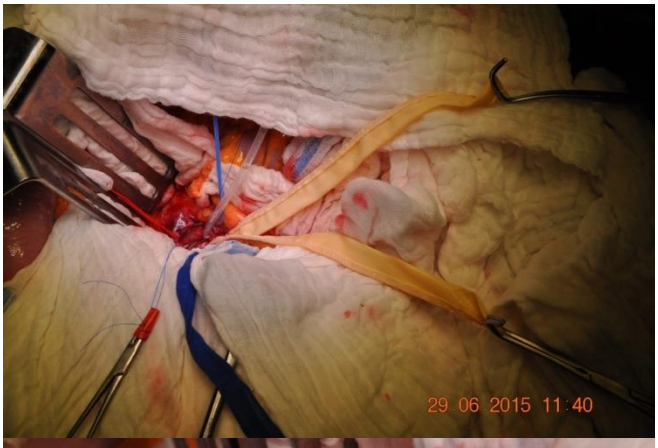
The Only Graft that Resists Biofilms

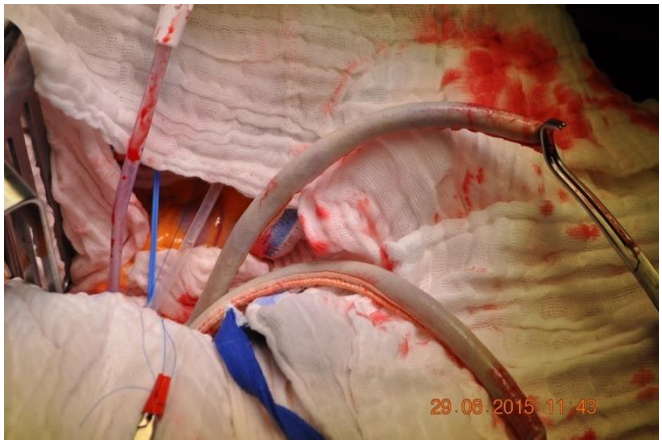
What is a biofilm?

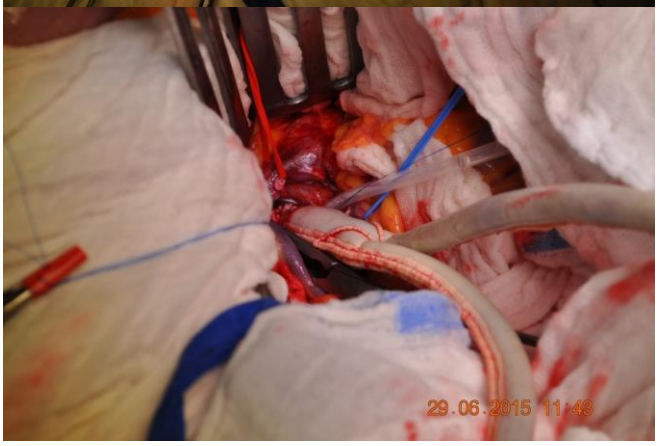
- Biofilms are bacterial colonies covered by a layer of Mucopolysaccharides, preventing antibiotic penetration[6,7]
- Bacterial colonies may resist 900 times the normal dose of antibiotics, a dose lethal to the patient

How does our graft resist biofilms?

- Naturally occurring, blood-borne antibiotics can penetrate biological tissue, making it resistant to biofilms
- After six weeks, the graft is covered by the patient's own endothelium (which prevents the formation of biofilm), becoming practically native tissue







Top Left: implanted, aorta remains clamped

Above: after unclamping the aorta, graft expands

under the pressure

Left: Trunk and bifurcation clearly visible

Bifurcated Vascular Graft Sizes

Code	Proximal Diameter (mm)	Distal Diameter (mm)	Length (cm)
NVC-B16X08	16*	8**	>30
NVC-B18X09	18*	9**	>30
NVC-B20X10	20*	10**	>30

*All inflows are at least 7cm long
** Each device has two outflow legs

REFERENCES

1. Amir Aboholda, et al., "No-React Detoxification Process: A Superior Anticalcification Method for Bioprostheses." Ann. Thor. Surg. 62 (1996) 1724-30.
2. Michele Musci, et al. "Surgical therapy in patients with active infective endocarditis: seven-year single centre experience in a subgroup of 255 patients treated with the Shelhigh stentless bioprosthesis," Eur. J. Card. Surg. 34 (2008) 410-417.
3. Michele Musci, et al. "Further Experience with the "No-React" Bioprosthesis in Patients with Active Infective Endocarditis: 11-Year Single Center Results in 402 Patients" Eur. J. Card. Surg. 61 (2013) 398-408.
4. Yerebakan, C., et al., "Long-term results of biventricular repair after initial Giessen hybrid approach for hypoplastic left heart variants," J. Thor. Card. Surg. 149 (2015).
5. Meduoye, A., Sosnowski, A. and Manuel Galiñanes, "No-React Composite Stentless Aortic Valved Conduit: A Decade of Experience," Presented at Ten Years Follow-Up with No-React Heart Valves, Toronto, Canada. (May 2nd, 2010).
6. Proal, A. "Understanding Biofilms," Bacteriality (2008).
7. Leid, J.G., "Bacterial Biofilms Resist Key Host Defenses," Am. Soc. Microbio., (2009).
8. Victor O. Morell and Peter A Wearden, Experience With Bovine Pericardium for the Reconstruction of the Aortic Arch in Patients Undergoing the Norwood Procedure," Ann. Thor. Surg. 84 (2007) 1312-1315. (Article of Interest)
9. Takkenberg J.J.M., et al., "Prognosis After Aortic Root Replacement with Cryopreserved Allografts in Adults," Ann. Thor. Surg. 75 (2003) 1482-1489. (Article of Interest)

CAUTION: Refer to Instructions For Use provided with each device for complete information regarding indications for use, contraindications, warnings and precautions and potential complications.

Made in Canada. Not all products are available in all countries.