

PRODUCT BROCHURE

Aortic Arch Open Surgery

Hybrid Graft Solutions

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Aortic Arch Open Surgery

Conventional open repair

Viewed by many to be the gold standard to which hybrid repair must be measured.

Disadvantage

Neurologic and cardiovascular complications remain significant causes of morbidity and mortality during management of aortic arch aneurysms.

Hybrid arch repair

Combining open surgical techniques for great vessel revascularization (bypass or debranching) including landing zone reconstruction in conjunction with endovascular stent graft placement.

Advantage

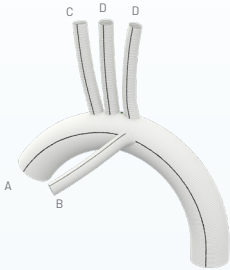
Some types of hybrid arch repair can offer benefits for older patients and in those with significant comorbidities who may not tolerate prolonged cardiopulmonary bypass and circulatory arrest.

Gelweave™ Plexus Grafts

Gelweave™ gelatin sealed grafts with multi-branch designs are indicated for the replacement of the aortic arch & its major branches i.e. the brachiocephalic trunk, common carotid artery and subclavian artery.

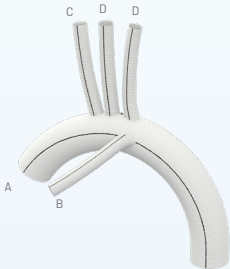
Features

- ▶ Designed for convenience and reduced implant time by eliminating need for branch to body suturing



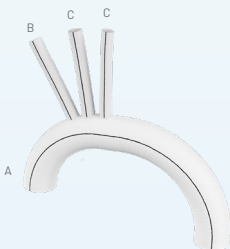
4-branch plexus graft

Bore Size (mm)				Usable Length (cm)				Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	
20	8	10	8	40	15	15	15	73201088/8
22	8	10	8	40	15	15	15	73221088/8
24	8	10	8	40	15	15	15	73241088/8
26	8	10	8	40	15	15	15	73261088/8
28	8	10	8	40	15	15	15	73281088/8
30	8	10	8	40	15	15	15	73301088/8
32	8	10	8	40	15	15	15	73321088/8
34	8	10	8	40	15	15	15	73341088/8
20	10	10	8	40	15	15	15	73201088/10
22	10	10	8	40	15	15	15	73221088/10
24	10	10	8	40	15	15	15	73241088/10
26	10	10	8	40	15	15	15	73261088/10
28	10	10	8	40	15	15	15	73281088/10
30	10	10	8	40	15	15	15	73301088/10
32	10	10	8	40	15	15	15	73321088/10
34	10	10	8	40	15	15	15	73341088/10



4-branch plexus graft with 12mm branch

Bore Size (mm)				Usable Length (cm)				Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	
28	8	12	8	40	15	15	15	73281288/8



3-branch plexus graft

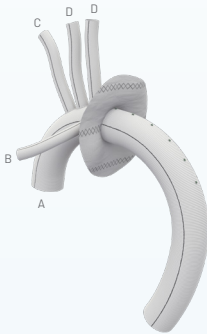
Bore Size (mm)			Usable Length (cm)			Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Main Body (A)	Side Branch (B)	Arch Branch (C)	
20	10	8	40	15	15	73201088
22	10	8	40	15	15	73221088
24	10	8	40	15	15	73241088
26	10	8	40	15	15	73261088
28	10	8	40	15	15	73281088
30	10	8	40	15	15	73301088
32	10	8	40	15	15	73321088
34	10	8	40	15	15	73341088

Gelweave™ Siena Collared Branched Grafts with Radiopaque Markers

The Siena graft with radiopaque markers is intended for use in the first stage of conventional elephant trunk procedures and can also be used for debranching, i.e. reconstruction of the aortic vessels & associated Hybrid procedures.

Features

- ▶ Radiopaque markers facilitate second stage endovascular repair
- ▶ The collar compensates for diameter mismatch between distal aorta and graft, reducing tension on the distal anastomosis and potential for aneurysm rupture before second stage repair¹
- ▶ Permits antegrade perfusion via side branch



Siena 4-branch Plexus graft with radiopaque markers

Bore Size (mm)				Usable Length (cm)				Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	
20	8	10	8	50	15	15	15	73201088/8RM
22	8	10	8	50	15	15	15	73221088/8RM
24	8	10	8	50	15	15	15	73241088/8RM
26	8	10	8	50	15	15	15	73261088/8RM
28	8	10	8	50	15	15	15	73281088/8RM
30	8	10	8	50	15	15	15	73301088/8RM
32	8	10	8	50	15	15	15	73321088/8RM
34	8	10	8	50	15	15	15	73341088/8RM
20	10	10	8	50	15	15	15	73201088/10RM
22	10	10	8	50	15	15	15	73221088/10RM
24	10	10	8	50	15	15	15	73241088/10RM
26	10	10	8	50	15	15	15	73261088/10RM
28	10	10	8	50	15	15	15	73281088/10RM
30	10	10	8	50	15	15	15	73301088/10RM
32	10	10	8	50	15	15	15	73321088/10RM
34	10	10	8	50	15	15	15	73341088/10RM



Siena Ante-Flo graft with radiopaque markers

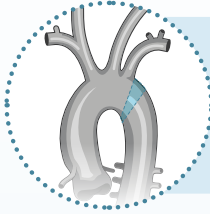
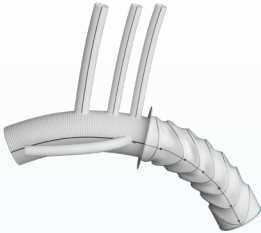
Bore Size (mm)		Usable Length (cm)		Catalogue Number
Main Body	Side Branch	Main Body	Side Branch	
20	8	50	15	735020/8RM
22	8	50	15	735022/8RM
24	8	50	15	735024/8RM
26	8	50	15	735026/8RM
28	8	50	15	735028/8RM
30	8	50	15	735030/8RM
32	8	50	15	735032/8RM
34	8	50	15	735034/8RM
20	10	50	15	735020/10RM
22	10	50	15	735022/10RM
24	10	50	15	735024/10RM
26	10	50	15	735026/10RM
28	10	50	15	735028/10RM
30	10	50	15	735030/10RM
32	10	50	15	735032/10RM
34	10	50	15	735034/10RM

(Hybrid procedures are defined as a treatment combination employing open surgical debranching with endovascular aortic repair).

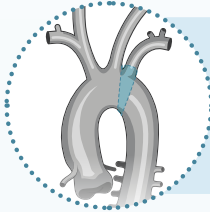
Thoraflex™ Hybrid - Frozen Elephant Trunk

Facilitates Total Arch Repair (TAR); comprising a Gelatin sealed polyester open surgical graft component with an anastomotic collar, adjoined to an endovascular stent for distal thoracic aortic therapy.*

THORAFLEX™ HYBRID PLEXUS



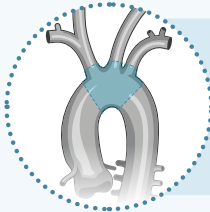
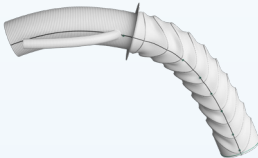
Zone 3
Standard technique



Zone 2
Distal LSA anastomosis

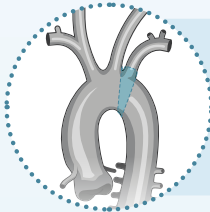
LSA = Left Subclavian Artery

THORAFLEX™ HYBRID ANTE-FLO™

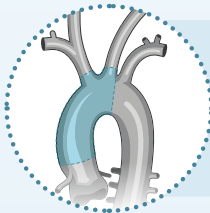


Island/En Bloc
Re-implantation of SAT

SAT = Supra-Aortic Trunk



Zone 2
Distal LSA anastomosis

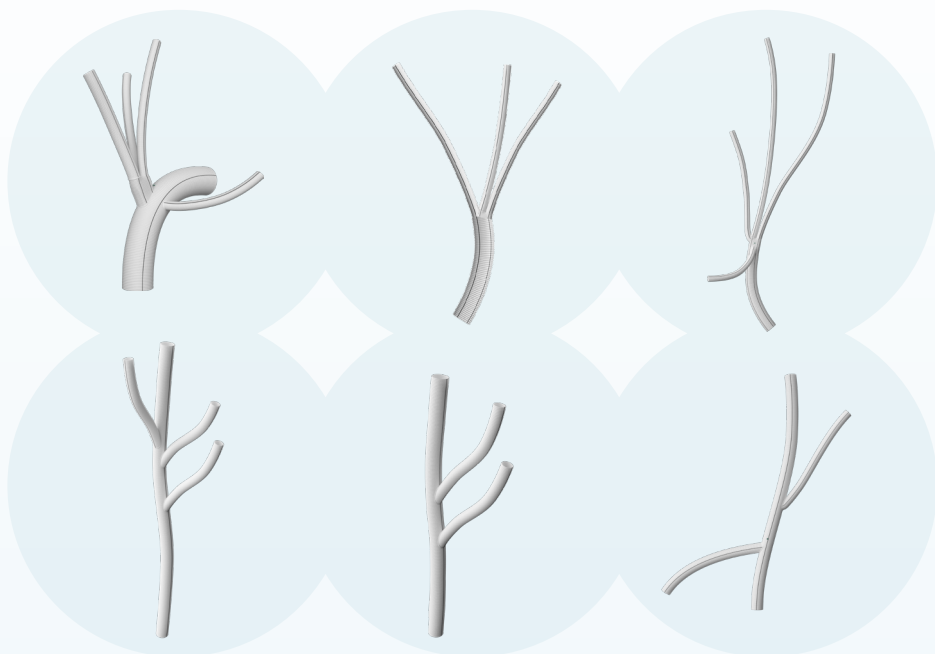


Zone 0/1
Proximal anastomosis

*Relay@Pro NBS is indicated to complete on-label endovascular downstream repair of Thoraflex™ Hybrid when required.
Product availability subject to local regulatory approval

Gelweave™ Branched Grafts

Gelweave™ Branched grafts are indicated for the replacement of the aortic arch & its major branches i.e. the brachiocephalic trunk, common carotid artery and subclavian artery.

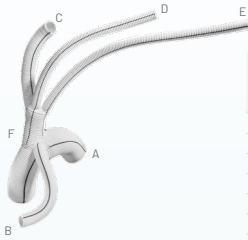


Gelweave™ Branched Grafts

Gelweave™ Branched grafts are indicated for the replacement of the aortic arch & its major branches i.e. the brachiocephalic trunk, common carotid artery and subclavian artery.

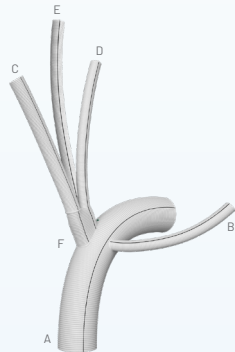
Features

- ▶ Designed for convenient aortic arch repair



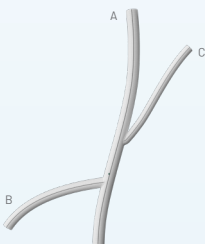
Thoracic arch graft with radiopaque markers

Bore Size (mm)					Usable Length (cm)						Bifurcate Trunk (F)	Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Arch Branch (E)	Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Arch Branch (E)			
22	10	12	8	8	20	30	15	15	30	7	732022CX4RM	
24	10	12	8	8	20	30	15	15	30	7	732024CX4RM	
26	10	12	8	8	20	30	15	15	30	7	732026CX4RM	
28	10	12	8	8	20	30	15	15	30	7	732028CX4RM	
30	10	12	8	8	20	30	15	15	30	7	732030CX4RM	
32	10	12	8	8	20	30	15	15	30	7	732032CX4RM	
34	10	12	8	8	20	30	15	15	30	7	732034CX4RM	



Lupiae thoracic arch graft with radiopaque markers

Bore Size (mm)					Usable Length (cm)						Bifurcate Trunk (F)	Catalogue Number
Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Arch Branch (E)	Main Body (A)	Side Branch (B)	Arch Branch (C)	Arch Branch (D)	Arch Branch (E)			
20	10	10	8	10	40	30	30	30	40	4.7	734020CX4RMS	
22	10	10	8	10	40	30	30	30	40	4.7	734022CX4RMS	
24	10	10	8	10	40	30	30	30	40	4.7	734024CX4RMS	
26	10	10	8	10	40	30	30	30	40	4.7	734026CX4RMS	
28	10	10	8	10	40	30	30	30	40	4.7	734028CX4RMS	
30	10	10	8	10	40	30	30	30	40	4.7	734030CX4RMS	
32	10	10	8	10	40	30	30	30	40	4.7	734032CX4RMS	
34	10	10	8	10	40	30	30	30	40	4.7	734034CX4RMS	



Thoracic arch graft with radiopaque markers

Bore Size (mm)			Usable Length (cm)			Catalogue Number
Main Body (A)	Side Branch (B)	Side Branch (C)	Main Body (A)	Side Branch (B)	Side Branch (C)	
12	10	8	22	10	13	732212/10/8ARM
14	10	10	22	10	13	732214/10/10ARM

- ▶ Allows for antegrade or retrograde deployment of TEVAR

Gelweave™ Trifurcated Grafts

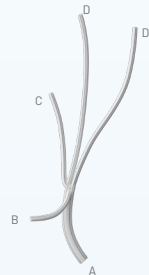
A range of trifurcate arch grafts indicated for debranching i.e. reconstruction of the aortic vessels. The design features of the Trifurcate Arch Graft facilitate techniques that may offer:

- ▶ Shortened hypothermic circulatory arrest time ²
- ▶ Minimised cerebral ischemia ³
- ▶ Reduced risk of embolisation - No touch technique ³
- ▶ Minimised adverse outcomes ²
- ▶ Precise construction of the elephant trunk anastomosis ²



Trifurcate graft

Bore Size (mm)			Usable Length (cm)			Catalogue Number
Main Body (A)	Side Branch (B)	Side Branch (C)	Main Body (A)	Side Branch (B)	Side Branch (C)	
24	12	8	15	30	30	73248812



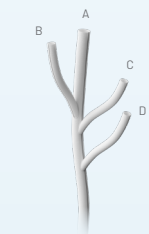
Trifurcate arch graft with side branch and radiopaque markers

Bore Size (mm)				Usable Length (cm)				Catalogue Number
Main Body (A)	Side Branch (B)	Side Branch (C)	Side Branch (D)	Main Body (A)	Side Branch (B)	Side Branch (C)	Side Branch (D)	
12	10	10	6	15	15	30	30	731206/10/10RM
14	10	10	7	15	15	30	30	731407/10/10RM
16	10	10	8	15	15	30	30	731608/10/10RM
16	10	8	8	15	15	30	30	731608/8/10RM



Trifurcate arch graft

Bore Size (mm)		Usable Length (cm)		Catalogue Number
Main Body (A)	Side Branch (B)	Main Body (A)	Side Branch (B)	
12	8	20	10	732012/8X2
14	8	20	10	732014/8X2
12	10	20	10	732012/10X2
14	10	20	10	732014/10X2



Trifurcate arch graft with side branch

Bore Size (mm)				Usable Length (cm)				Catalogue Number
Main Body (A)	Side Branch (B)	Side Branch (C)	Side Branch (D)	Main Body (A)	Side Branch (B)	Side Branch (C)	Side Branch (D)	
10	8	8	10	30	10	10	10	731010/8X2
12	8	8	10	30	10	10	10	731210/8X2
10	8	8	8	30	10	10	10	73108/8X2
12	8	10	10	30	10	10	10	73128/10X2

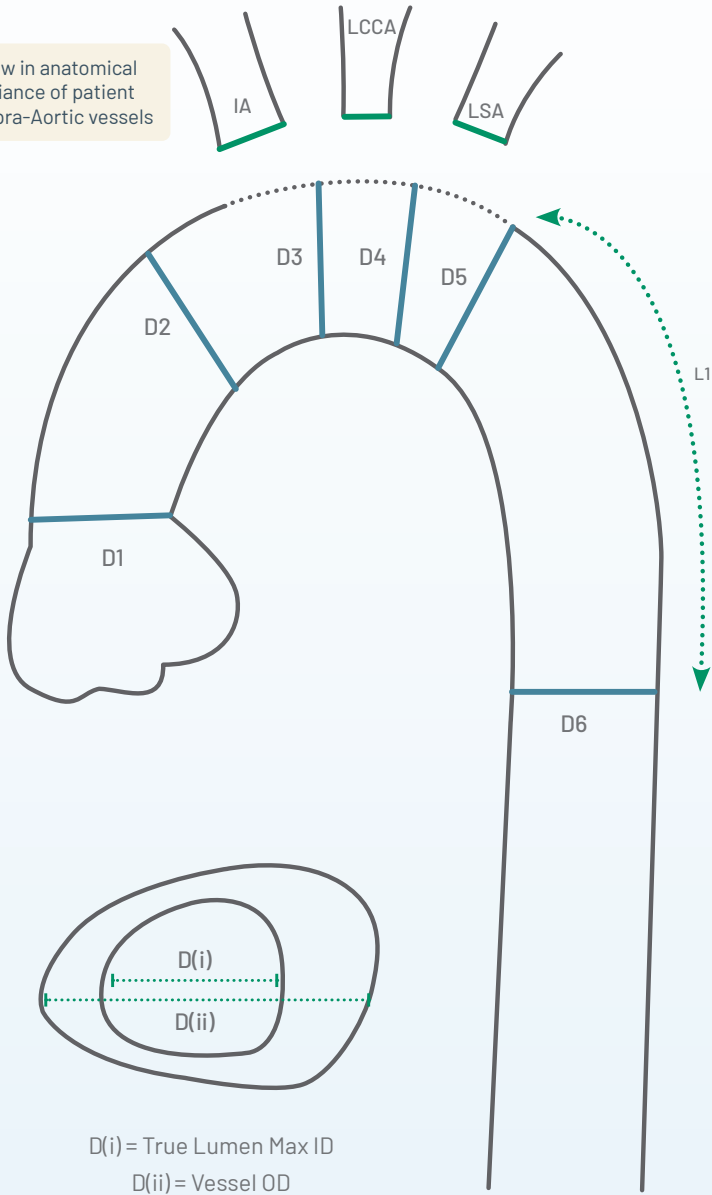
References

1. Neri E et al (2004). "The Elephant Trunk Technique Made Easier." *Annals of Vascular Surgery*, 78(1), e17-18.
2. Strauch JT et al (2004). "Technical Advances in Total Aortic Arch Replacement." *Annals of Vascular Surgery*, 77(2), pp581-590.
3. Spielvogel D et al (2003). "Aortic Arch Reconstruction Using a Trifurcated Graft." *Annals of Vascular Surgery*, 75(3), pp1034-1036.

Sizing Notes

IA: Innominate Artery
LCCA: Left Common Carotid Artery
LSA: Left Subclavian Artery

Draw in anatomical variance of patient Supra-Aortic vessels



D(i) = True Lumen Max ID
D(ii) = Vessel OD

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