

4F Solutions – Minimal is Optimal

4F access – with products allowing treatment of SFA* disease

Fortress®

Reinforced Introducer Sheath

 Excellent kink and deformation resistance


 Easy insertion

 Superb radiopacity

Passeo®-18

0.018" Balloon Catheter

 High pushability

 Low profile and wide range of sizes

 Controlled compliance

Pulsar®

Self-Expanding Stent

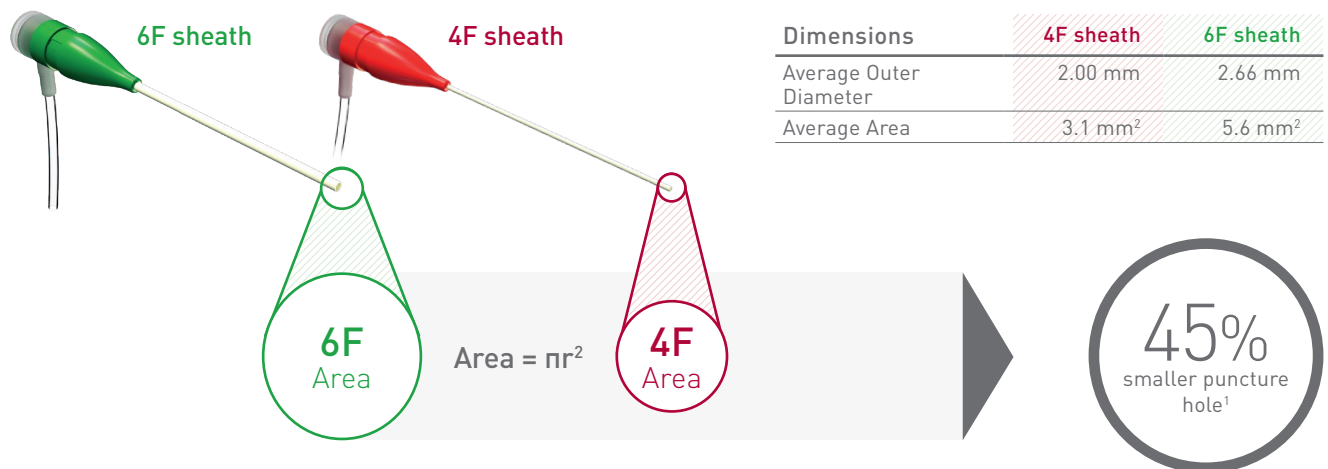
 Clinically proven

 Thin struts, low COF

 4F** low profile

*SFA – Superficial Femoral Artery; ** excluding Pulsar-35 (6F)

4F access – how much smaller is the puncture size?¹



4F access – who may benefit?^{2,3}

Patient

Smaller puncture hole means:

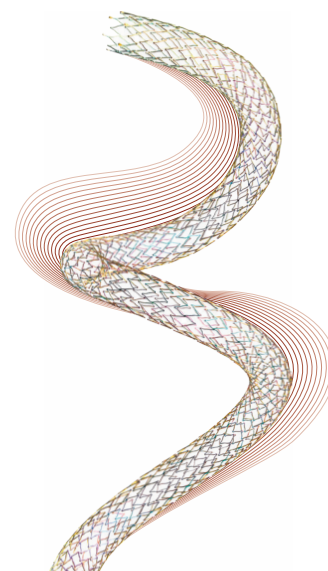
- Less wound complications
- Day case intervention
- Vessel preservation for future intervention

Physician

- Technical success may be improved – low crossing profile
- Potential for reduced risk of distal thrombo-embolization due to low crossing profile
- May permit ambulatory treatment - potentially reducing hospital costs
- May reduce need for Vascular Closure Devices

Smaller puncture hole reducing access site complications.²

4F Solutions – Minimal is Optimal



4F – improved acute outcomes vs 6F²

Potential for safer, faster and simpler procedures than 6F

- Clinically proven lower access site complication rates²
- Shorter compression time²
- 45% smaller puncture site than 6F¹
- No need for a closure device²
- Potential for ambulatory treatment

4F – proven clinical outcomes²

Pulsar long-term safety and efficacy



	A.L.L. [†]	12 months		24 months	
		PP ^{††}	FTLR [§]	PP [†]	FTLR [§]
ALL-COMERS BIOFLEX PEACE ⁴ (stent only)	8.2 cm	84.7%	89.3%	78.4%	89.3%
4F INTERVENTIONS 4EVER ^{2,3}	7.1 cm	81.4%	89.3%	72.3%	82.7%
LONG & OCCLUDED TASC D ⁵	24.5 cm	77.0%	86.0%	-	-

† A.L.L. - Average lesion length; †† PP - Primary Patency; § FTLR - Freedom from Target Lesion Revascularization

Astron Pulsar, Pulsar-18, Pulsar-18 T3 have the same stent platforms, therefore the clinical results are valid for the Pulsar range.

4F – thinner strut stents reduce inflammatory response⁶

Stent strut thickness in perspective⁷

Pulsar BIOTRONIK	Supera Abbott	Lifestent XL Bard	ZilverFlex Cook Medical	Innova Boston Scientific	Everflex Entrust Medtronic
					
140 µm	178 µm	192 µm	193 µm	213 µm	228 µm

Pulsar 140 µm thin struts are thinner than the leading brands⁷ and thin strut stents may reduce inflammatory response associated with restenosis.⁶

1. BIOTRONIK data on file; 2. Bosiers M, et al. 4-French -Compatible Endovascular Material is Safe & Effective in the Treatment of Femoropopliteal Occlusive Disease: Results of the 4EVER Trial. J ENDOVASC THER. 2013; 20: 746-756; 3. Bosiers M. 4EVER 24 month results: long-term results of 4F Pulsar stent in femoropopliteal lesions. Presented at: CIRSE 2013; Barcelona, Spain; 4. Lichtenberg et al. Effectiveness of the Pulsar-18 self-expanding stent with optional drug-coated balloon angioplasty in the treatment of femoropopliteal lesions - the BIOFLEX PEACE All-Comers Registry. Vasa (2019), 1-9. doi_10.10240301-1526a000785; 5. Lichtenberg M. Superficial Femoral Artery TASC D registry: 12-month effectiveness analysis of the Pulsar-18 SE nitinol stent in patients with critical limb ischemia. J Cardiovasc Surg [Torino]. 2013 ; 54(4):433-9; 6. N. Foin et al. Impact of stent strut design in metallic stents and biodegradable scaffolds, International Journal of Cardiology 177 (2014) 800 -808; 7. BIOTRONIK data on file. 6.0 mm diameters

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