

Clinical Performance.

Leveraging 20 years of science.

New Generation of Flow Diverter (Surpass™) for Unruptured Intracranial Aneurysms A Prospective Single-Center Study in 37 Patients

Description	Highlights
Patient population	37
Total aneurysms	49 unruptured aneurysms
Location	n=32 ICA n=8 MCA n=4 ACA n=5 posterior n=14 at bifurcations
Number of Surpass used	0.8 Surpass Flow Diverters per aneurysm 36 patients used only one Surpass
Successful navigation	100%
Successfully deployed	100%
Mortality	0%
Morbidity	3%
Vasospasm	0%
Migration	0%
Complete occlusion at 6 months	94% (29/31 aneurysms with complete neck coverage after implantation)
Side branch occlusions	n=0 (0% symptomatic, 10.7% asymptomatic)

Source: Stroke June 2013, Vol. 44, no. 610, 1567-1577

High Mesh Density Supporting Studies

- An Original Flow Diversion Device for the treatment of Intracranial Aneurysm. Chander Sadasivan, PhD; Ajay Wakhloo, MD; Baruch B. Lieber, PhD (Stroke. 2009;40:962-968)
- Endoluminal Scaffolds for Vascular Reconstruction and Exclusion of aneurysms from Cerebral Circulation. Baruch B. Lieber, PhD; Chander Sadasivan, PhD (Stroke. 2010;41:521-525)

Complete Aneurysm Therapy Solution



TransForm™
OCCLUSION BALLOON CATHETER



Synchro™
GUIDEWIRES



Target™
DETACHABLE COILS

Selection Guide

Longer sizes, as compared to competitive products, may reduce the number of devices needed per aneurysm

Flow Diverter Specifications	2*	3	4	5
Maximum vessel diameter	2.5mm	3.5mm	4.4mm	5.3mm
Recommended minimum	2.0mm	2.5mm	3.4mm	4.3mm
Number of total wires	48	72	72	96
Wire diameter	25µm	32µm		
Number of marker wires	12			
Braided wire material	Cobalt chromium alloy			
Marker wire material	92% platinum 8% tungsten			
Mesh density (pores/mm ²)	20-32			
Delivery System	2	3	4	5
Outer Diameter, proximal/distal	3.7F/3.3F (1.2mm/1.1mm)	3.9F/3.7F (1.3mm/1.2mm)		
Minimum recommended microcatheter ID	0.057in (1.447mm)			
Working length	150cm	135cm		

*Note that the 2mm size is not available on the Surpass Streamline delivery system.

Product Sizes and Catalog Numbers

		Diameter (mm)			
		2*	3	4	5
Length (mm)	12	502FPP			
	15	503FPP	100FPP	115FPP	
	20	504FPP	101FPP	110FPP	124FPP
	25		102FPP	111FPP	120FPP
	30			112FPP	121FPP
	40			113FPP	122FPP
	50			114FPP	123FPP

*Note that the 2mm size is not available on the Surpass Streamline delivery system.

Surpass™ Flow Diverter

See package insert for complete indications, contraindications, warnings and instructions for use
INTENDED USE/INDICATIONS FOR USE

The Surpass Flow Diverter is indicated for use for the treatment of saccular or fusiform intracranial aneurysms arising from a parent vessel with a diameter of ≥2 mm and ≤5.3 mm.

THIS DOCUMENT IS INTENDED SOLELY FOR THE USE OF HEALTHCARE PROFESSIONALS.

A physician must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that physicians be trained in the use of any particular product before using it in a procedure. The information presented is intended to demonstrate the breadth of Stryker product offerings. A physician must always

refer to the package insert, product label and/or instructions for use before using any Stryker product. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area. The Stryker products listed above are CE marked according to the Medical Device Directive 93/42/EEC.

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Surpass™ Streamline™

FLOW DIVERTER

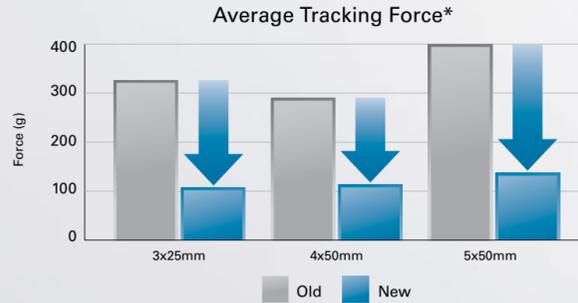
Streamlined Delivery.

Simplified Deployment.

Superior Diversion.

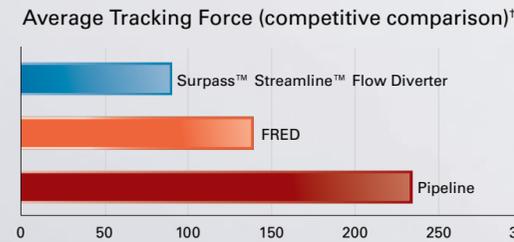
Stroke: Our Only Focus. Our Ongoing Promise.

Streamlined Delivery. Simplified Deployment.



67% Less Tracking Force than Legacy Surpass

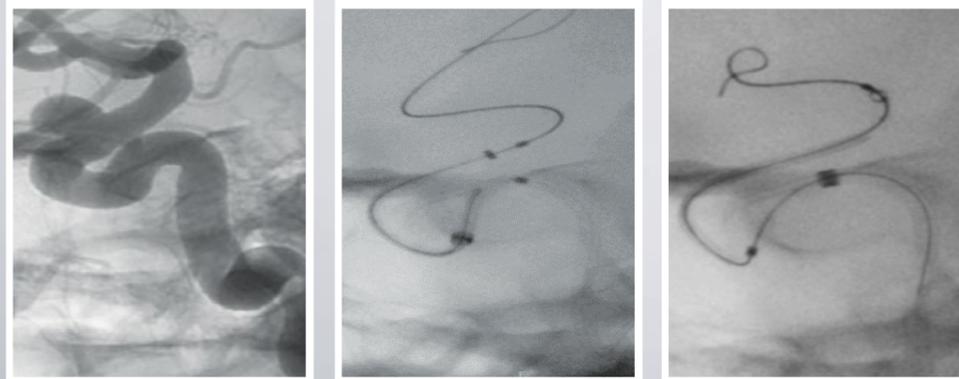
- Improved Flexibility
Nitinol-reinforced outer catheter
- Enhanced Proximal Stability
Thicker hypotube for increased column strength



34% Less Tracking Force than FRED

61% Less Tracking Force than Pipeline

Access Even the Most Tortuous Anatomy



Images courtesy of Alex Coon, MD – used with permission

- Enhanced atraumatic access to distal vasculature using an intermediate catheter
- Better fit for better climbing performance

Bench test results may not necessarily be indicative of clinical performance.
Competitive comparison evaluated Surpass through 0.057in ID guide catheter and competitive technologies through XT-27™ Catheter.
*Compared to Legacy Surpass™ Flow Diverter.
†Bench testing included Surpass Streamline Flow Diverter 4x20mm (n=5), PED 4x20mm (n=3) and FRED 4x23mm (n=2).
Testing completed by Stryker Neurovascular. Data on file and available upon request.

Optimized for Opening

- More wires for a **stable braid**
- Cobalt Chromium for a **strong braid**
- More radial force
- Continuous opening with **no kinking or twisting**

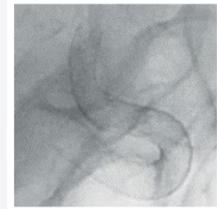


Image courtesy of Peter Kan, MD – used with permission

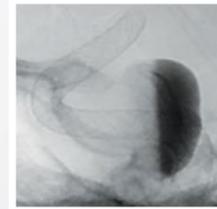


Image courtesy of Peter Kan, MD – used with permission

Control Guidewire Tip During Deployment

- Maintain guidewire access
- Facilitates **recrossing**

Accurate Placement

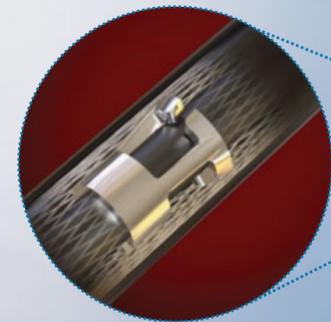
- Never shorter than its labeled length after deployment

Long Lengths

- Up to 50mm
- Minimize the need for multiple devices

Recapture and Redeploy

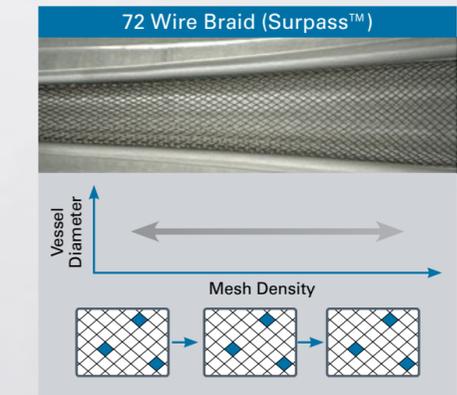
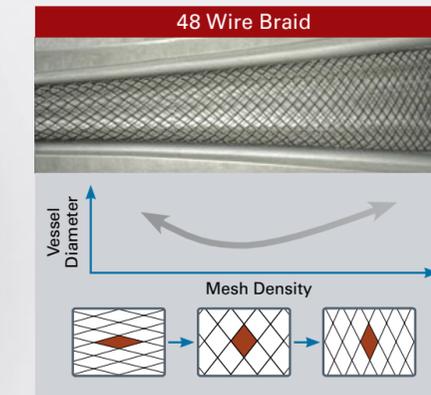
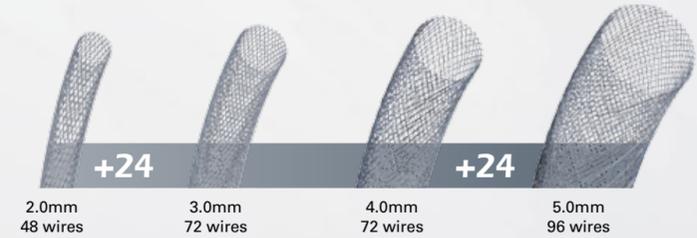
- Engineered to be repositioned up to **3x**



Superior Diversion.

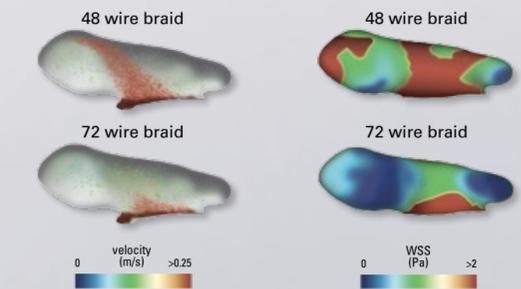
High Mesh Density = Consistent Occlusion

- More wires = **Higher Mesh Density**
- Maintaining high mesh density may lead to **faster aneurysm occlusion**
- Consistent flow diversion** across vessels that taper



Why is Mesh Density Important?

- Increasing wires from 48 to 72
 - Reduces aneurysm inflow rate by **24%**
 - Shrinks the impact zone by almost **90%**



Results from case studies are not predictive of results in other cases. Results in other cases may vary.

All photographs taken by and on file at Stryker Neurovascular. Bench test results may not necessarily be indicative of clinical performance. Testing completed by Stryker Neurovascular. Data on file and available upon request.