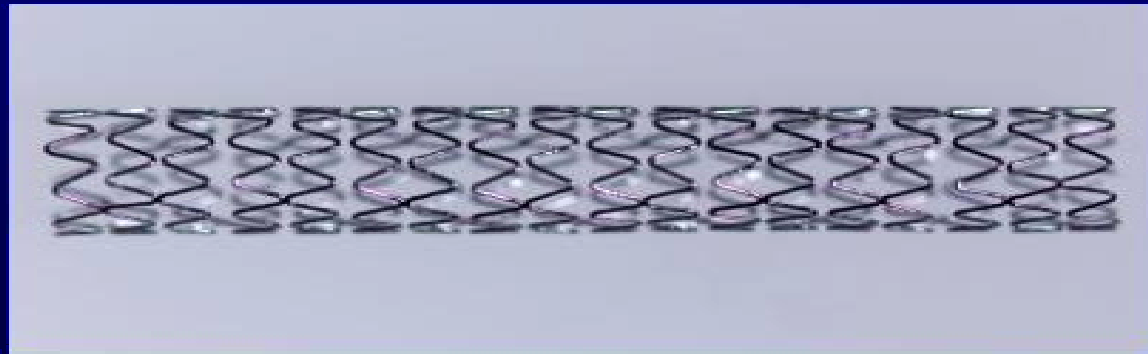
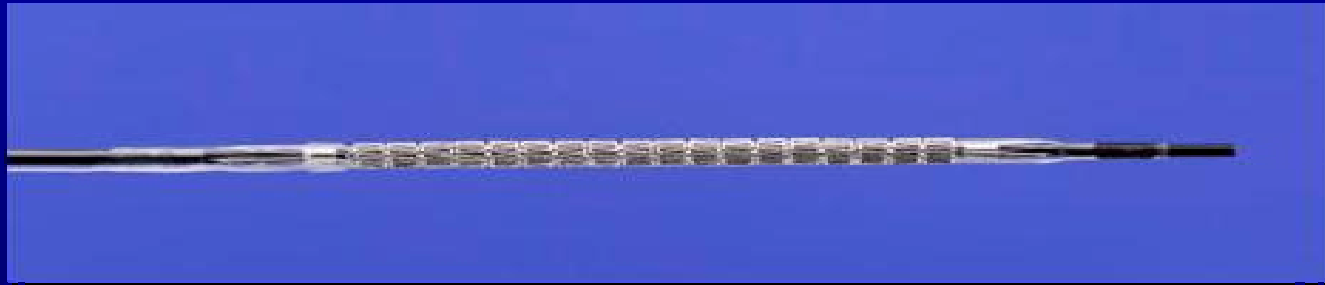


Driver-Cobalt Alloy Stent Deliverers

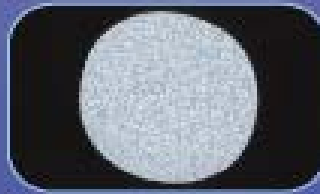


Alan C. Yeung, MD

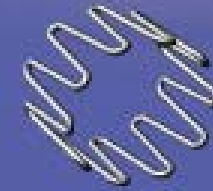
Driver Coronary Stent System



New cobalt alloy



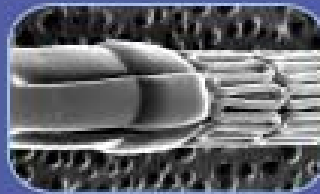
Thin struts



Modular design



Wrap-crimp for low profile



SECURE TECHNOLOGY



DISCRETE TECHNOLOGY



5F Compatible*



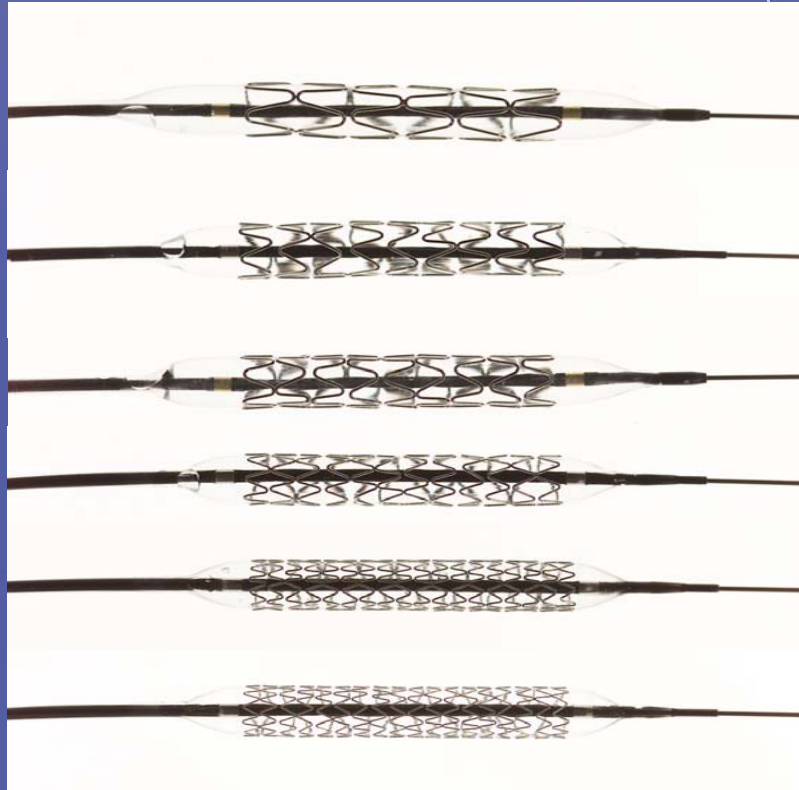
Direct stenting



Spiral-cut hypotube

*3.0, 3.5, 4.0 mm diameters

Modular Stent Design History



	Number of Crowns	Strut Length (mm)
MS II	4	3.0
GFX	6	2.0
GFX2	6	2.0
S670	7	1.5
S7	10	1.0
Driver	10	1.0

Driver Stent Specifications vs S7

	Driver	S7
Material	Cobalt alloy	316L Stainless steel
Element Length	1.0 mm	1.0 mm
Number of Crowns	10	10
Number of Struts	20	20
Strut Dimensions	0.0036" x 0.0037"	0.0045" x 0.0050"
Recoil	< 2%	~2%
Foreshortening	< 2% (3.0-4.0 mm) < 6% (4.5 mm)	< 2%
Vessel Wall Coverage	13-19%	18-24%

Driver Cobalt Alloy: *Proven Implant Material*

- ✧ **Cobalt alloys have been used in medical implants for more than 30 years**
- ✧ **The cobalt alloy used in Driver has also been used in:**
 - **Medtronic pacemaker leads**
 - **Aneurysm clips**
 - **Septal occluder**

Benefits of Driver Cobalt Alloy Over 316L Stainless Steel

✧ Stronger

- For thinner struts, lower profile, and improved flexibility without compromising radial strength

✧ Higher density

- For thinner struts without compromising radiopacity

✧ More fatigue-resistant

✧ More corrosion-resistant

✧ Non-ferromagnetic

- MRI compatible

Driver Coronary Stent System



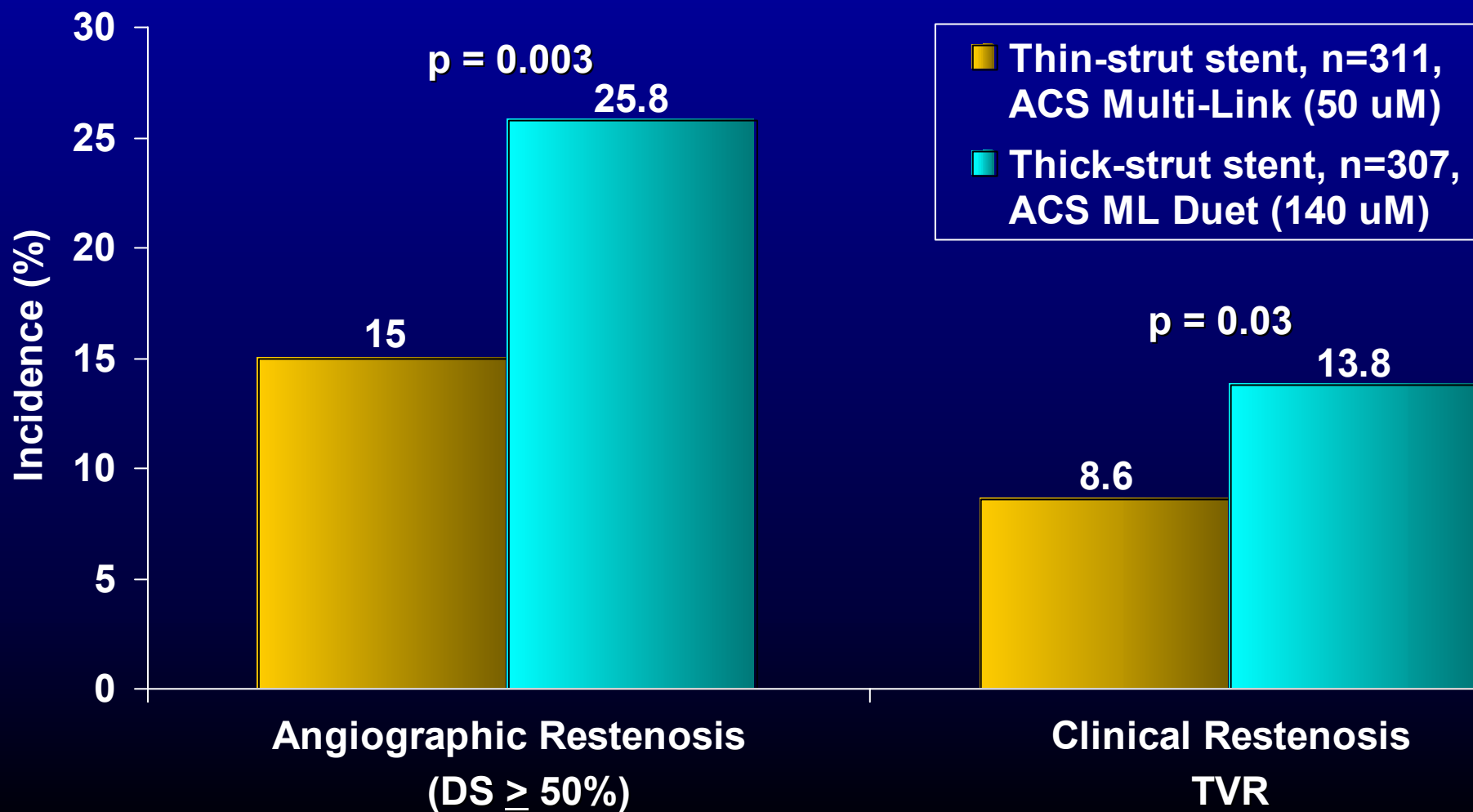
Restenosis and Stent Design

- ☆ **Some clinical evidence suggests that thinner struts may result in lower restenosis rates**

- ☆ **Hypothesized mechanisms include:**
 - **Less damage**
 - **Less metal implanted**
 - **More favorable flow conditions**
 - **Faster endothelialization**

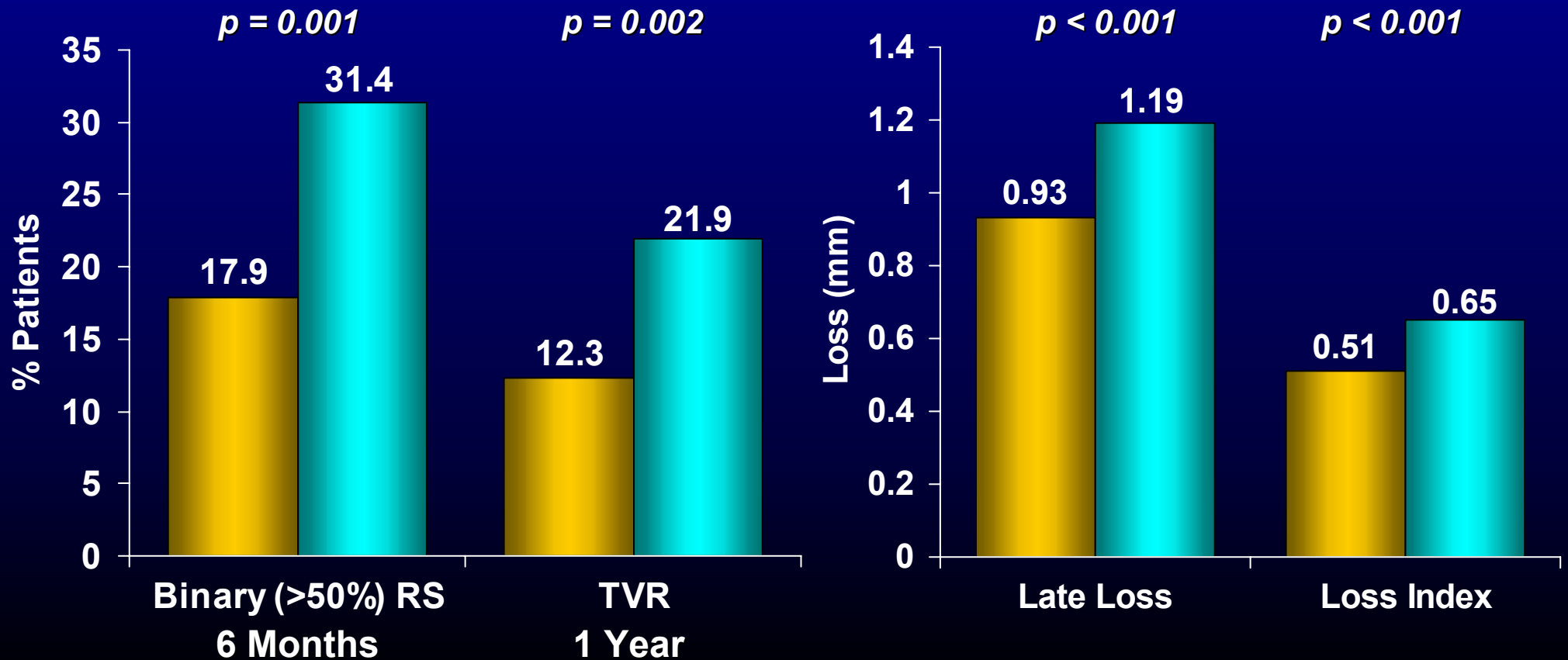
Stent Strut Thickness Influences Restenosis

Multi-Link™ Stent: ISAR-STEREO 1; 651 Pts, 6-Mth F/U



Stent Design and Strut Thickness Affect Long-Term Outcome of Stenting: ISAR-STEREO II

- Thin Strut (50 μ M) Rx Multi Link (n=309)
- Thick Strut (140 μ M) Bx Velocity (n=302)



In-Stent Restenosis in Small Coronary Arteries

Impact of Stent Thickness

821 / 1,447 Pts with 8 ± 2 month Angio f/u, vessels < 3 mm
 Thin strut < 0.10 mm; Thick strut ≥ 0.10 mm

	Thin Strut N = 505 Lesions	Thick Strut N = 436 Lesions	P-value
Angiographic RS	28.5%	36.6%	0.009
Late Loss	1.04 ± 0.79	1.16 ± 0.76	0.03
Loss Index	0.54 ± 0.43	0.66 ± 0.47	0.001

Multivariate Predictors of RS:

Stent Length

Strut Thickness

Diabetes

In-Stent Restenosis in Small Coronary Arteries

Impact of Stent Thickness

		Vessel Diameter		
		≤ 2.5 N = 300	2.51-2.75 N = 291	2.76-2.99 N = 350
Restenosis	Thin	31.8%	32.0%	23.5%
	Thick	34.9%	37.9%	37.0%*
Loss Index	Thin	0.56 ± 0.40	0.57 ± 0.47	0.48 ± 0.37
	Thick	0.62 ± 0.39	0.64 ± 0.38	0.78 ± 0.37†

* $p = 0.006$

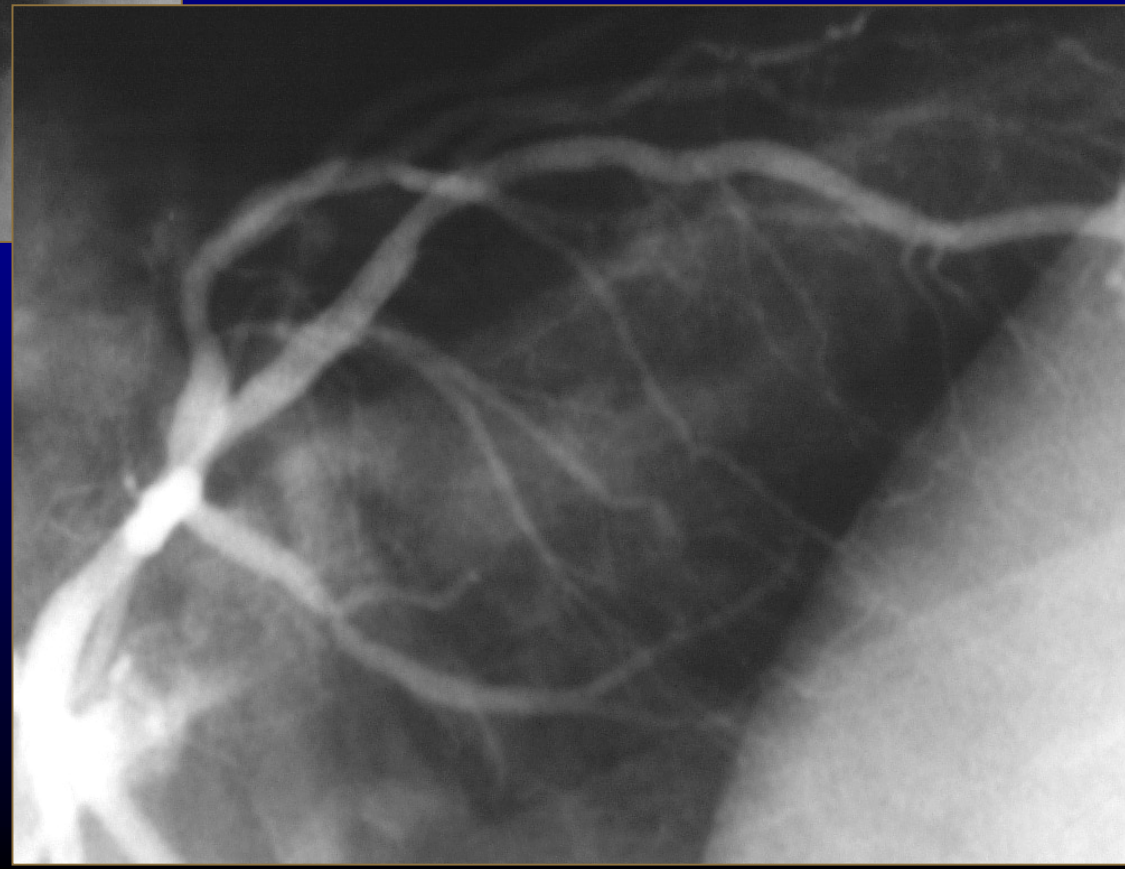
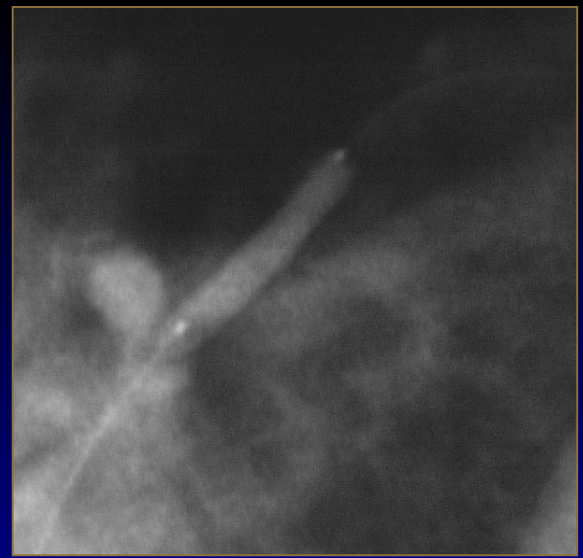
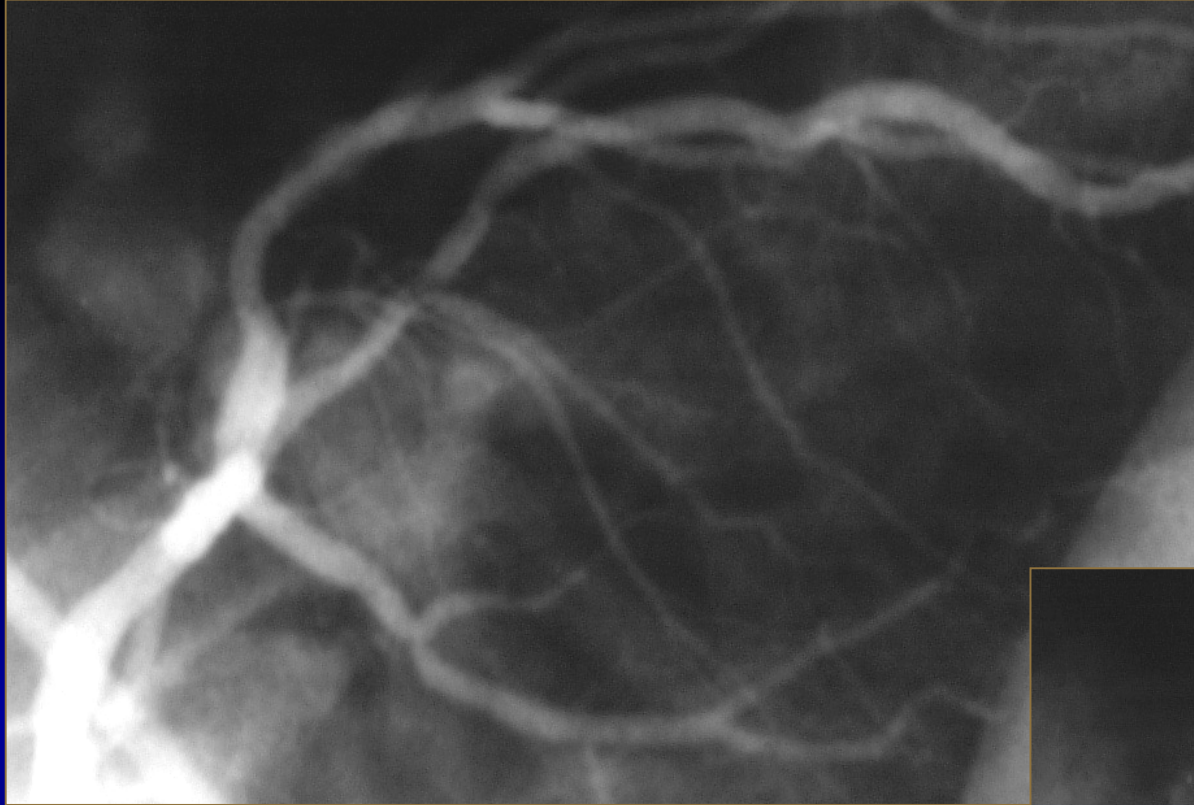
† $p < 0.05$

Evolution of Modular Stent Strut Thickness

Year	Stent	Strut Thickness (in)	
1997	Micro Stent II	0.008	 Decrease in Stent Thickness
1998	GFX	0.0053	
1999	S670	0.0048	
2001	S7	0.0045	
2002	Driver*	0.0036	

Images represent cross-sectional view of stent strut

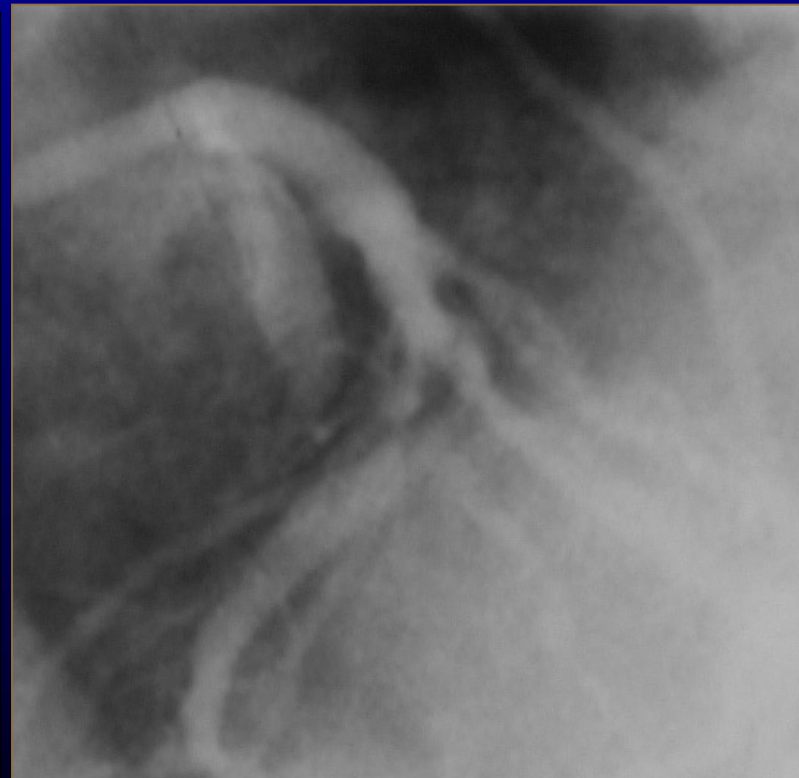
Caution: Investigational device limited by Federal (US) law to investigational use only



**Medtronic AVE
Driver/S8 Stent**



Medtronic AVE Driver/S8 Stent





Medtronic AVE Driver/S8 Stent

