

23rd CARDIOVASCULAR SUMMIT
TCTAP2018

April 28 - May 1, 2018
Coex, Seoul, Korea

**Trans-radial Carotid Stenting:
5 Tips for Technical Success**

Prof. Piotr Pieniazek MD PhD

John Paul II Hospital in Krakow,
Jagiellonian University Institute of Cardiology,
Krakow, Poland



Potential conflicts of interest

Piotr Pieniazek, MD, Ph.D.

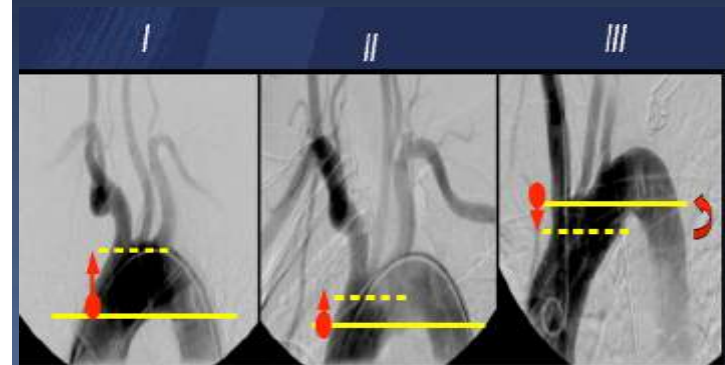
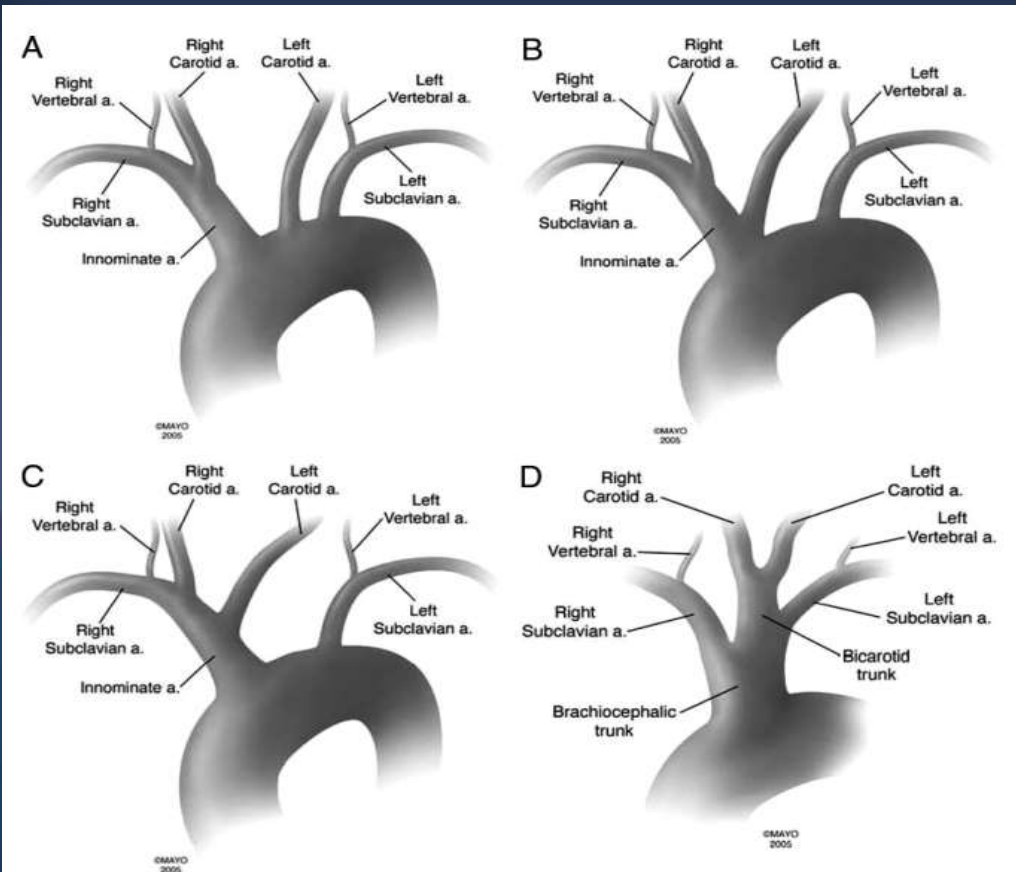
✓ I have the following potential conflicts of interest to report.

Consulting; Study Honoraria; Travel Expenses; Trials Involvement:

- **Boston Scientific**
- **Abbott**
- **Medtronic**
- **Terumo**
- **Balton**
- **Astra Zeneca**

Five tips & tricks for radial access for CAS

Number 1 : Carotid artery and aortic arch anatomy & radial or brachial artery access !!!!



Aortic arch

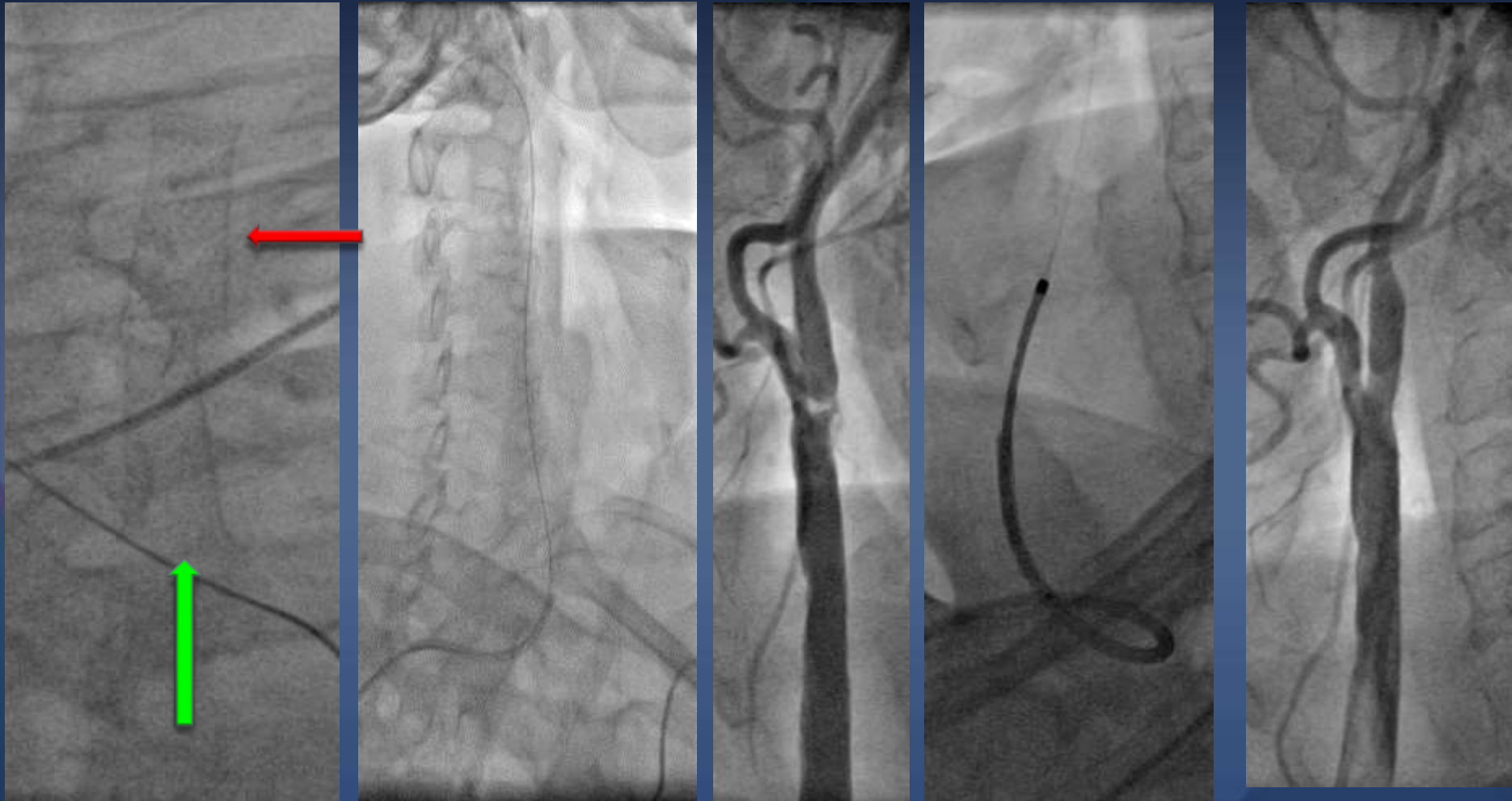


Bovine arch

can be crucial in determining CAS feasibility & safety

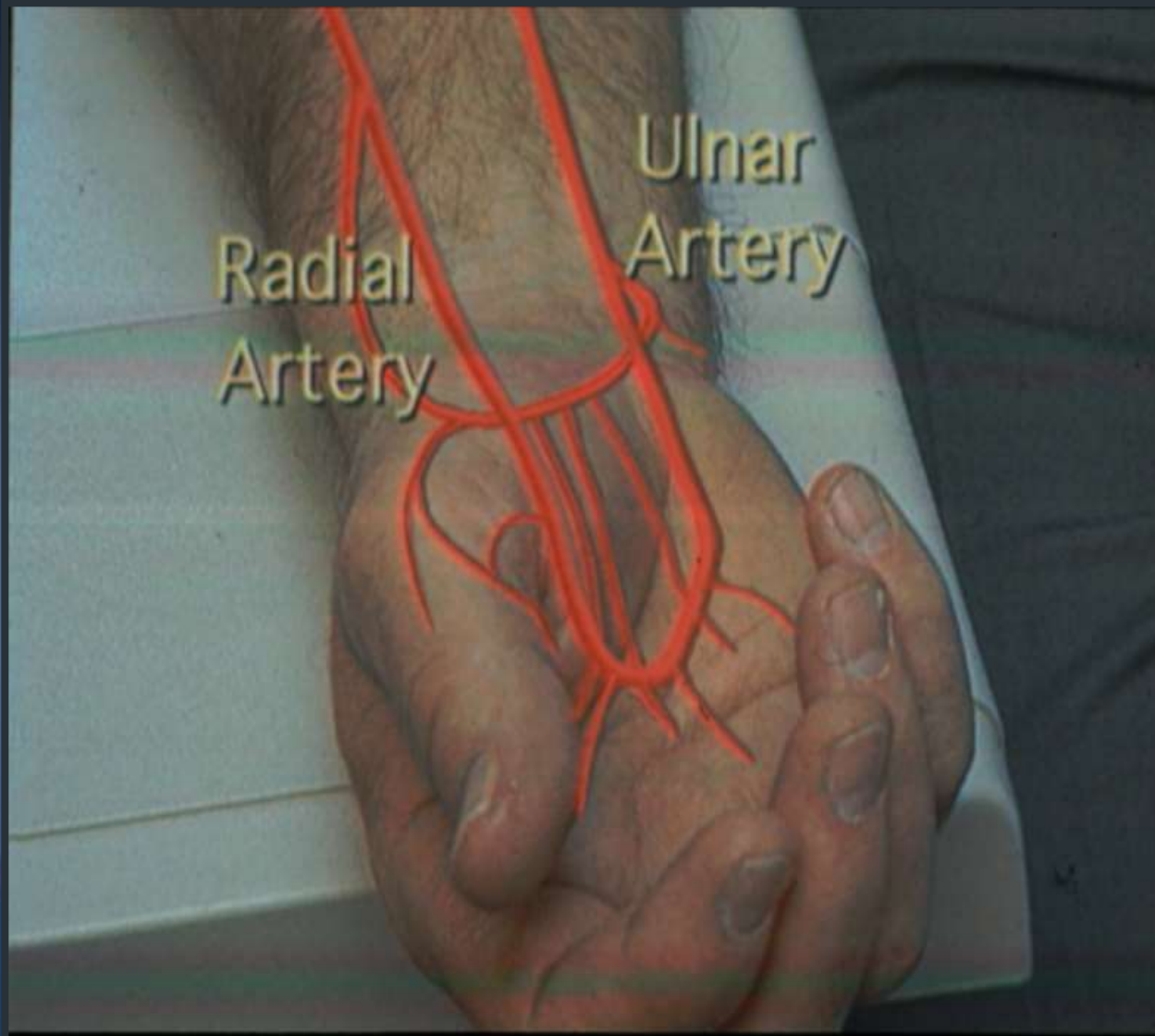
Unusual situation !!!!

RICA – 95% symptomatic stenosis + hanging X-act carotid stent that was moved to the aortic arch during 2 stent implantation for ostial LCCA stenosis!!!

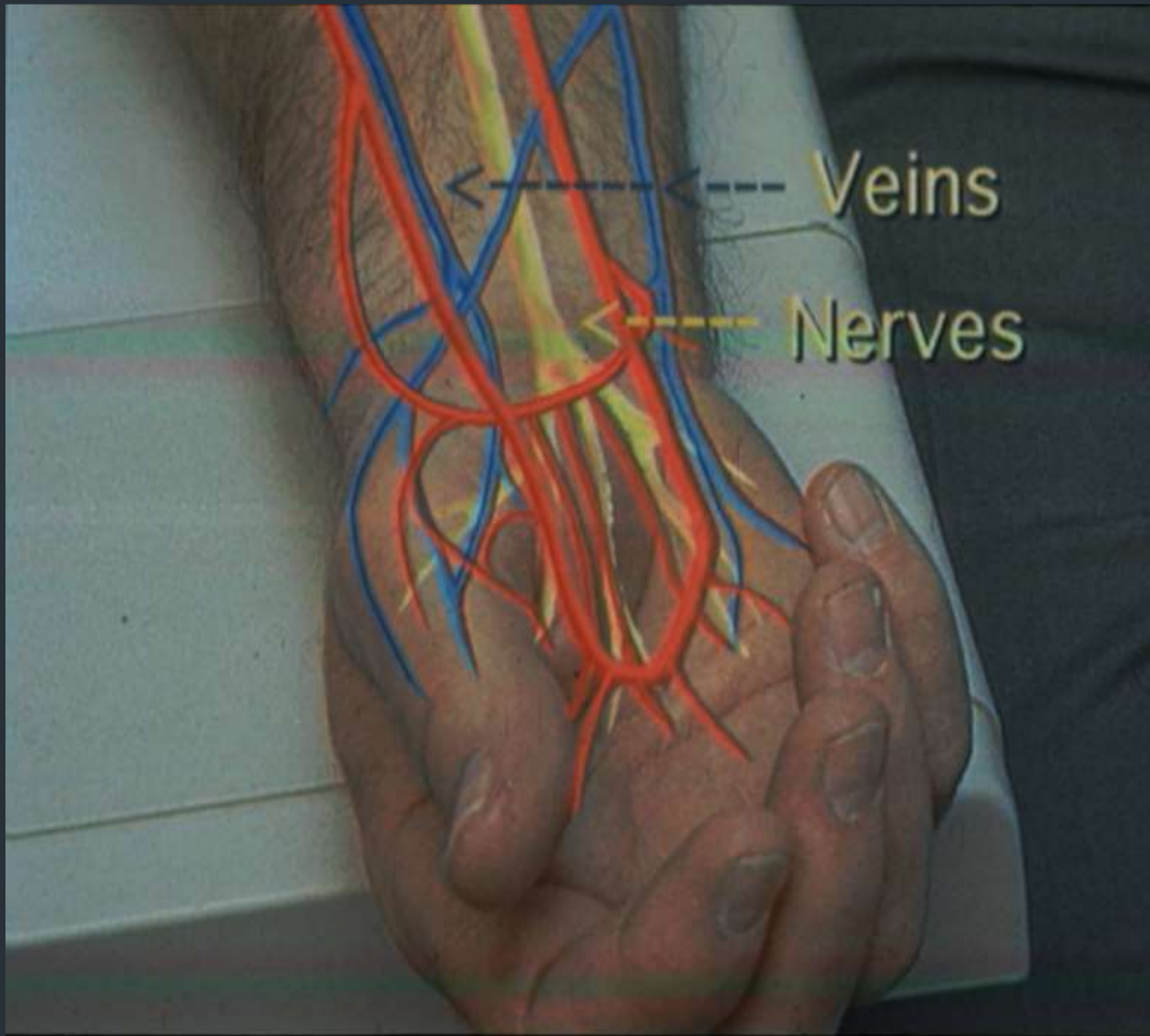


No touch technique of aortic arch from right radial access !!!

The Anatomy



The Anatomy

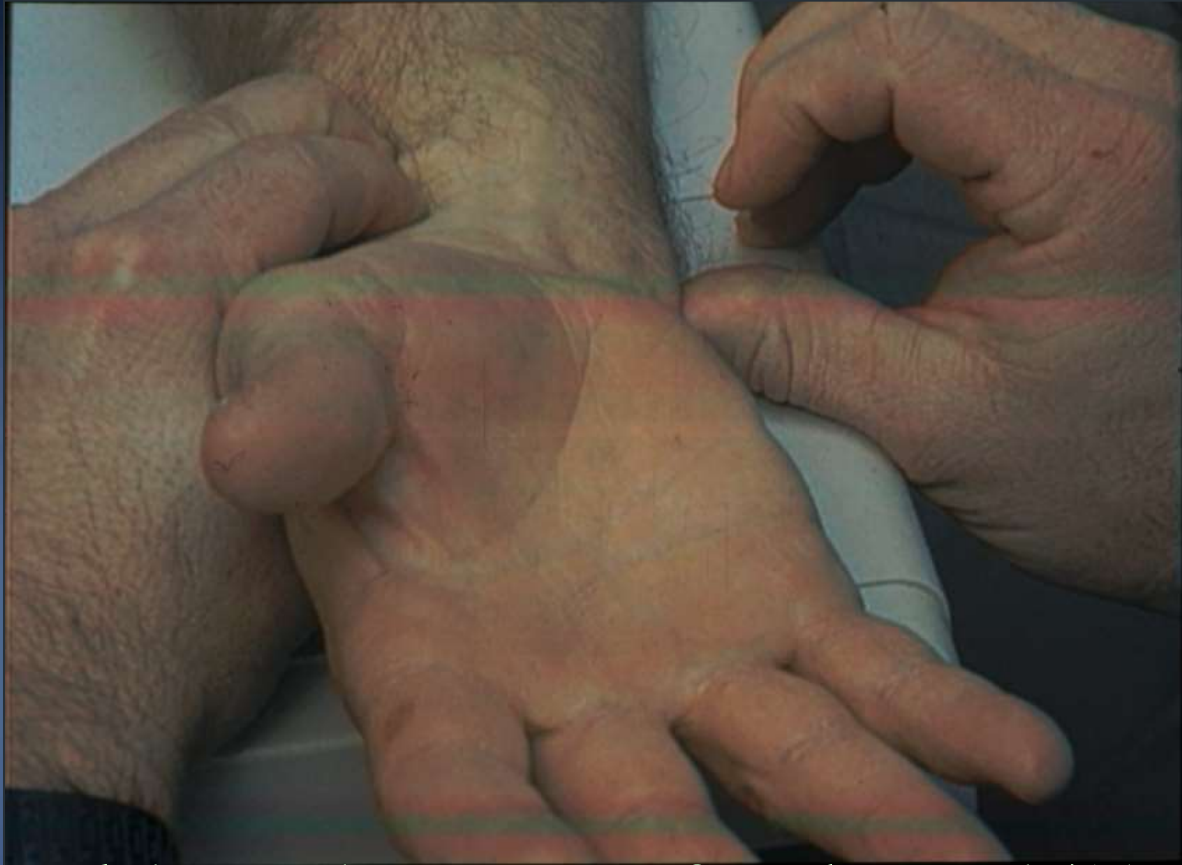


Allen's Test - Can be performed \pm Oximetry test



Peripheral vascular diseases. Edgar van Nuys Allen, MD and others with associates in the Mayo Clinic and Mayo Foundation; 2nd edition, Philadelphia, Saunders, 1955.

Allen's Test - Can be performed \pm Oximetry test



❖ We recommend that, in the presence of an abnormal AT, the RA should not be used for cardiac catheterization unless the risk of using the femoral approach is excessive.

❖ Greenwood et al. JACC Vol. 46, No. 11, 2005, 2005:2013–7

Unique solution for transradial access intervention !!! Glidesheath SLENDER



Antispasmodic cocktail : 2.5mg Verapamil, 200ug Nitroglycerin and 5000 IU Heparin

I do not recommend 8 Fr sheath and proximal protection

Five tips & tricks for radial access for CAS

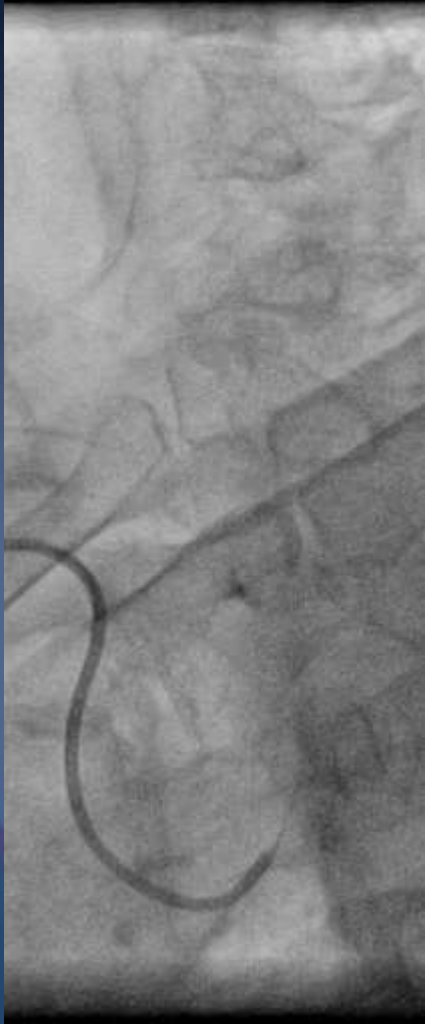
Number 2: diagnostic catheter & guide wire selection



Typical example of radial access for carotid stenting requiring Cobra 1, 2 or 3 and Simmons 1 or 2 diagnostic catheter !!



Why do we need different wires??? Only Jindo 6cm wire was useful to introduce guiding catheter !!!!



V-18 Control wire and Advantage wire not allowed to introduce guiding cath.

Five tips & tricks for radial access for CAS

Number 3: Guiding catheters or sheaths selection



Crucial issue for CAS from right radial artery is CCA intubation!!!
5Fr Terumo Destination only for LCCA intubation in case of
Bovine Arch

Five tips & tricks for radial access for CAS

Number 4 : Neuroprotection and new additional NPD. Dystal NPD is a must !!!

Emboshield



FilterWireEZ



Interceptor

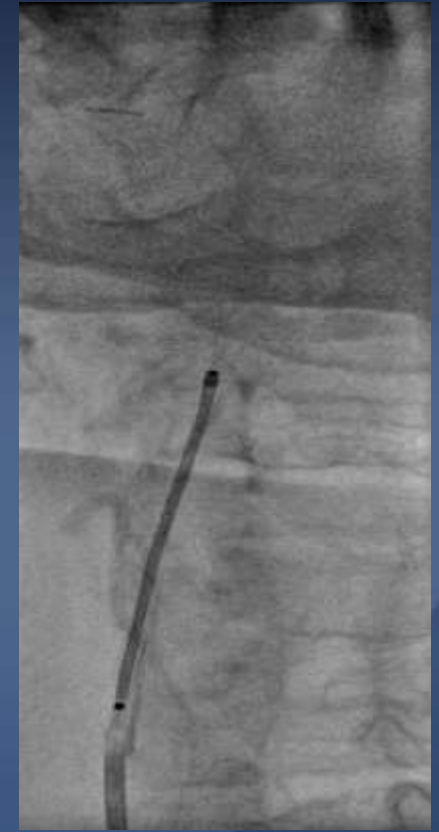
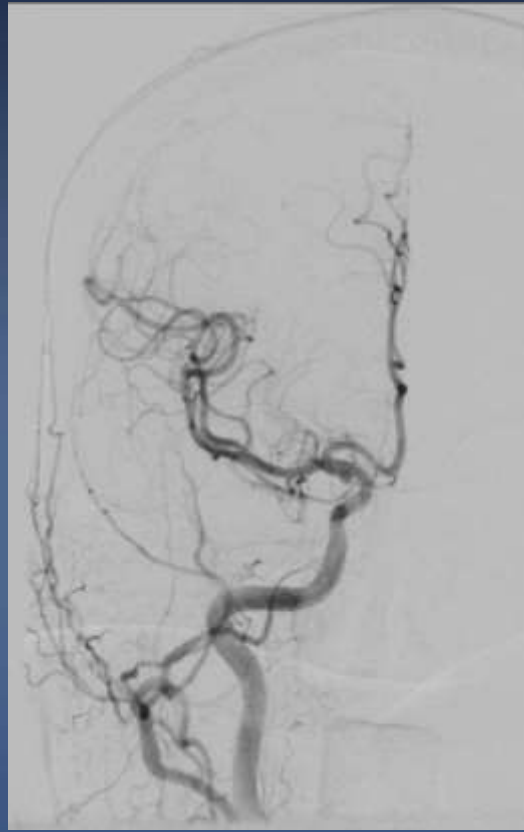
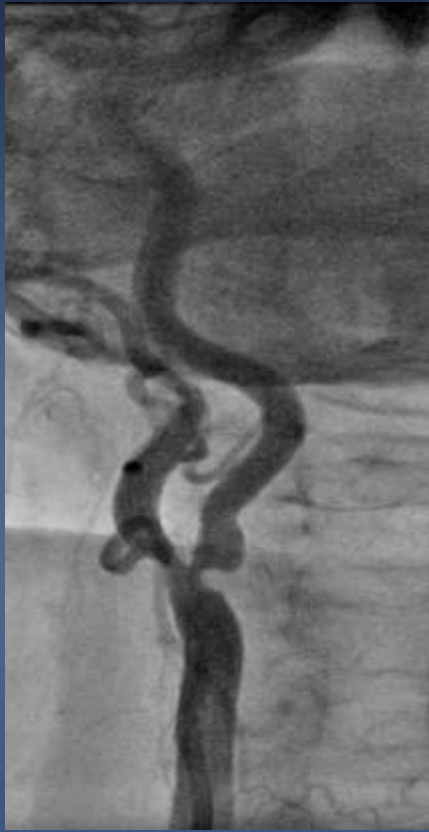


SPIDER



All filters 6/7F compatible and PALADIN device can be also used

Very symptomatic (recurrent TIAs) RICA stenosis in pt with Leriche Syndrome



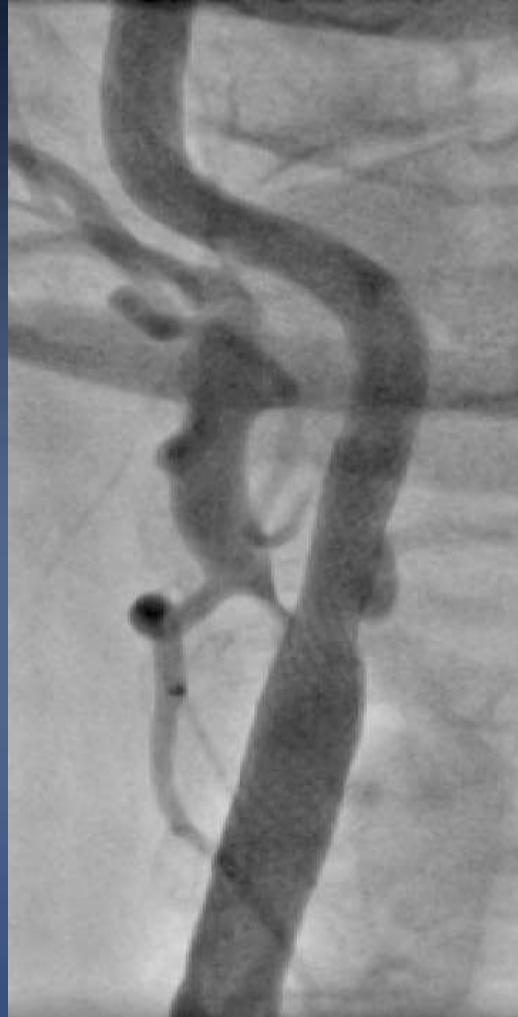
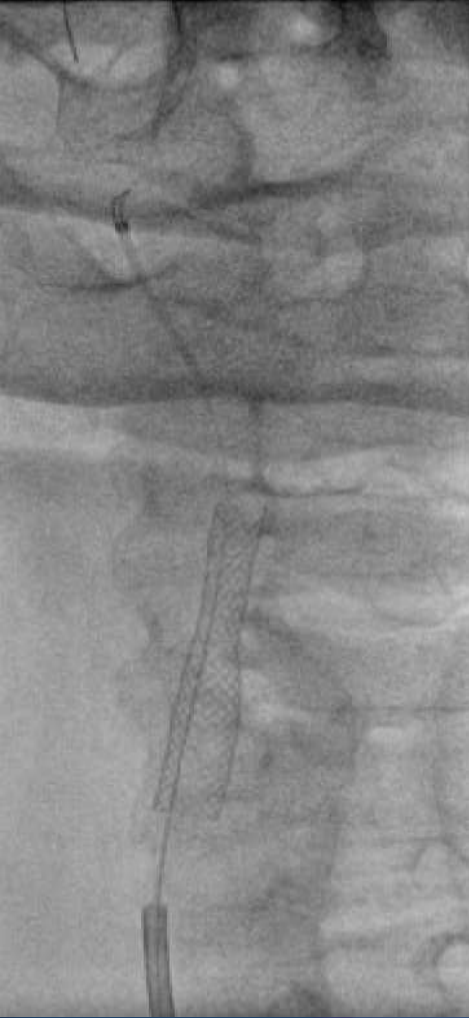
CAS procedure with double filter protection: EpiFilter Wire
and PALADIN !!!!

Very symptomatic (recurrent TIA's) RICA stenosis in pt with Leriche Syndrome



CAS procedure with double filter protection: FilterWire EZ and PALADIN !!!!

Very symptomatic (recurrent TIA's) RICA stenosis in pt with Leriche Syndrome



CAS procedure with double filter protection: FilterWire EZ and PALADIN !!!!

Five tips & tricks for radial access for CAS


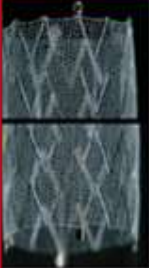






Number 5: Not all carotid stents should be used for radial access

Do not use 6 Fr carotid stents

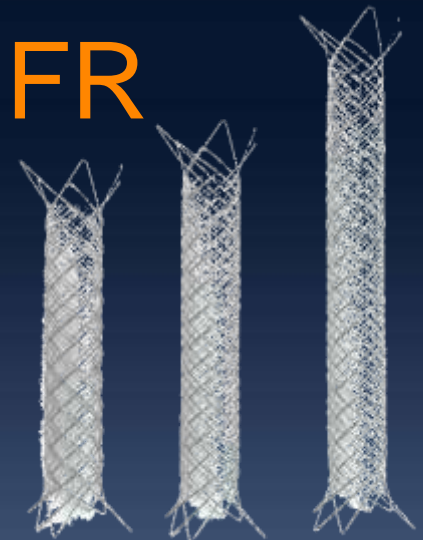
Do not use stiff stents like X-Act !!!!!

Competition Carotid Stents

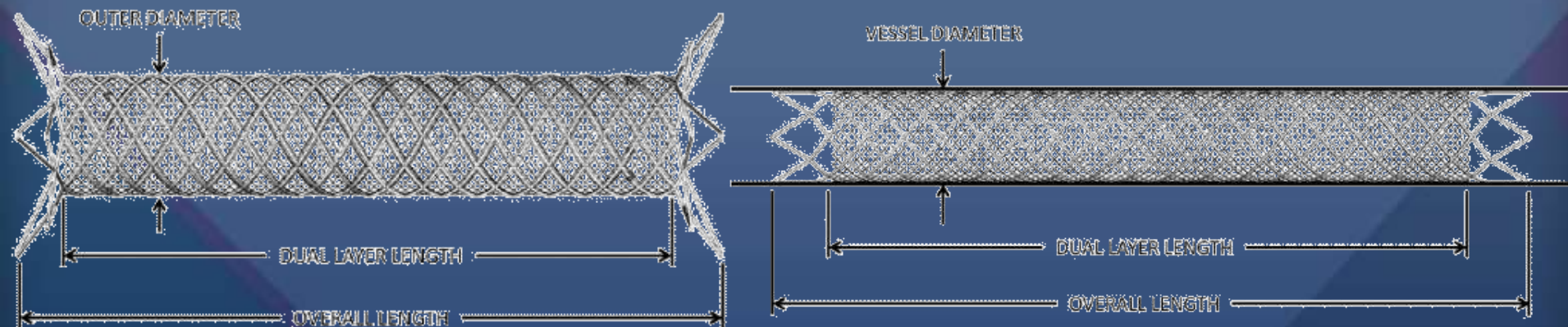
"Mesh" Stents

								
Terumo/ Microvention	Inspire MD	W.L. Gore	Abbott Vascular		Boston Scientific	Ev3/ Covidien/ Medtronic	Cordis/ Cardinal Health	Invatec/ Medtronic
Roadsaver	CGuard	Gore Carotid Stent	Acculink	XACT	Carotid Wallstent	Protégé	Precise Pro	Cristallo Ideale
0.38 mm ²	0.15 mm ²	0.44 mm ²	2.36 mm ²	1.89 mm ²	1.397 mm ²	4.93 mm ²	2.36 mm ²	3.23 mm ²
Bench marking by Microvention								
375-500µm	150-180µm	500µm						
Advertising by Inspire MD								

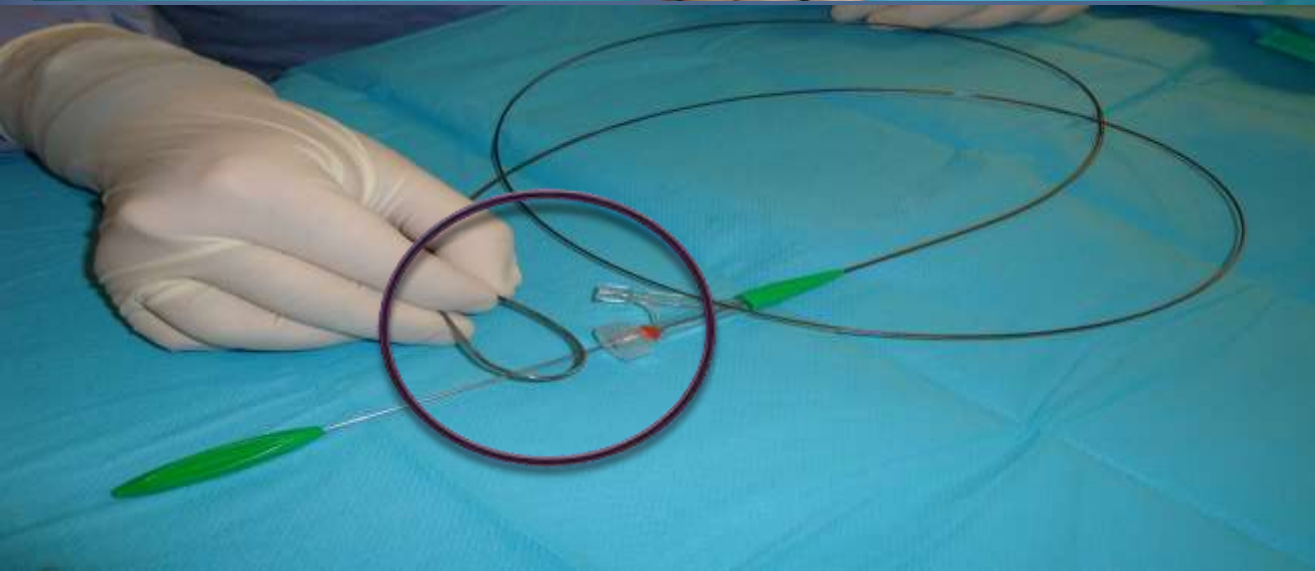
Roadsaver Carotid Stent-All 5 FR

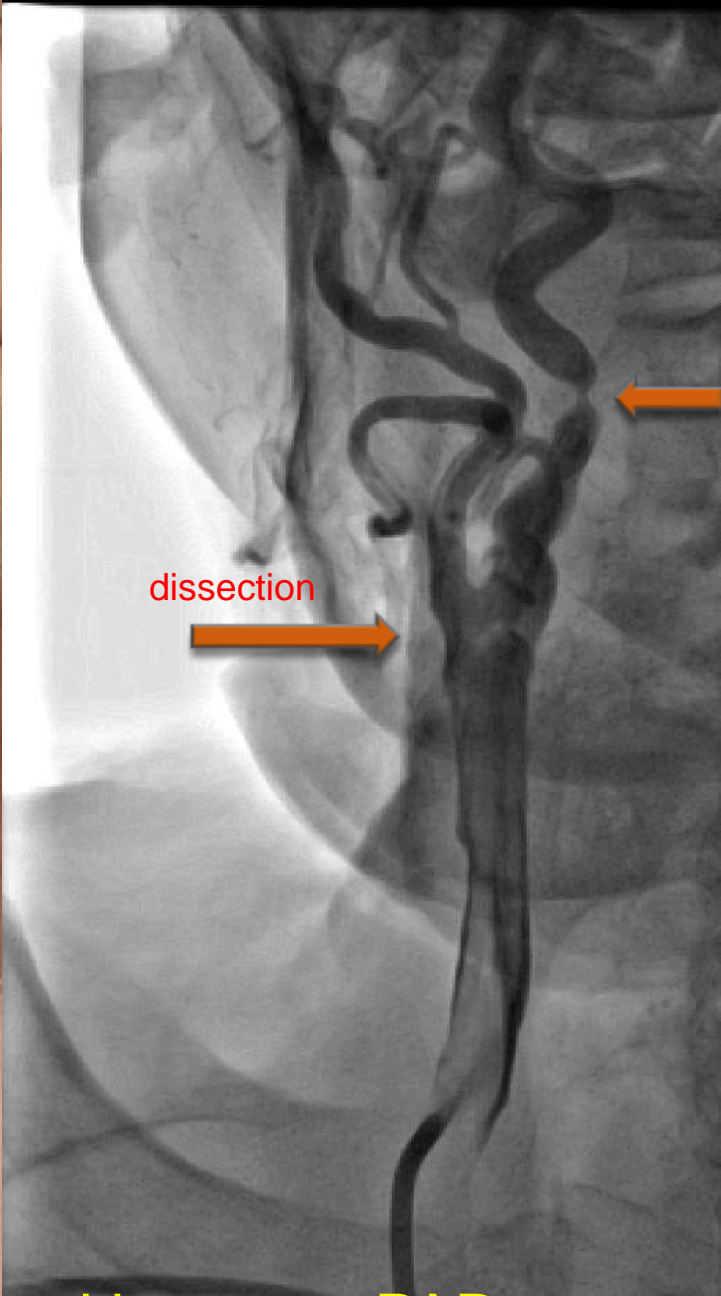


- double layer micromesh scaffold
- enabling sustained embolic protection by very tight plaque coverage
- embolic protection starts with implantation of the stent into the lesion and continues throughout the process of neointimalization
- up to 50% deployment full re-sheathable and repositionable



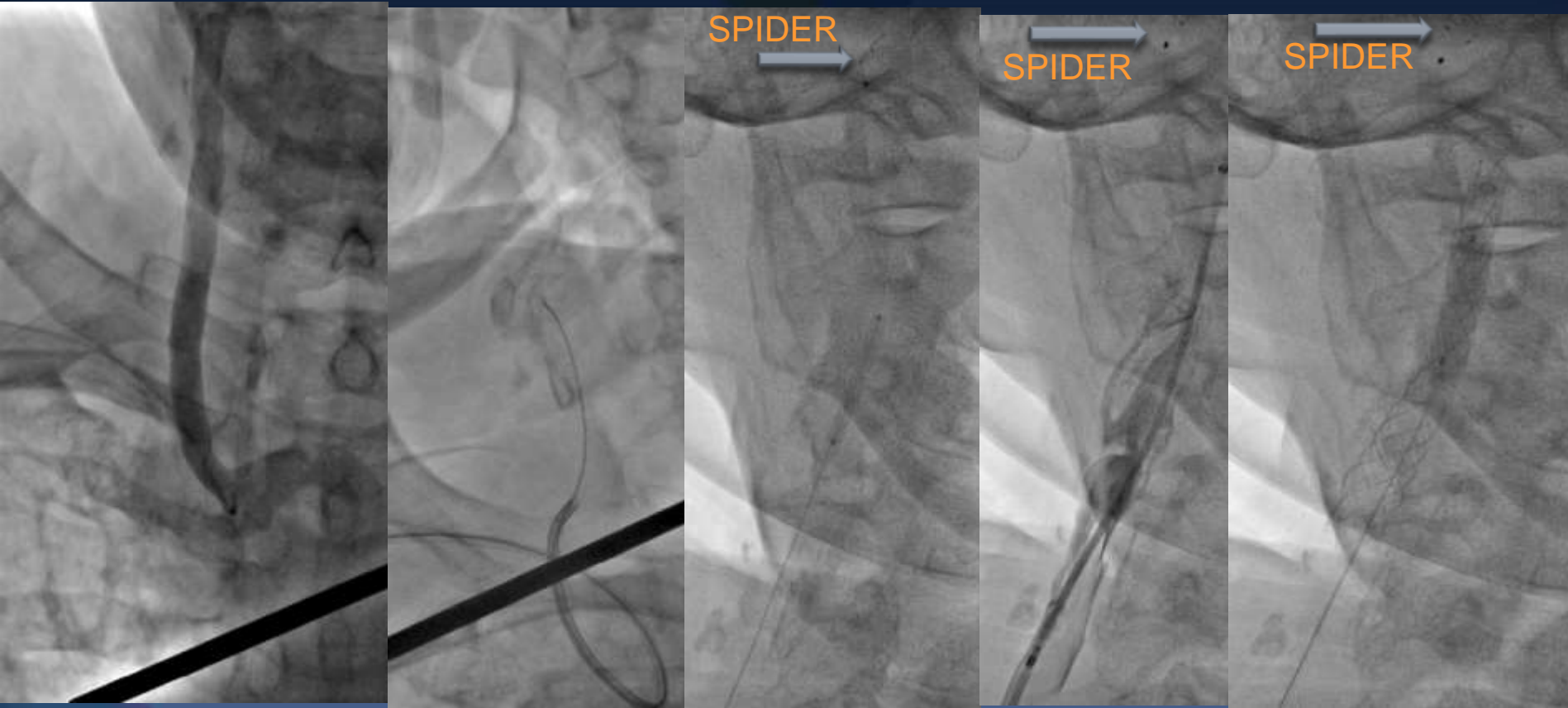
Roadsaver the most flexible carotid stent on the market





Pts 62 y.o. after neck surgery and radiation with severe PAD
Symptomatic RICA lesion !! CAS from radial access only option !!!!

Case # 3186!! Pts 62 y.o. after neck surgery and radiation with severe PAD. Symptomatic RICA lesion !! CAS from radial access only option !!!!

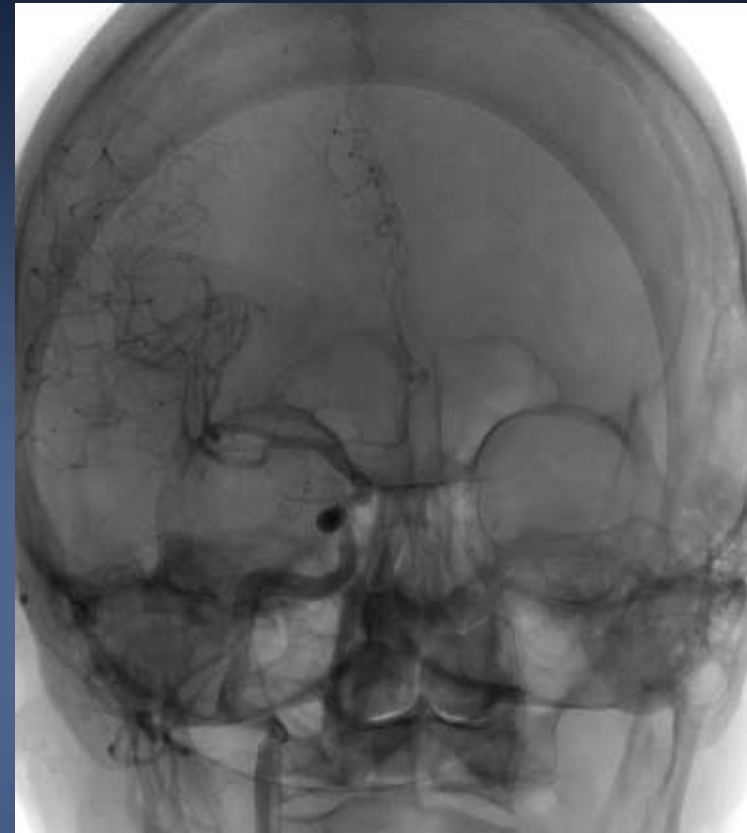
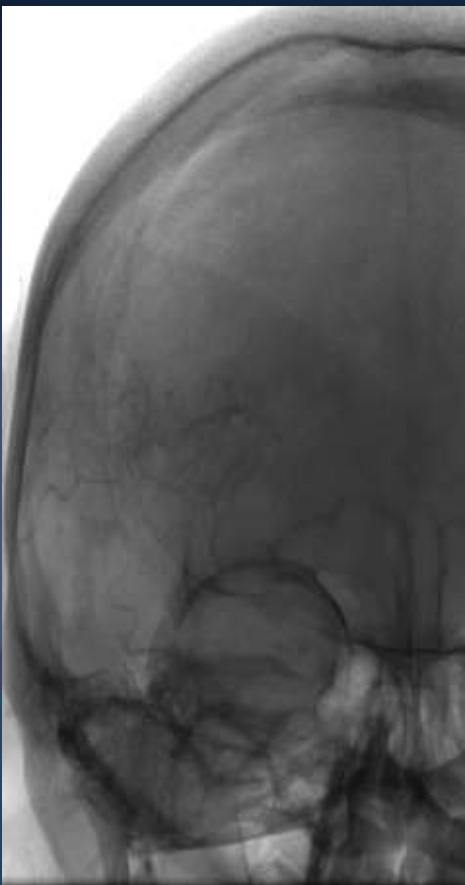


Cobra diagnostic cath, Advantage 0.035", Guider Softip XF and SPIDER RX our routine practice (predilatation – optional)

Roadsaver stent first indication in this particular situation.

Some aggressive postdilatation.

Case # 3286!! 62 y.o. patient after neck surgery and radiation with severe PAD. Symptomatic RICA lesion !! CAS from radial access was the only option !!!!



Right hemisphere before CAS

Final angio !!

Right hemisphere after CAS

Restenosis 6 Months After Surgical Carotid Endarterectomy

Pt selected for CEA due to difficult access to LCCA from femoral approach



Bovine arch one of the main indications for radial access for CAS

Multilevel restenosis after CEA required stent with good radial force



Most important in radial technique is stent and retrieval device delivery

Only Carotid Wallstent (close cell) , Roadsaver (meshstent) and MER (open cell) can be used for radial access.



Conclusions:

Carotid artery stenting with EPD can be safely and effectively performed using **radial access**

In **severe PAD**, difficult aortic arch transradial (from right hand) CAS can be more safe than transfemoral access.

Special dedicated of DC, GW, Filters and Stents make CAS procedure **fast and effective**.

Due to **immediate mobilization**, the patients comfort is much better and discharge is usually next day.

All centres performing CAS should know the **radial access technique !!!!!!!**



Thank you



John Paul II Hospital Krakow Poland