Plaque excision with the Silverhawk catheter for the treatment of instent restenosis in a patient with nitinol self expandable stent

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M/58

Chief Complaint :

Disabling intermittent claudication in the both leg (Fontain II b)

Duration :

Several months

Present illness :

A 58-year-old male patient was admitted at our hospital with Fontain grade II b claudication in his both leg

STAGE	SYMPTOMS
I	Asymptomatic
II	Intermittent claudication
IIa	Pain free, claudication walking >200 m
IIb	Pain free, claudication walking <200 m
III	Rest and nocturnal pain
IV	Necrosis, gangrene

Past History :

Smoking(-)

No Known Pulmonary tuberculosis/ Hepatitis

Hypertension(+)

Diabetes Mellitus(+)

Dyslipidemia (+)

ESRD on peritoneal dialysis (DM nephropathy)

Both leg PTA in 2009 :

PTA with stent of Rt.CIA-EIA and Lt.SFA

Review of System :

Chest pain / Palpitation (- / -)

Intermittent claudication of the both leg

Physical examination :

V/S : BP 130/70mmHg PR 95회/min
RR 12/min BT 36.1도

Not so ill-looking appearence

Clear breathing sound without rale

Regular heart beat without murmur

No pitting edema

Weakly arterial pulsation at both the dorsalis pedis

ABI : Rt 0.75 Lt 0.61

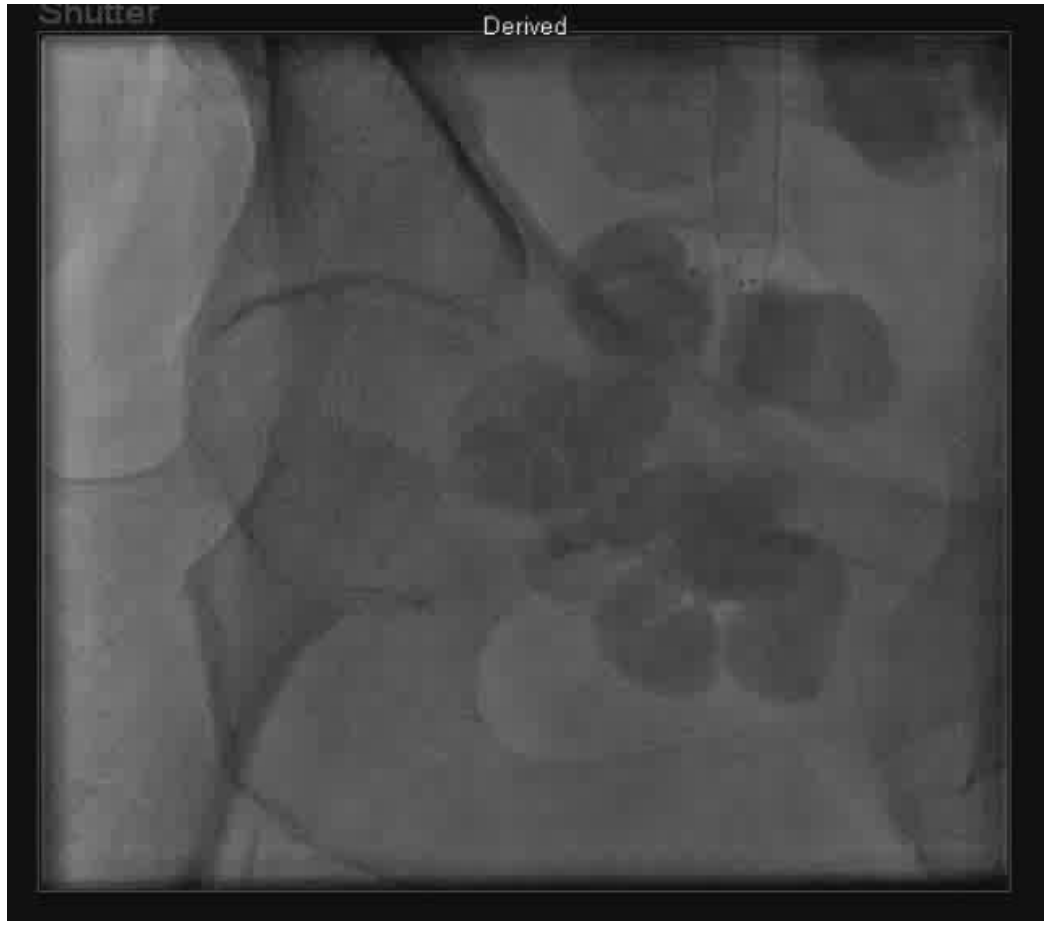
CT angiography

.Patent Rt.CIA-EIA stents.

.Severe diffuse stenosis of Rt.SFA

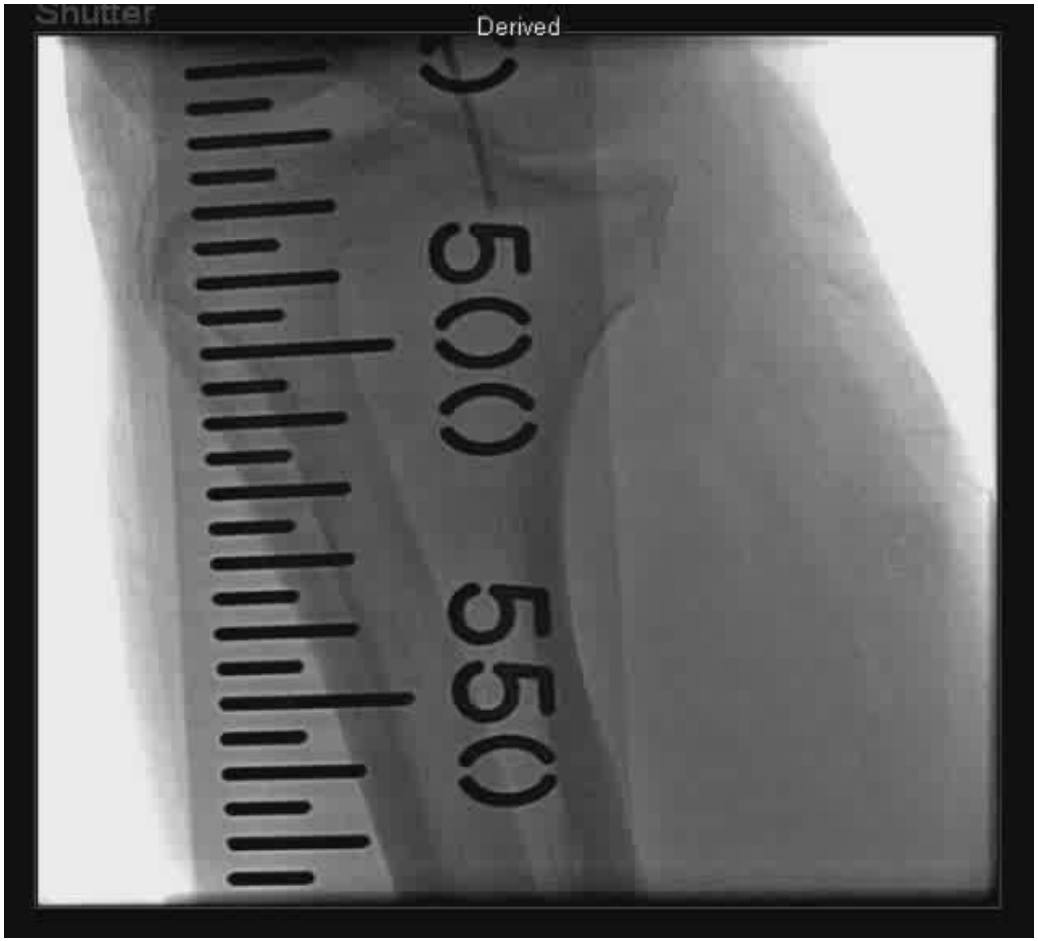
.Diffuse stenosis of Lt.SFA with ISR of previous Lt.SFA stent

Contra-lateral approach for Rt.leg PTA

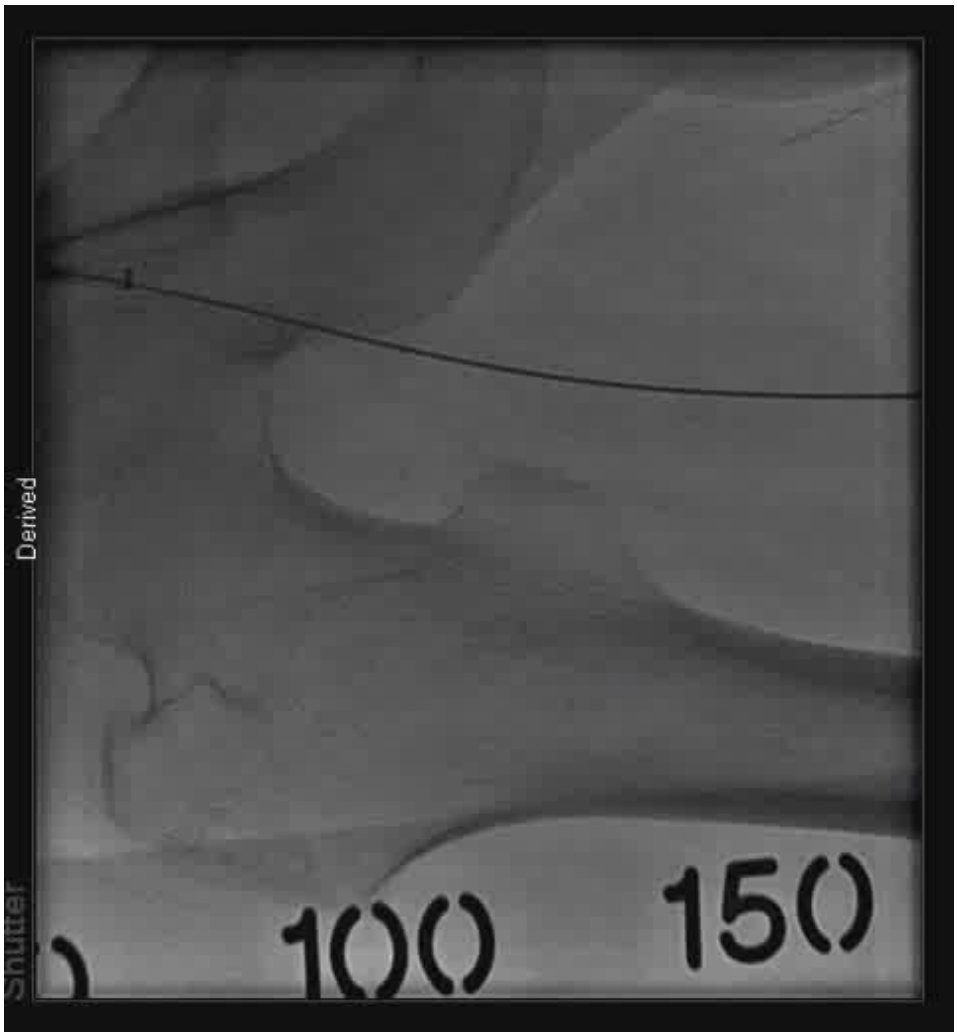


.Lt.CFA was punctured and 7-F sheath was inserted
.5-F JR catheter was placed at the level of the aorto-iliac bifurcation
.Patent stents of Rt.CIA-EIA and multifocal stenosis of Rt. SFA.

Peripheral angiogram of Rt.leg



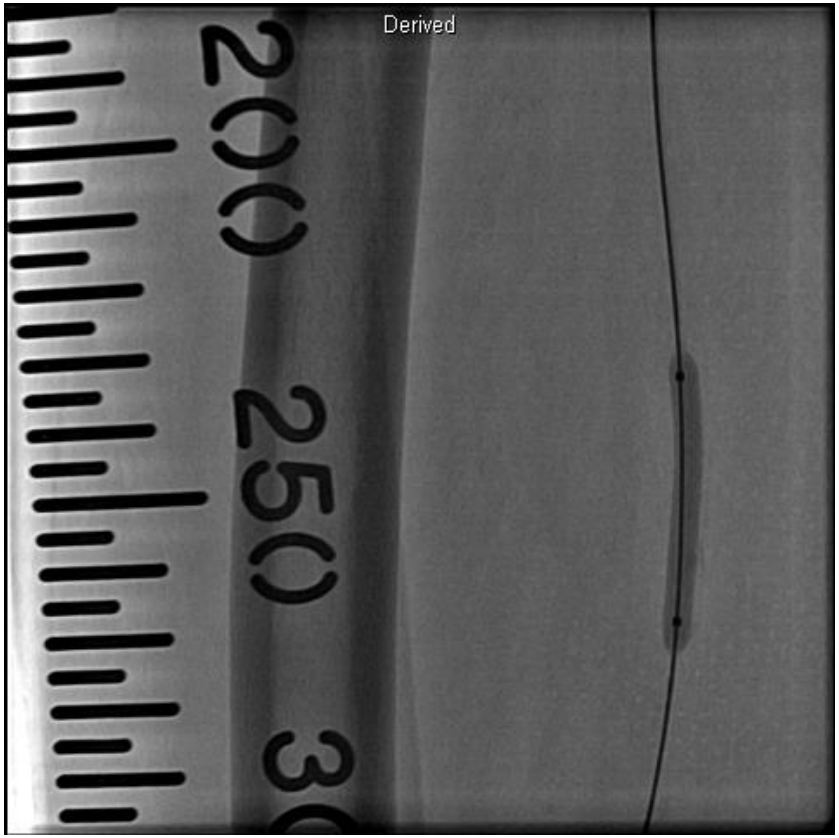
.Diffuse stenosis of Rt.SFA & ATA

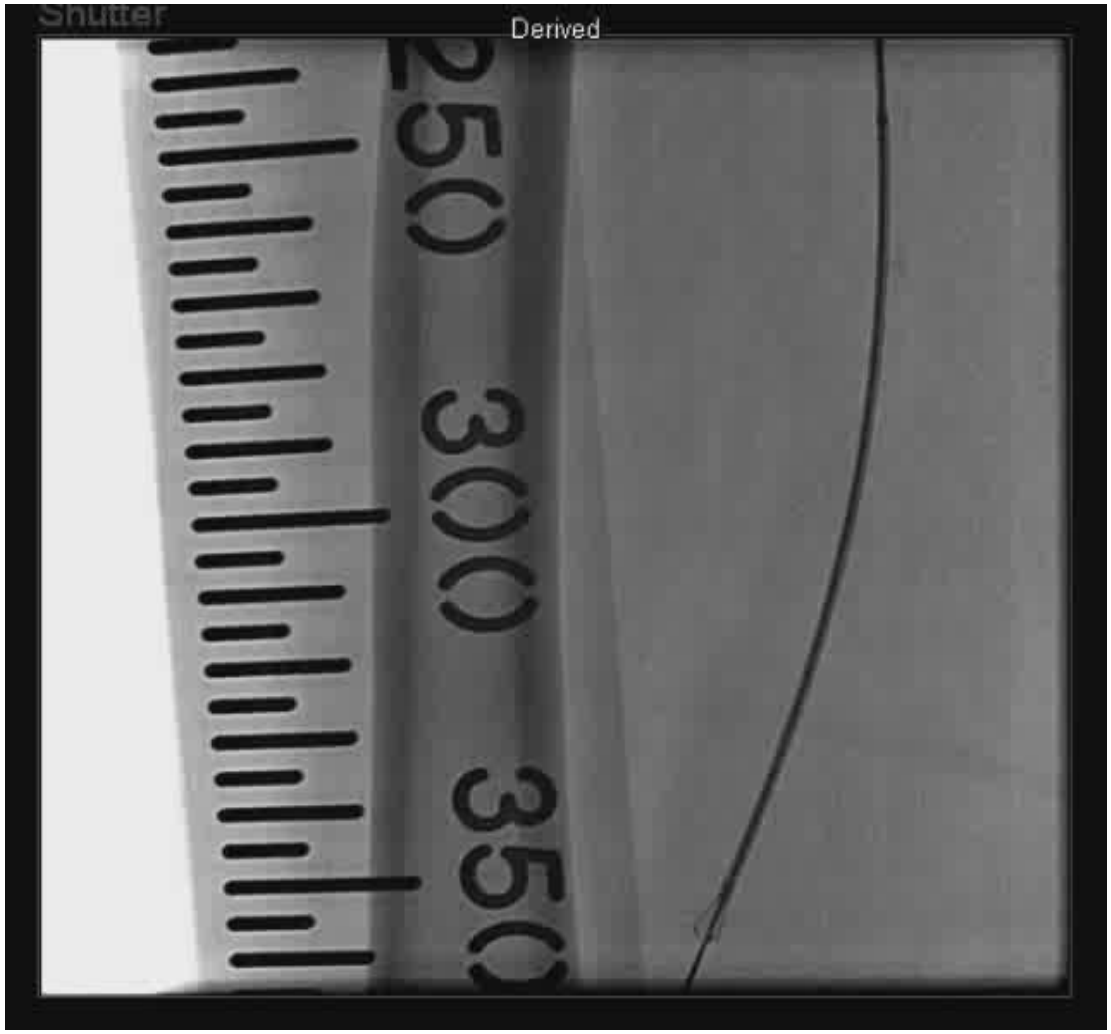

Derived
Shutter
100
150


Derived
Shutter
400
450
5

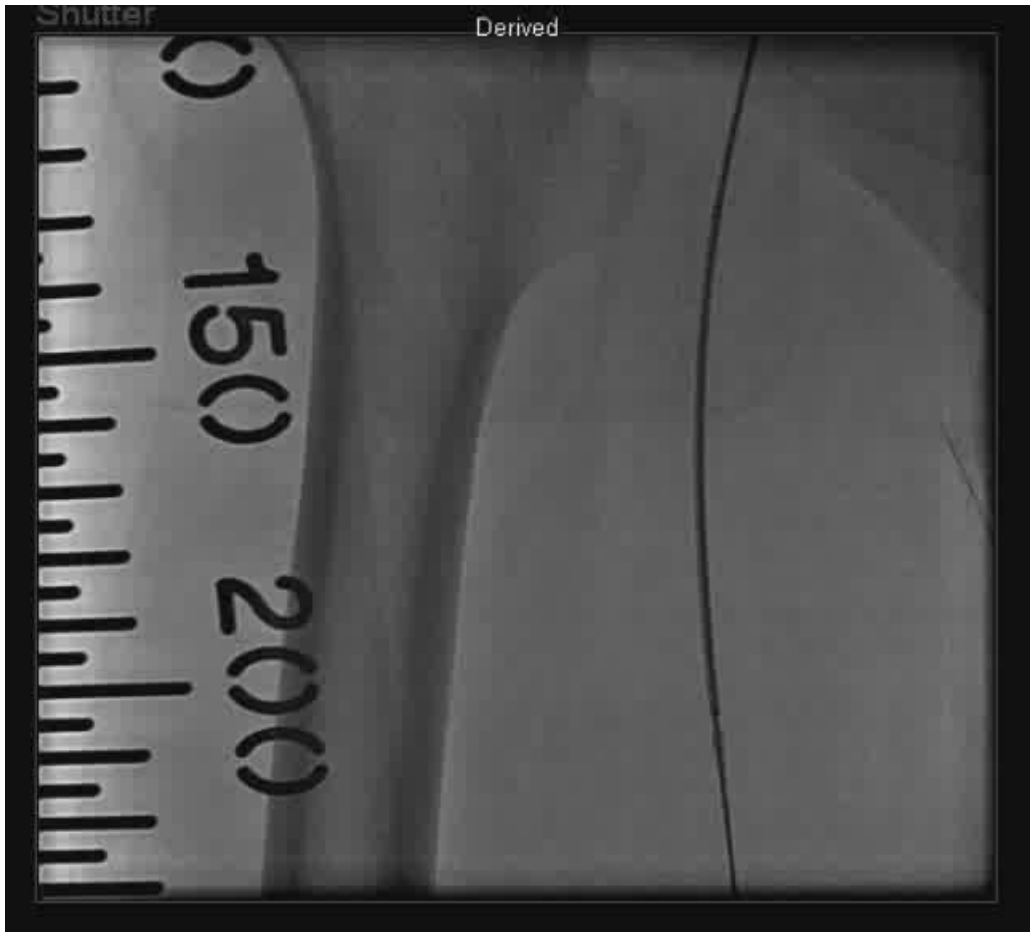
Rt.SFA PTA (balloon angioplasty & stenting)

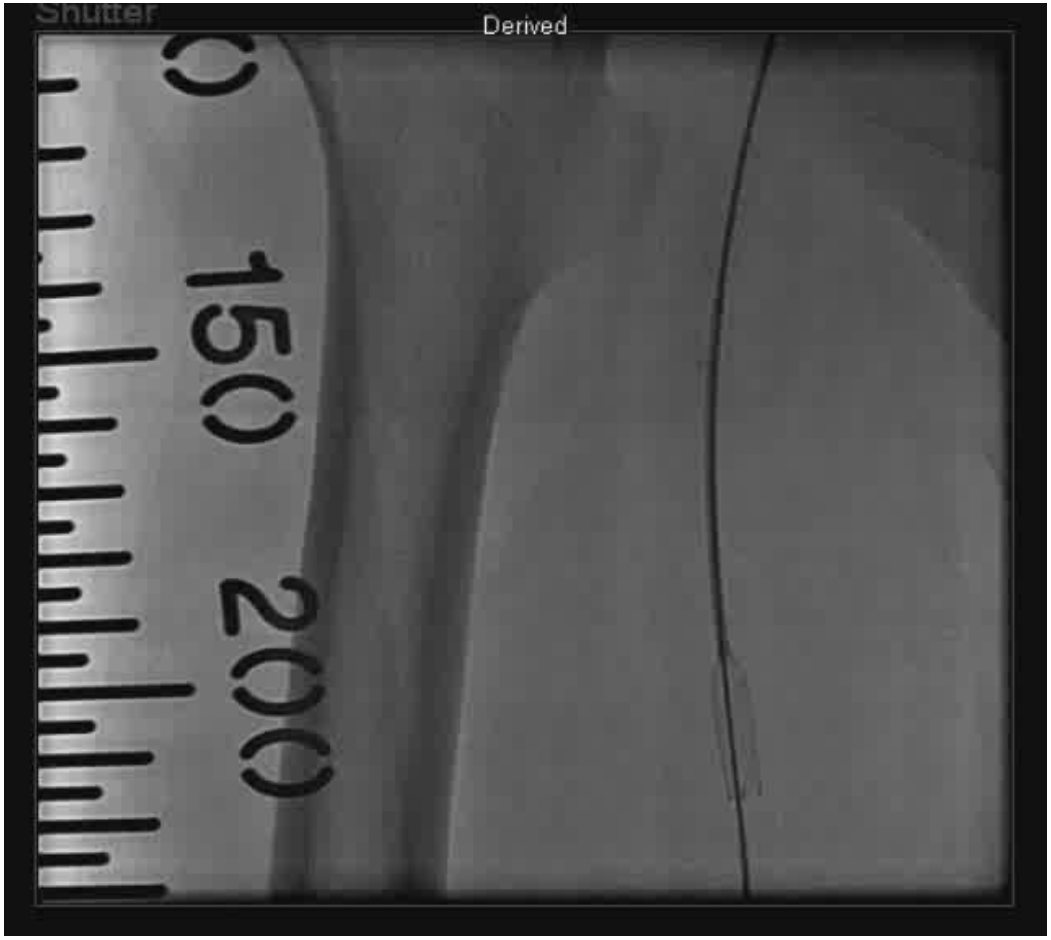
.5.0 x 40 mm balloon (Powerflex®, Cordis; Johnson & Johnson Medical, Miami, FL)



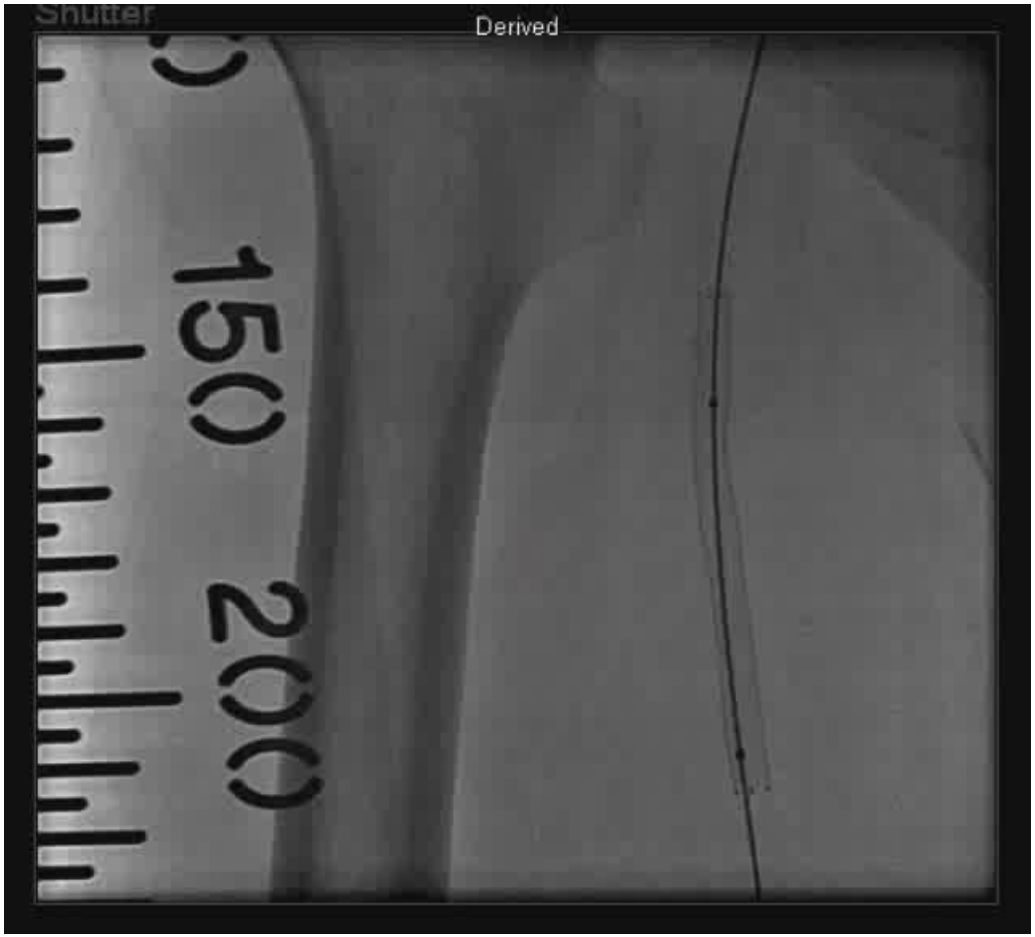


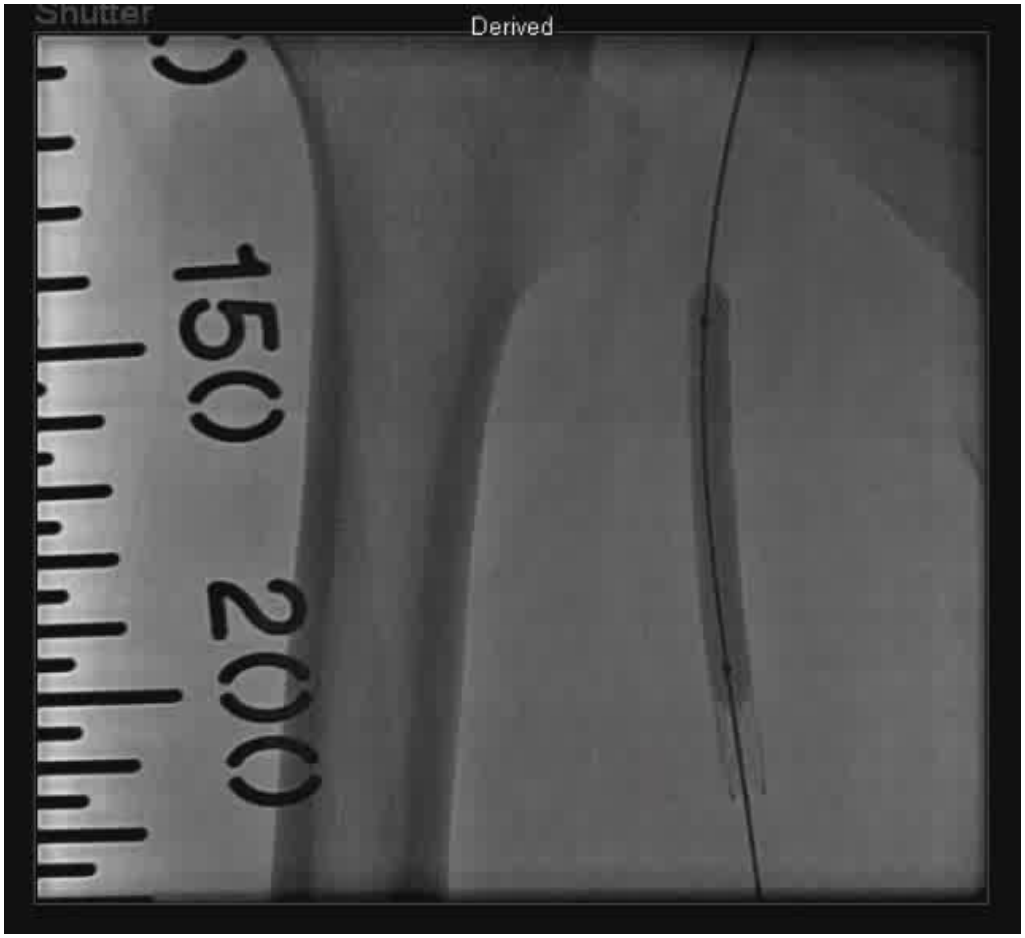
.6 x 120 mm stent (SMART-Control, Cordis; Johnson & Johnson Medical, Miami, FL)



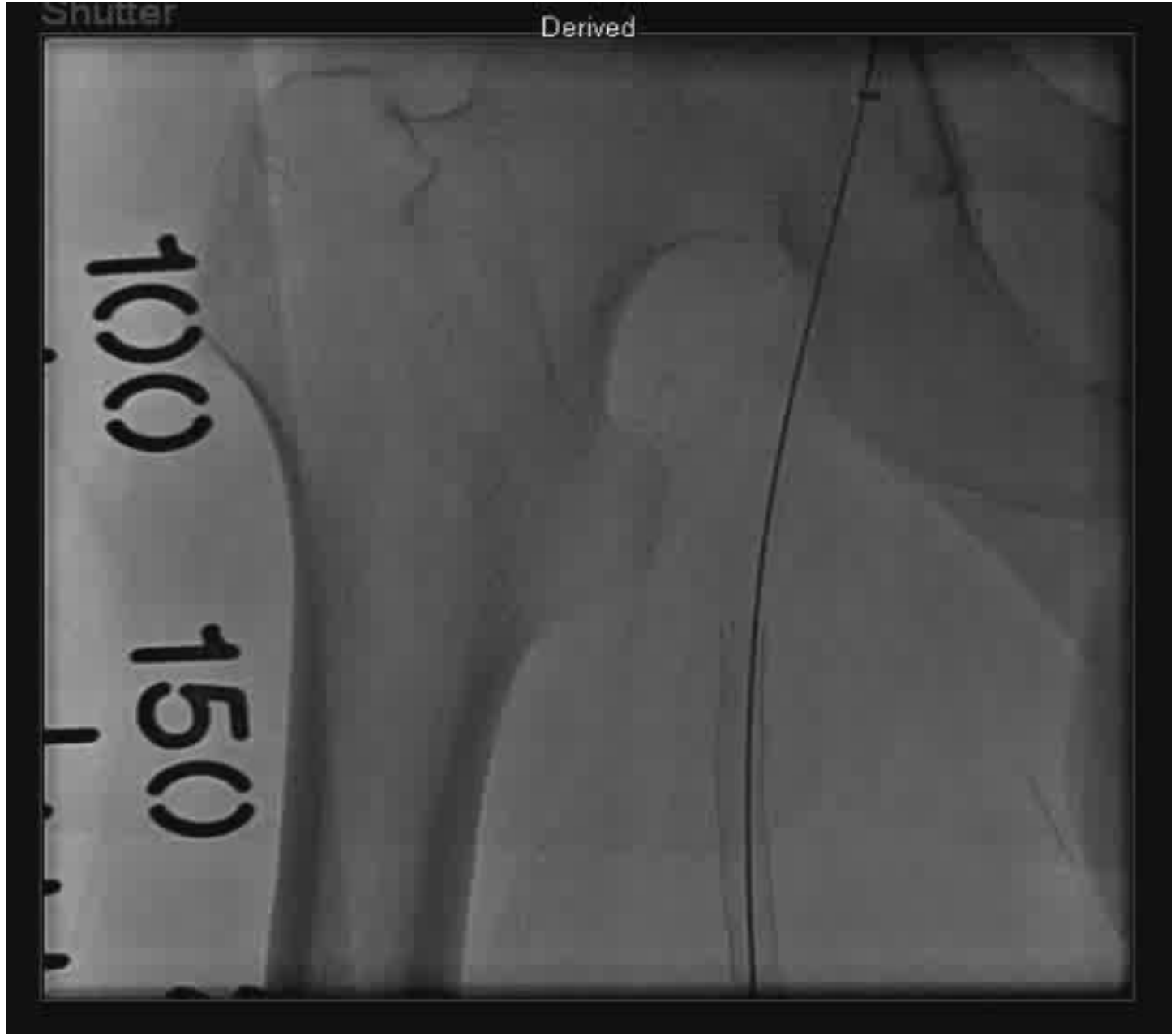


.8 x 80 mm stent (SMART-Control, Cordis; Johnson & Johnson Medical, Miami, FL)



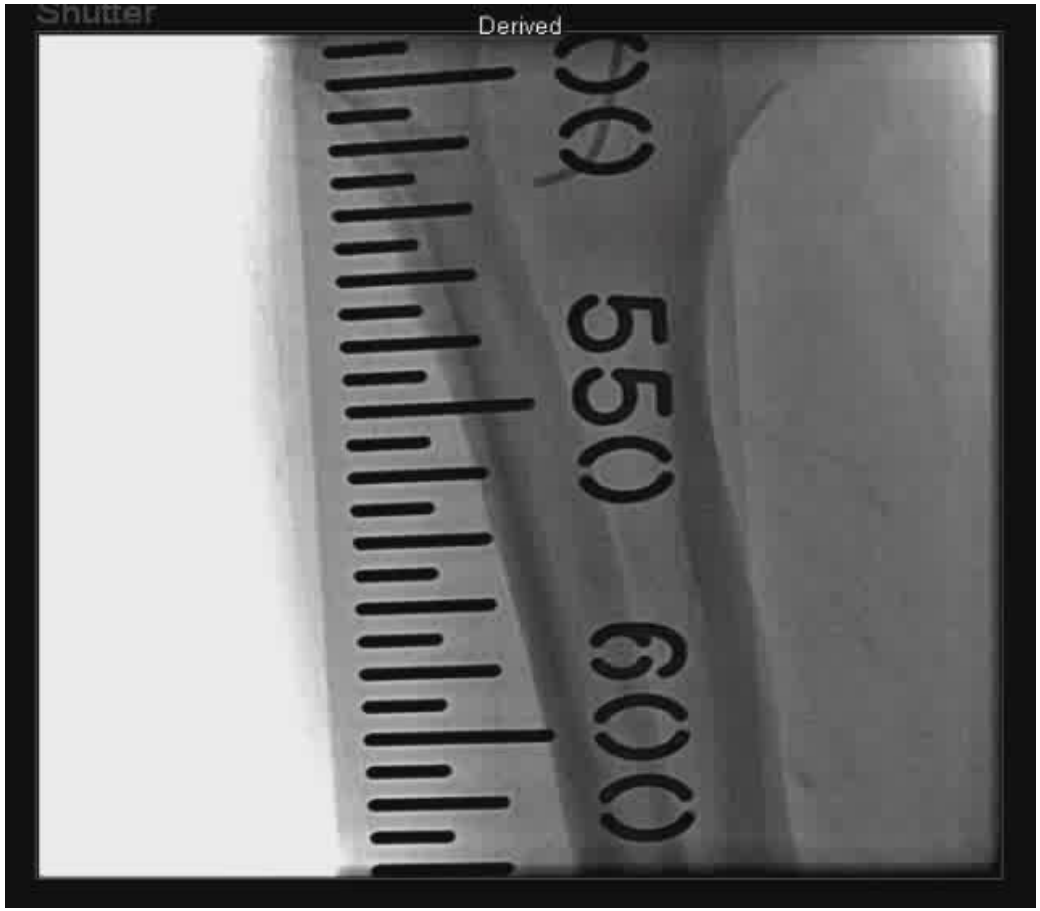


.8.0 x 60 mm balloon (Powerflex®, Cordis; Johnson & Johnson Medical, Miami, FL)

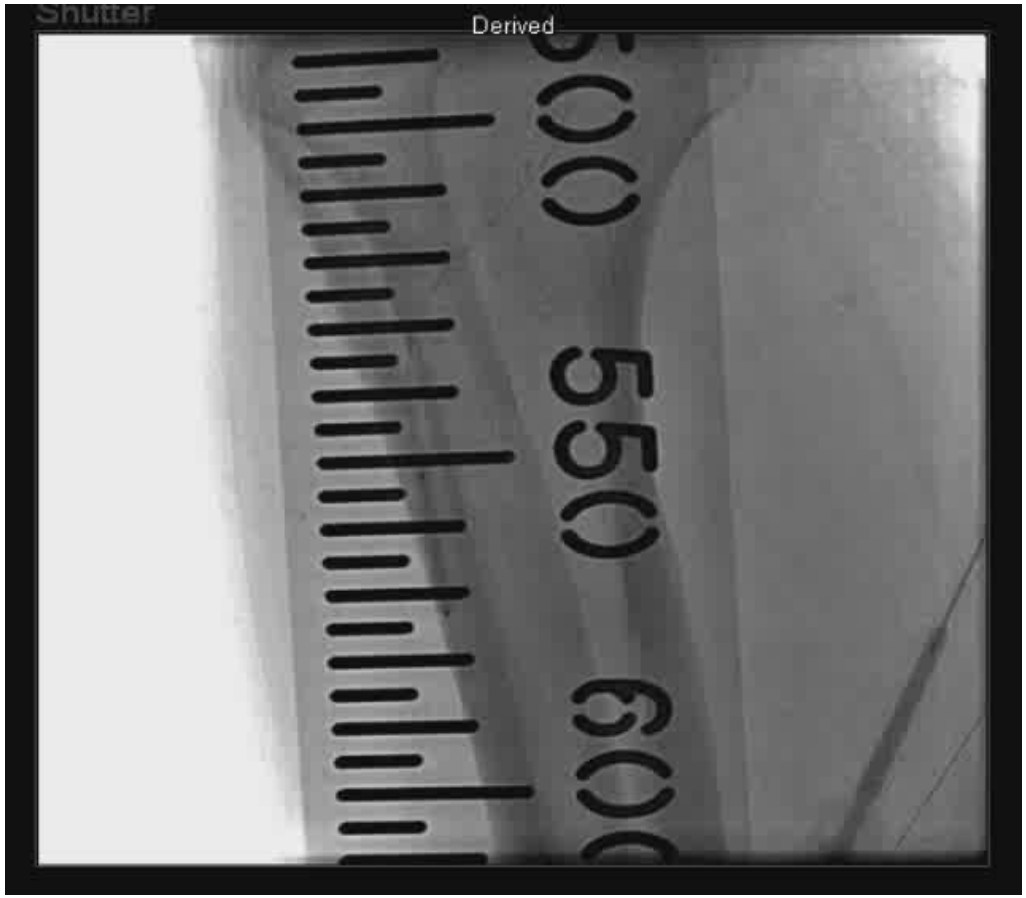


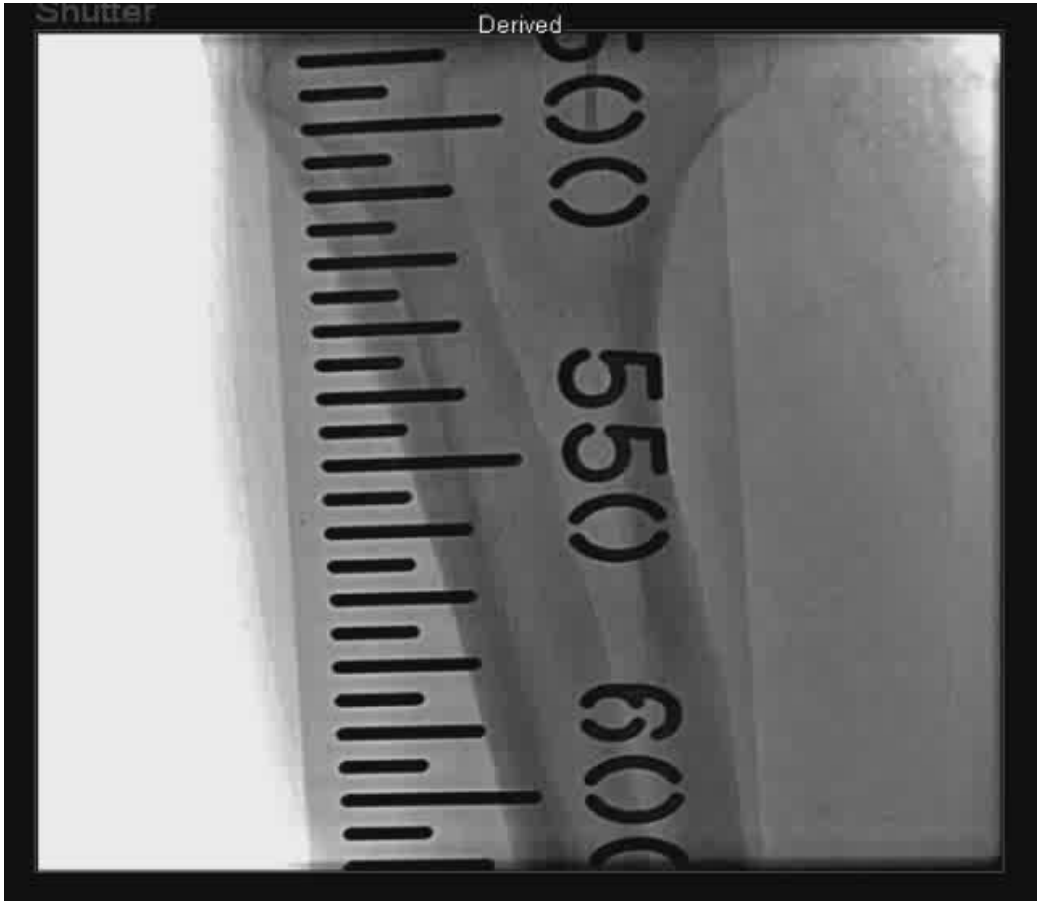
.Patent stents without complication

Rt.ATA-PTA (balloon angioplasty)



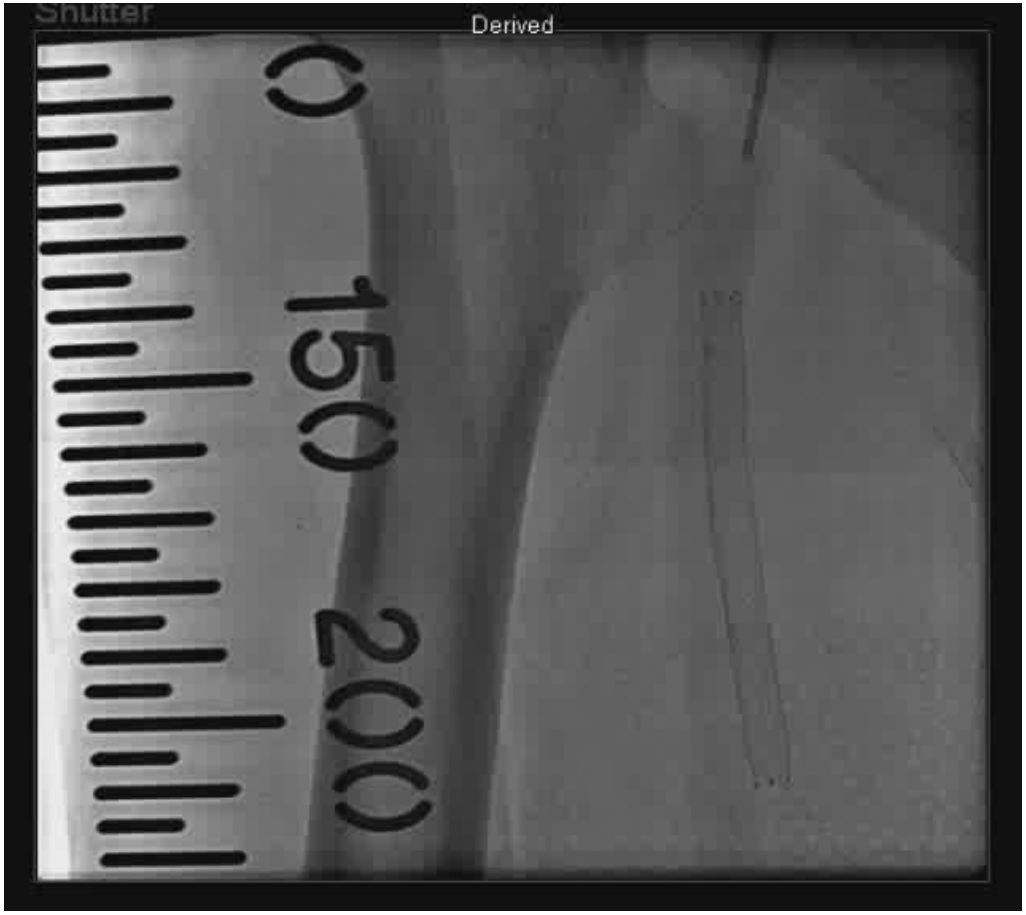
.Diffuse stenosis of Rt. proximal ATA





.0.014" non-stiff guide-wire (Runthrough® NS, Terumo, Japan)
.3.0 x 20 mm coronary balloon

Rt.leg-Final Angiography



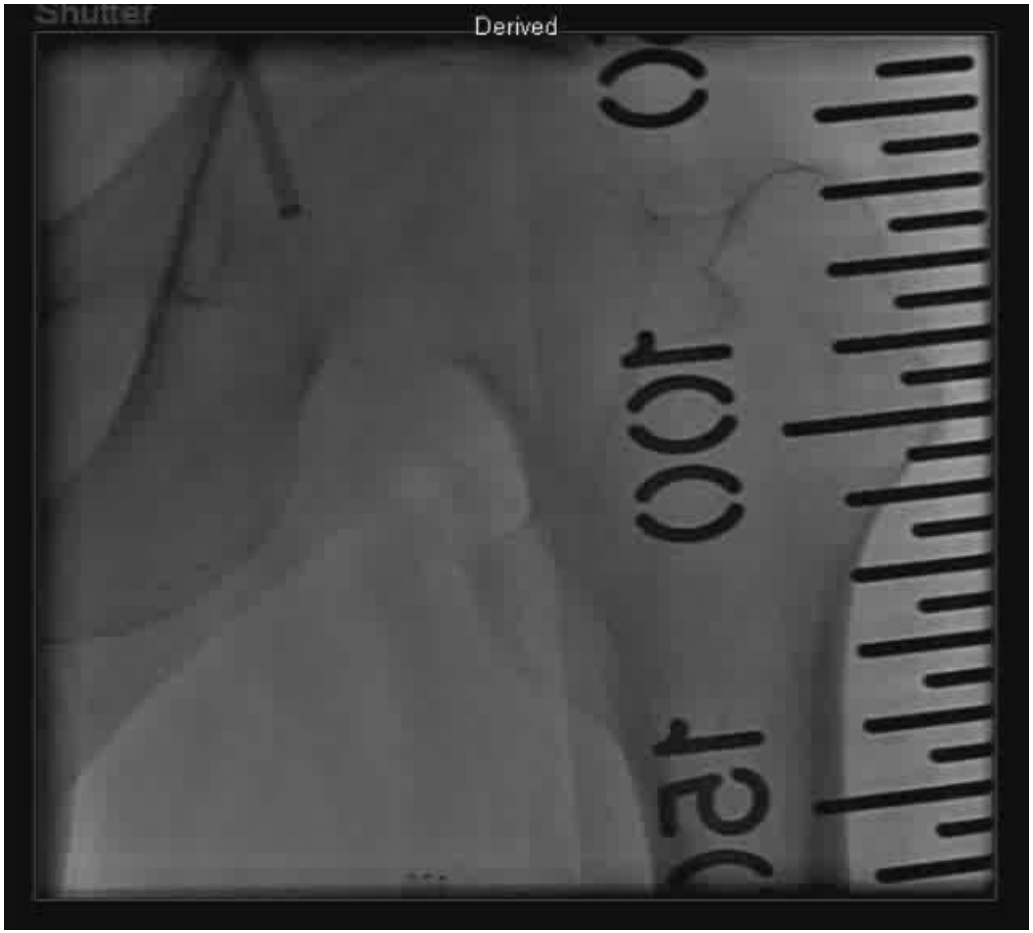
.patent stents with good distal flow
.PG btw CIA and PA <10mmHg

.ISR of Lt. SFA stents via Balkin sheath

Contra-lateral approach for Lt.leg PTA

.0.035-inch stiff J-tiped hydrophilic guidewire (Terumo, Tokyo, Japan)
.0.035-inch extra-stiff Amplatz guidewire (Cook, Indianapolis, IN, USA)
.8-F Balkin sheath (Cook Medical, Bloomington, IN)

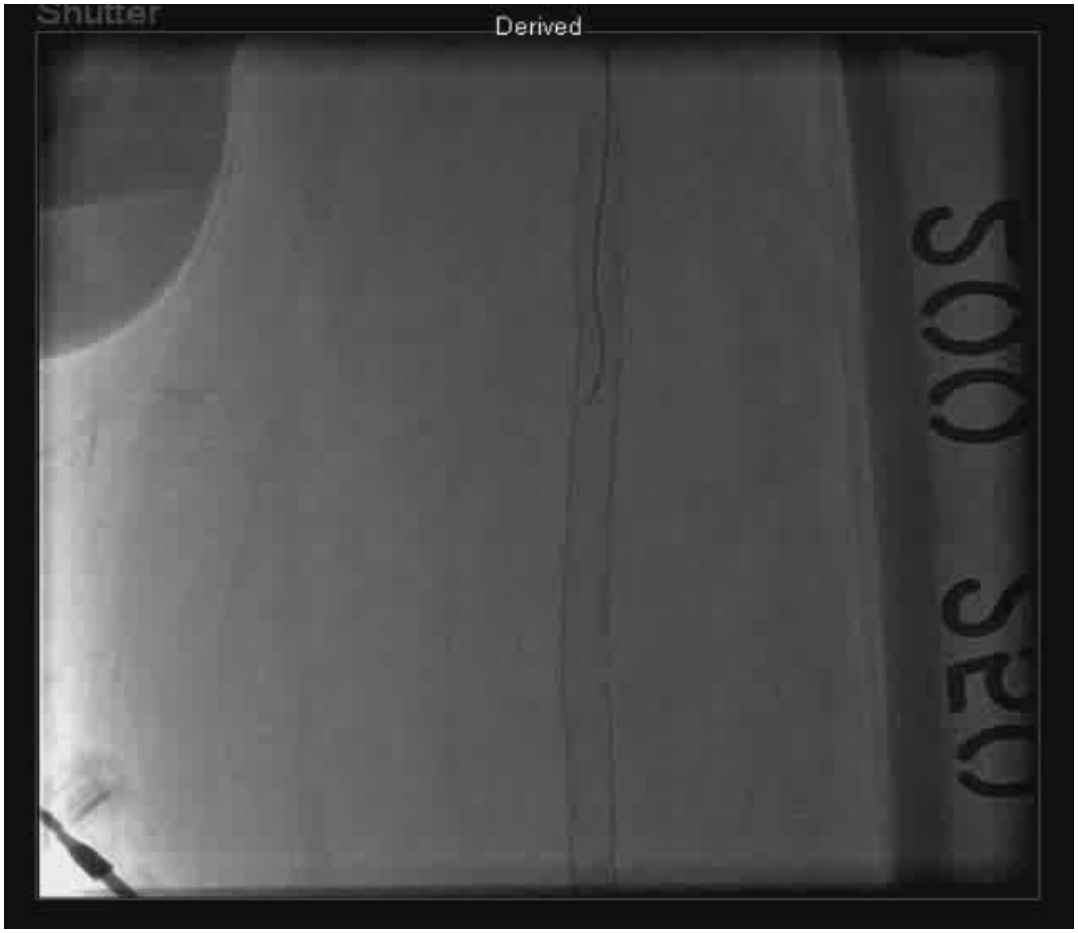
Peripheral angiogram of Lt.leg

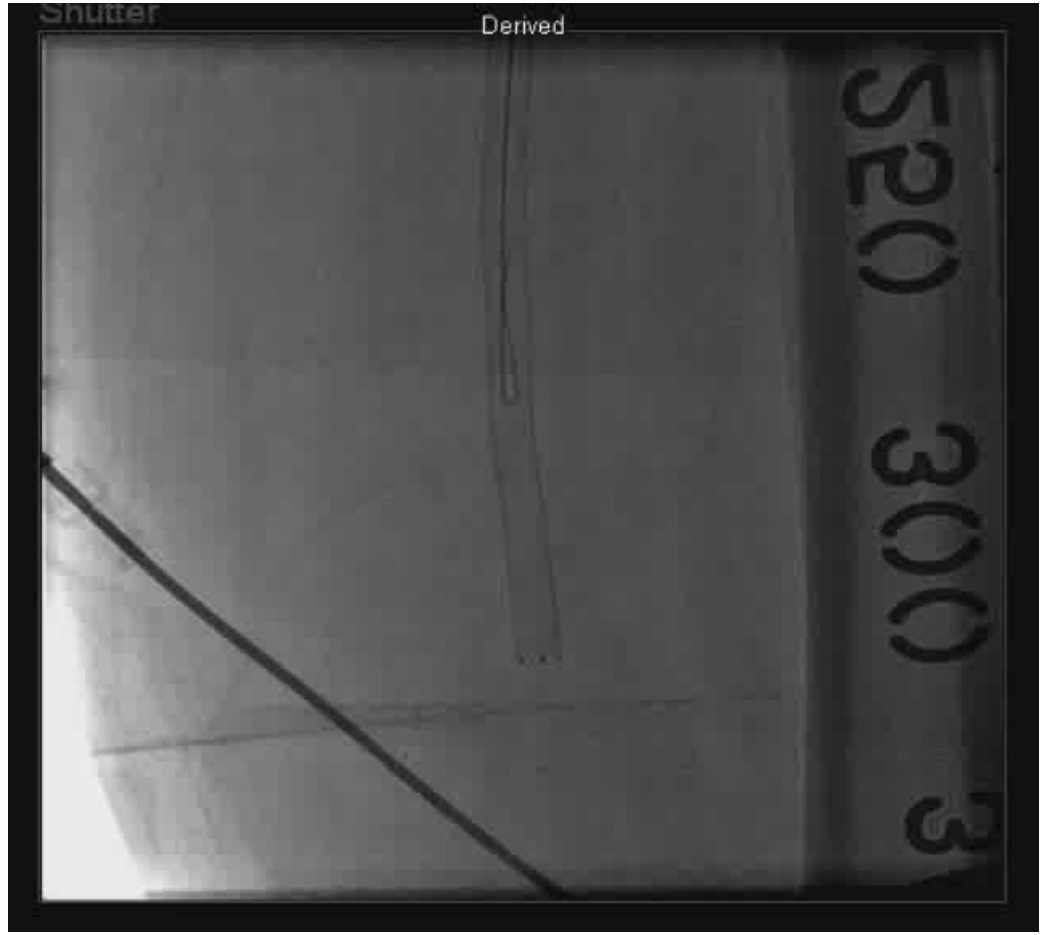


.multifocal ISR of previous Lt. SFA stents

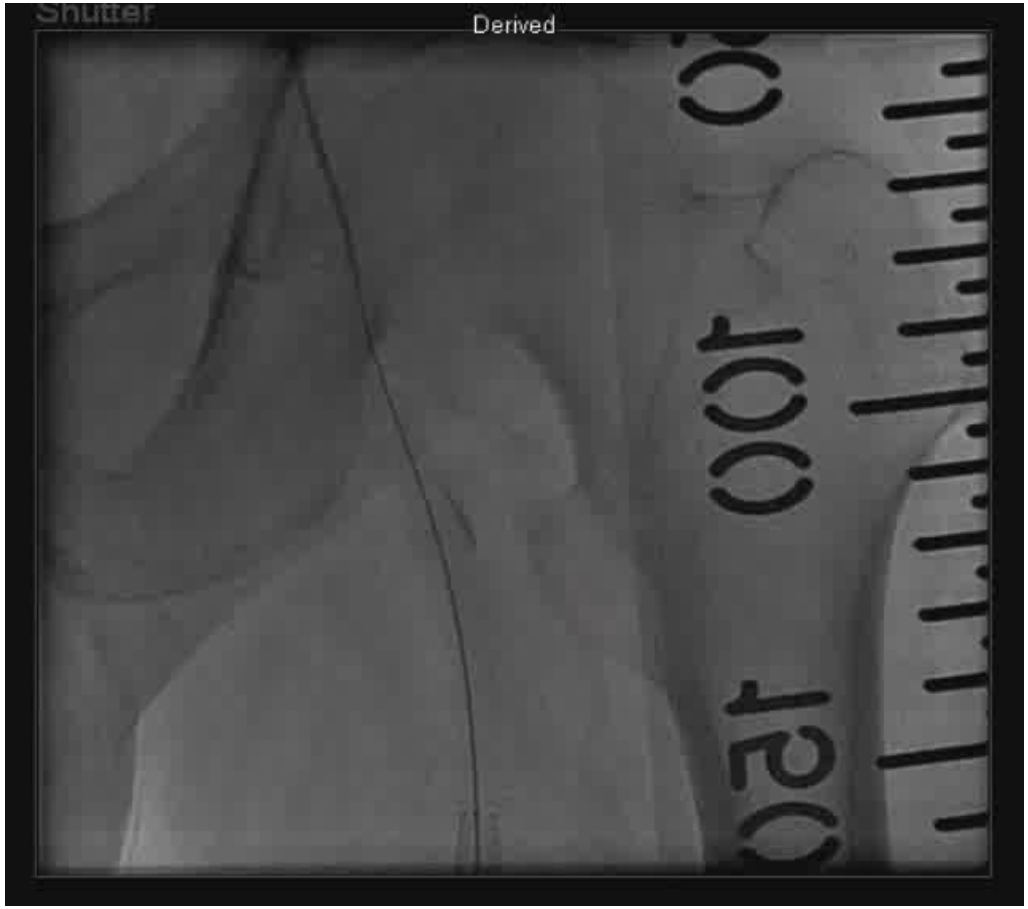
.severe focal de novo stenosis at SFA ostium

Crossing the lesion (ISR-previous stent)

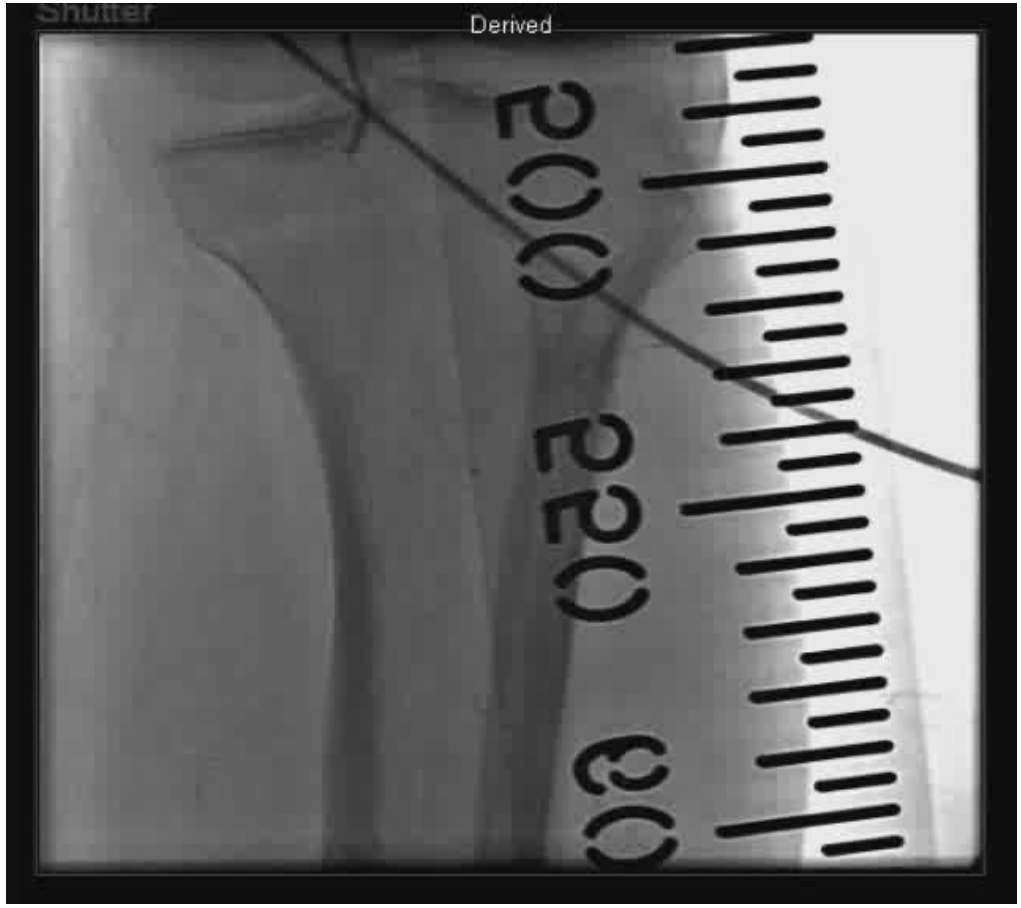




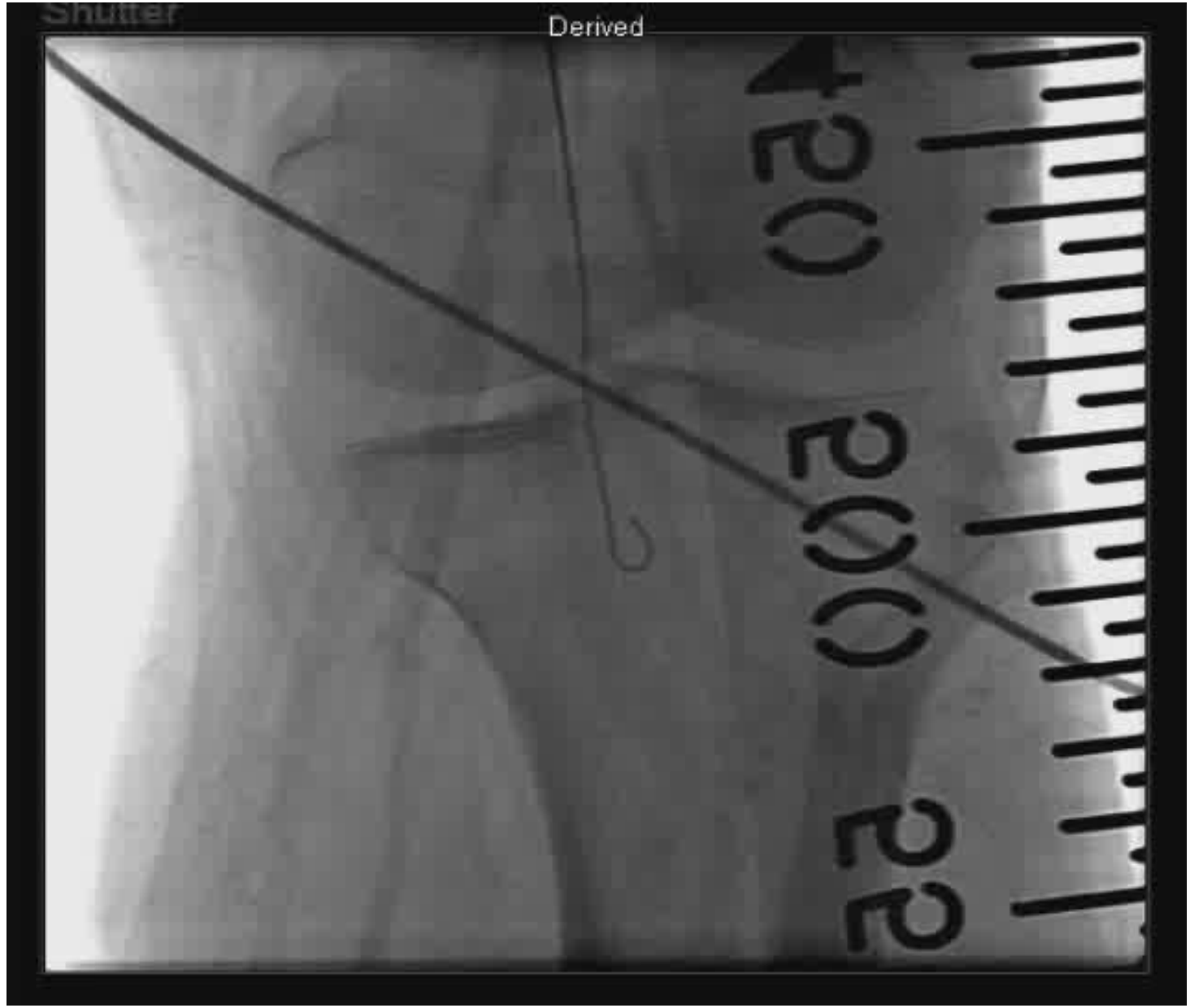
.0,014-inch coronary G/W



5 Fr JR diagnostic catheter

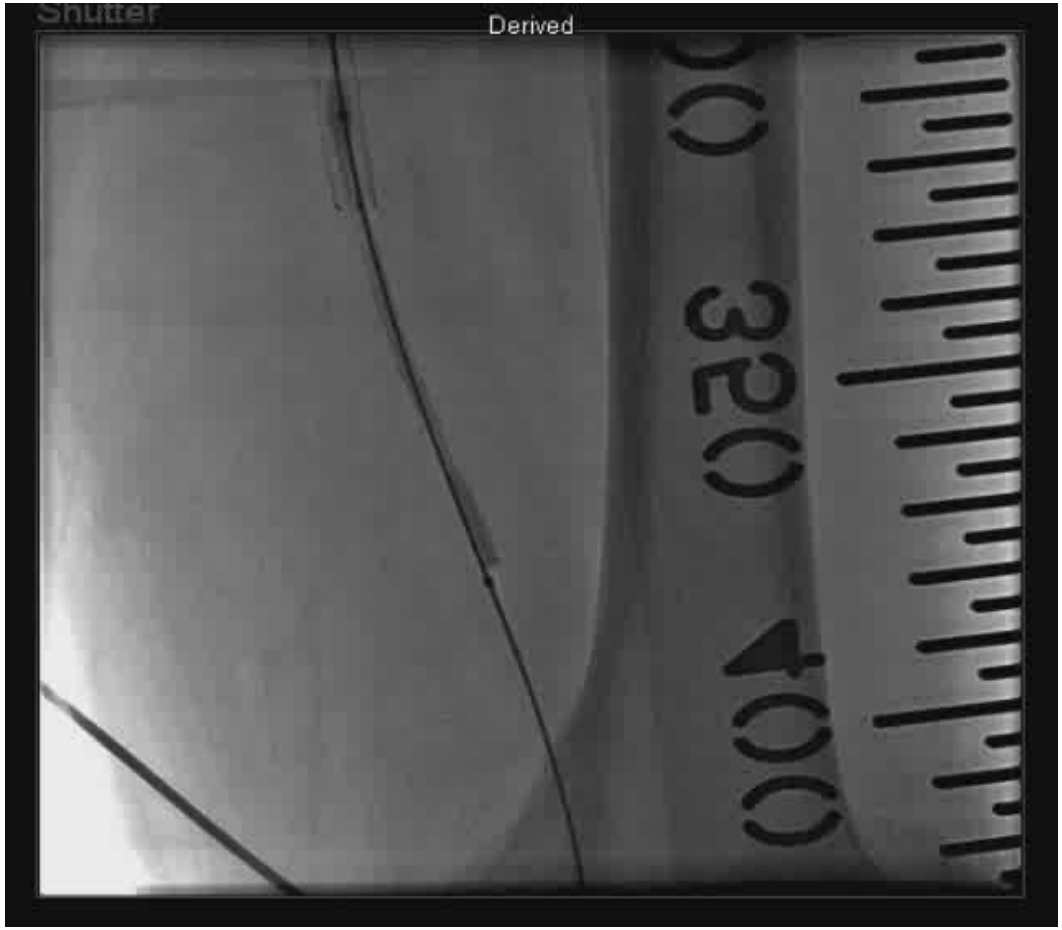


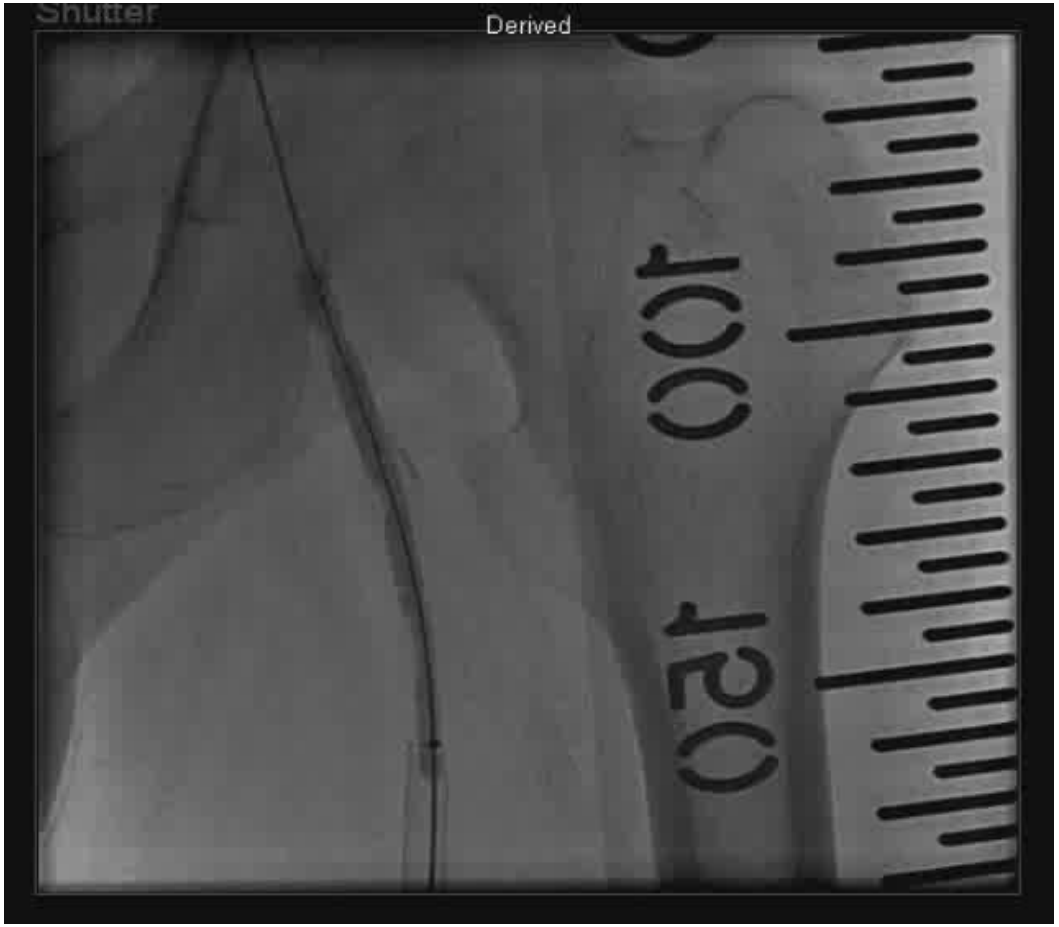
multifocal stenosis of Lt. ATA, PA and PTA



Amplatz extra-stiff G/W for angioplasty

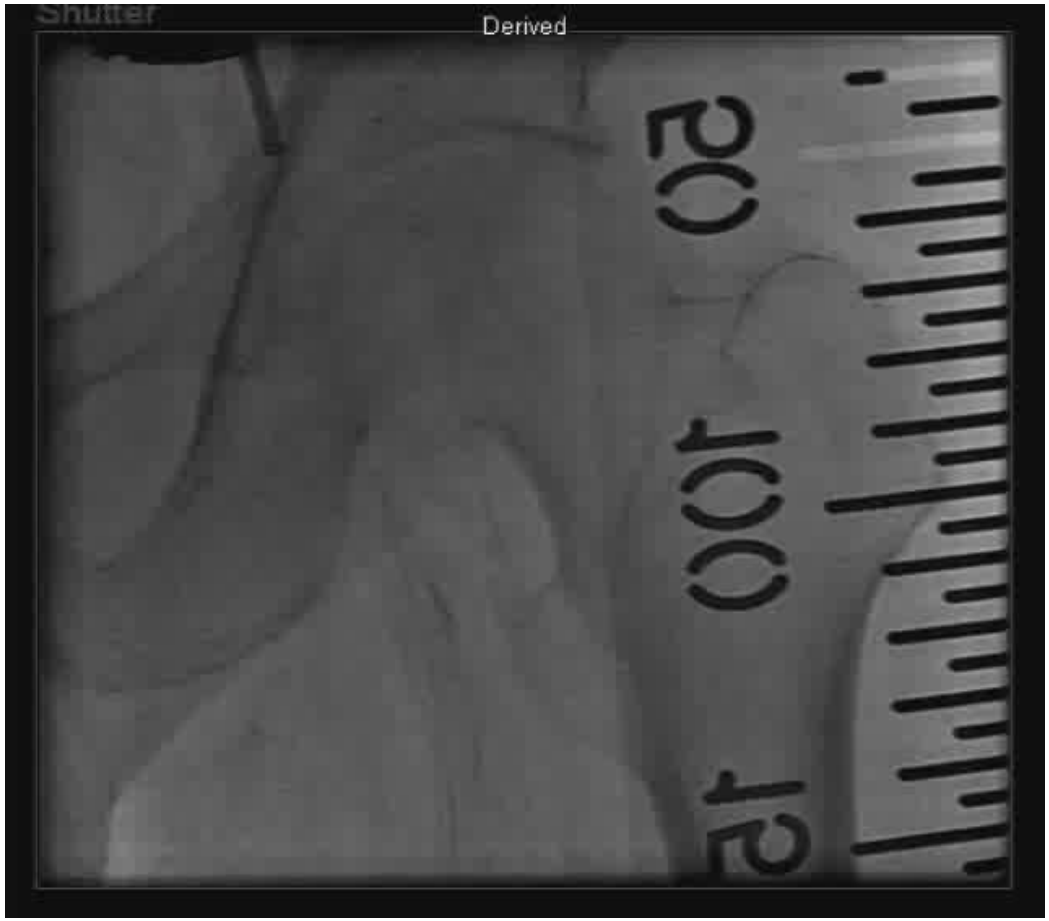
Lt.SFA PTA (balloon angioplasty)

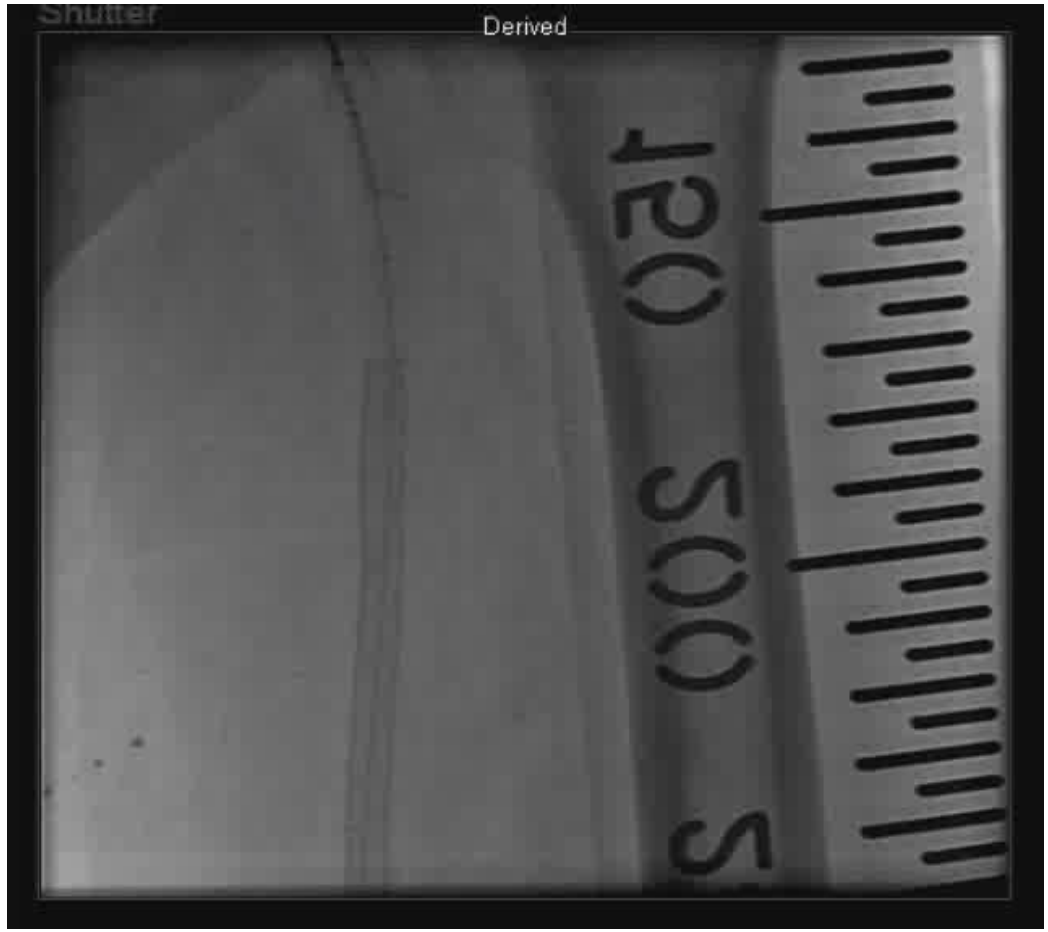




.6.0 x 80 mm balloon (Powerflex®, Cordis; Johnson & Johnson Medical, Miami, FL)

Directional atherectomy





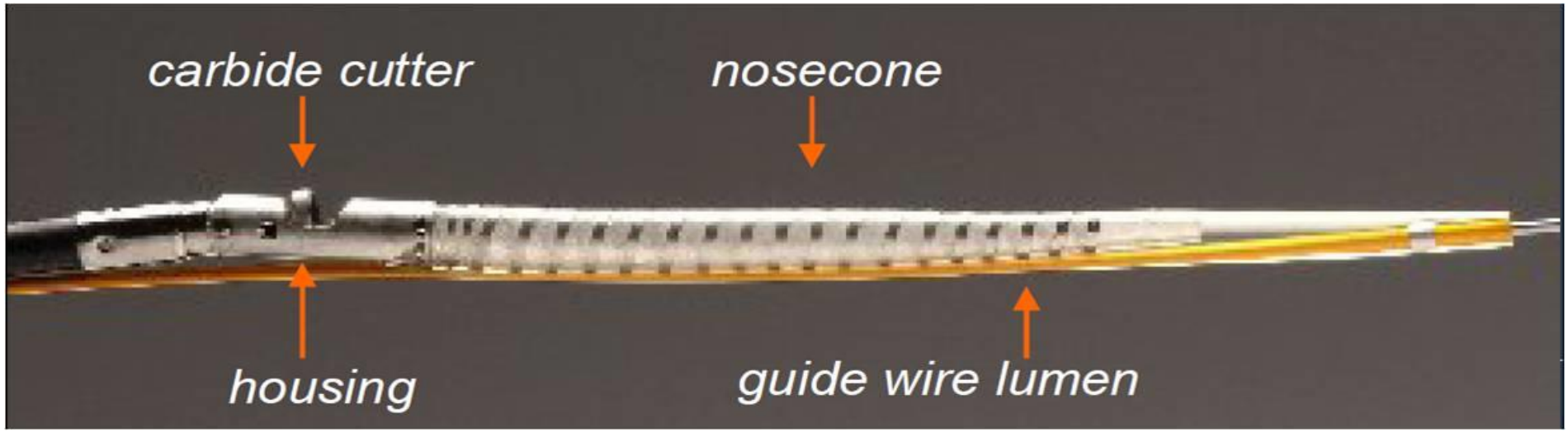
.0.014" non-stiff guide-wire (Runthrough® NS, Terumo, Japan)

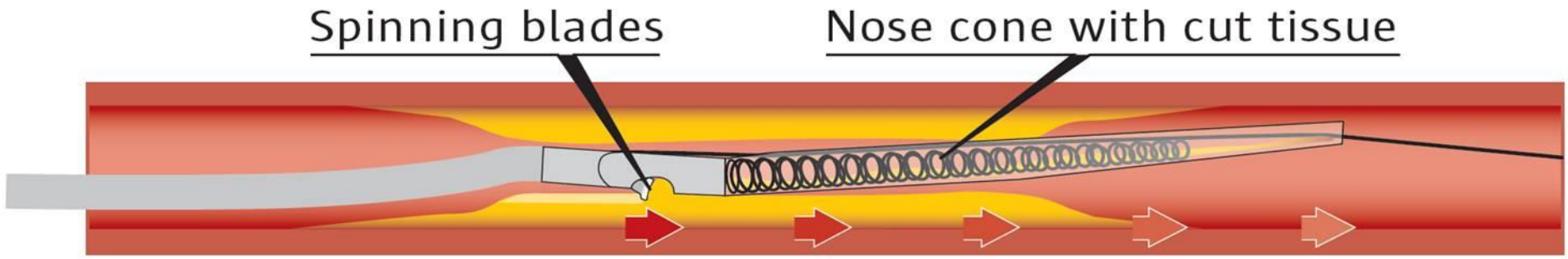
.SilverHawk Plaque Excision System (Hollow Technologies, Redwood City, CA, USA)

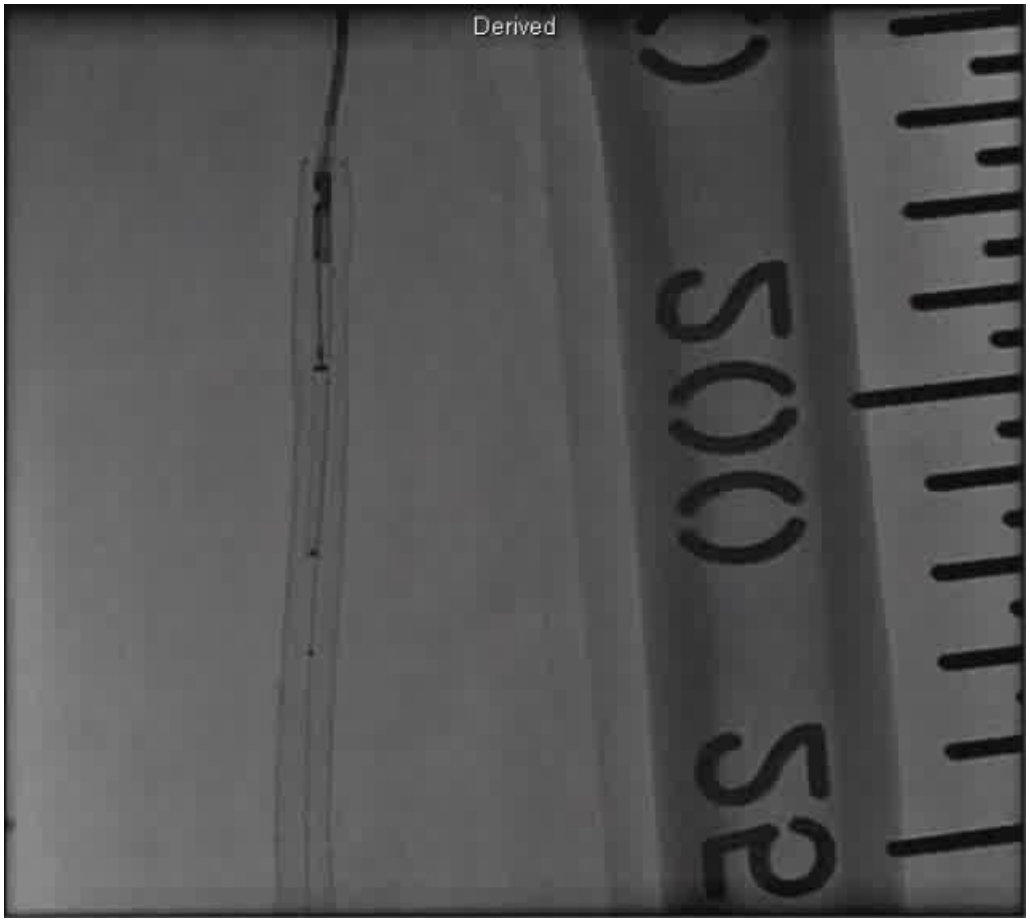
SilverHawk Plaque Excision System

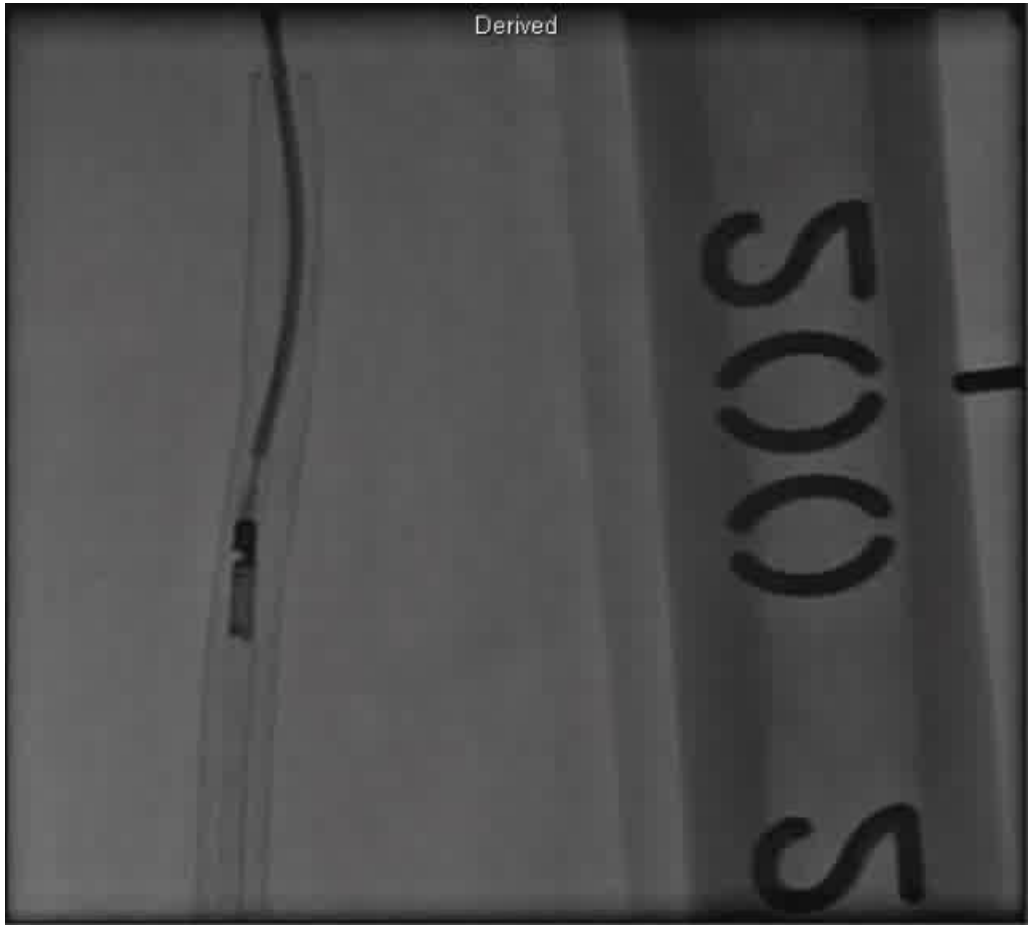
.SilverHawk Plaque Excision System

(Hollow Technologies, Redwood City, CA, USA)

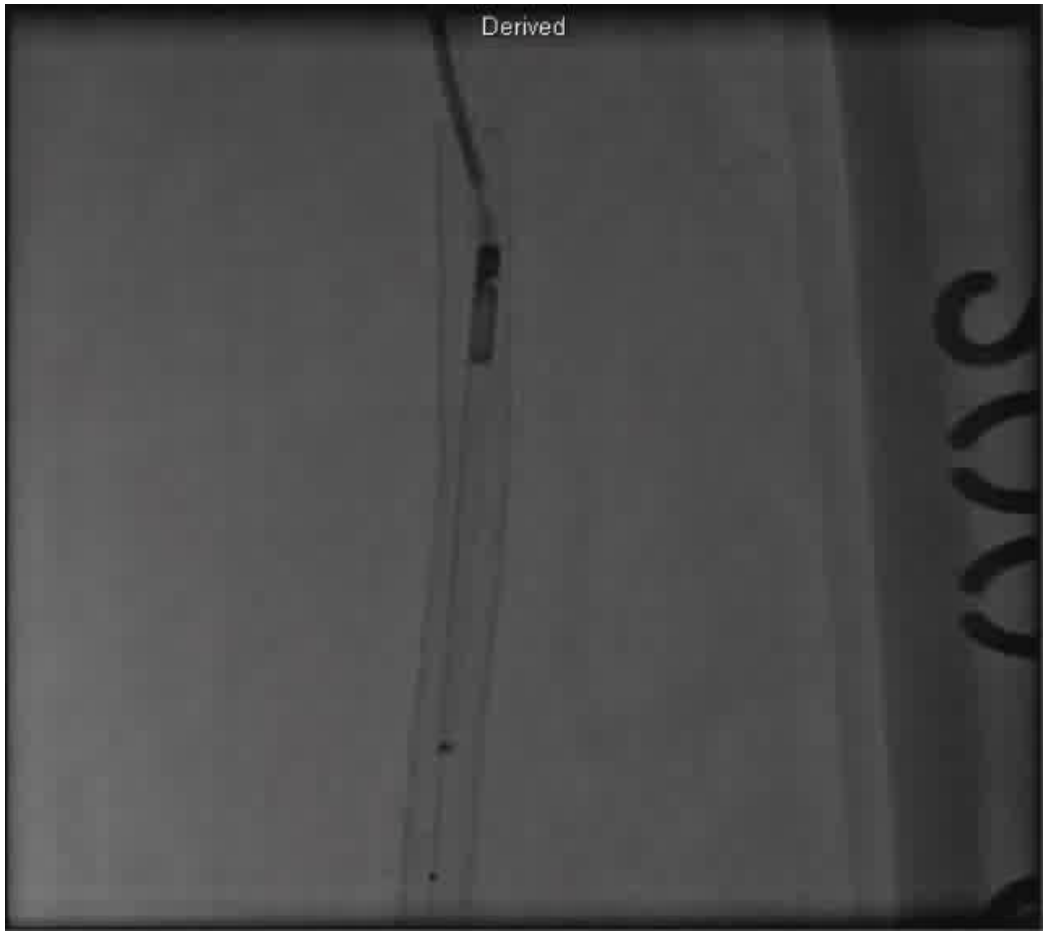


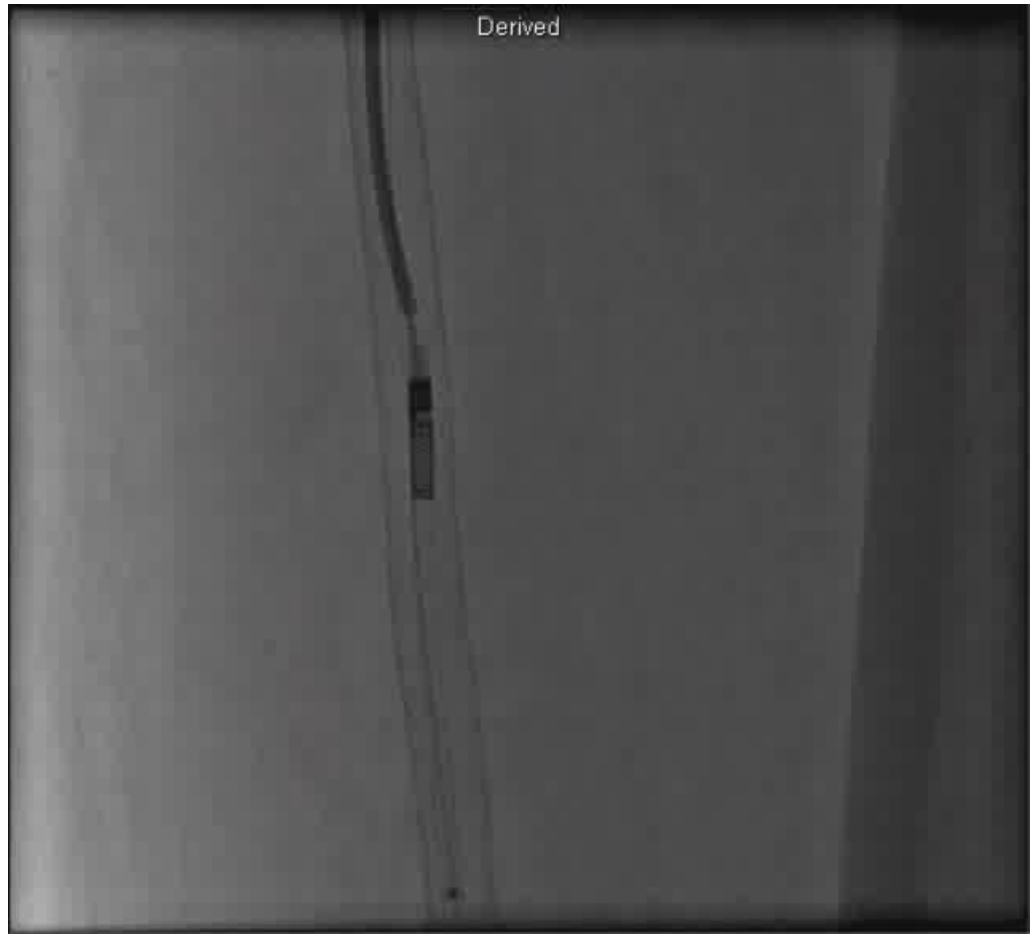






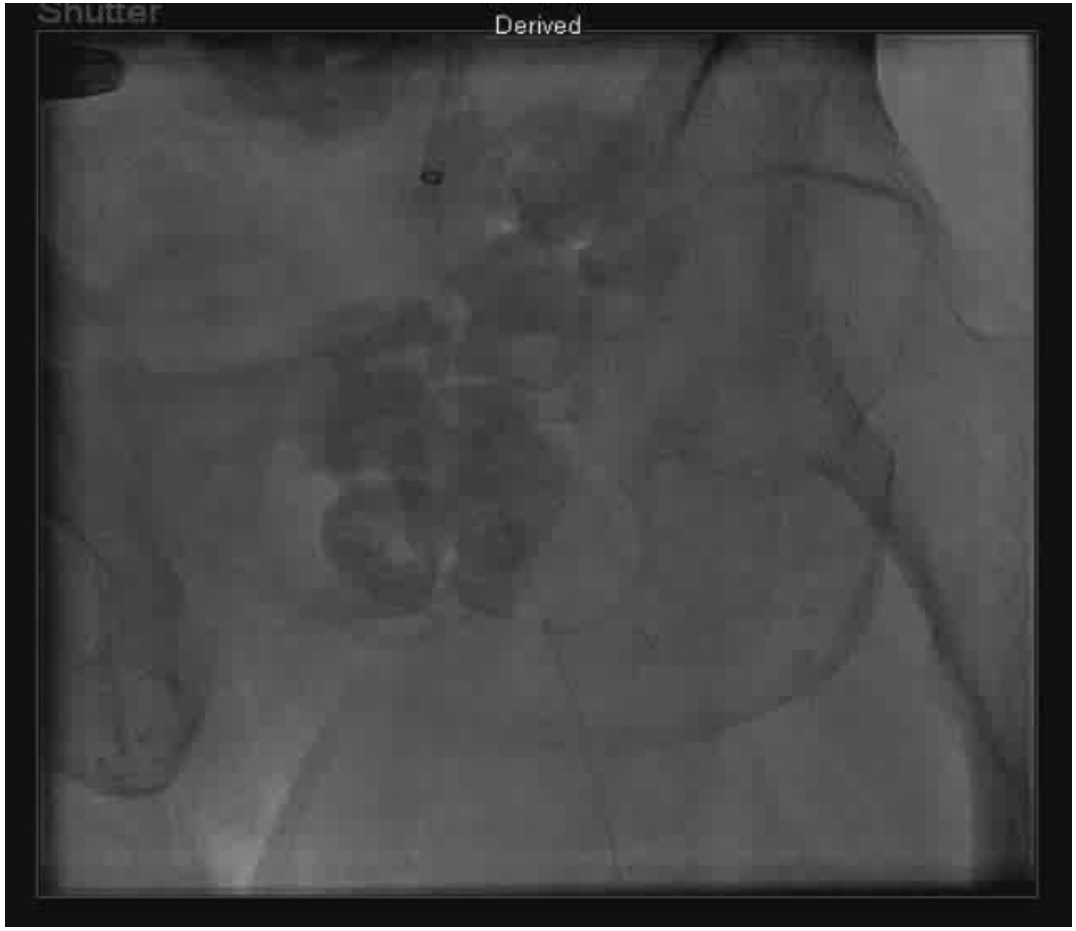
Advancement in speed of 1mm/s

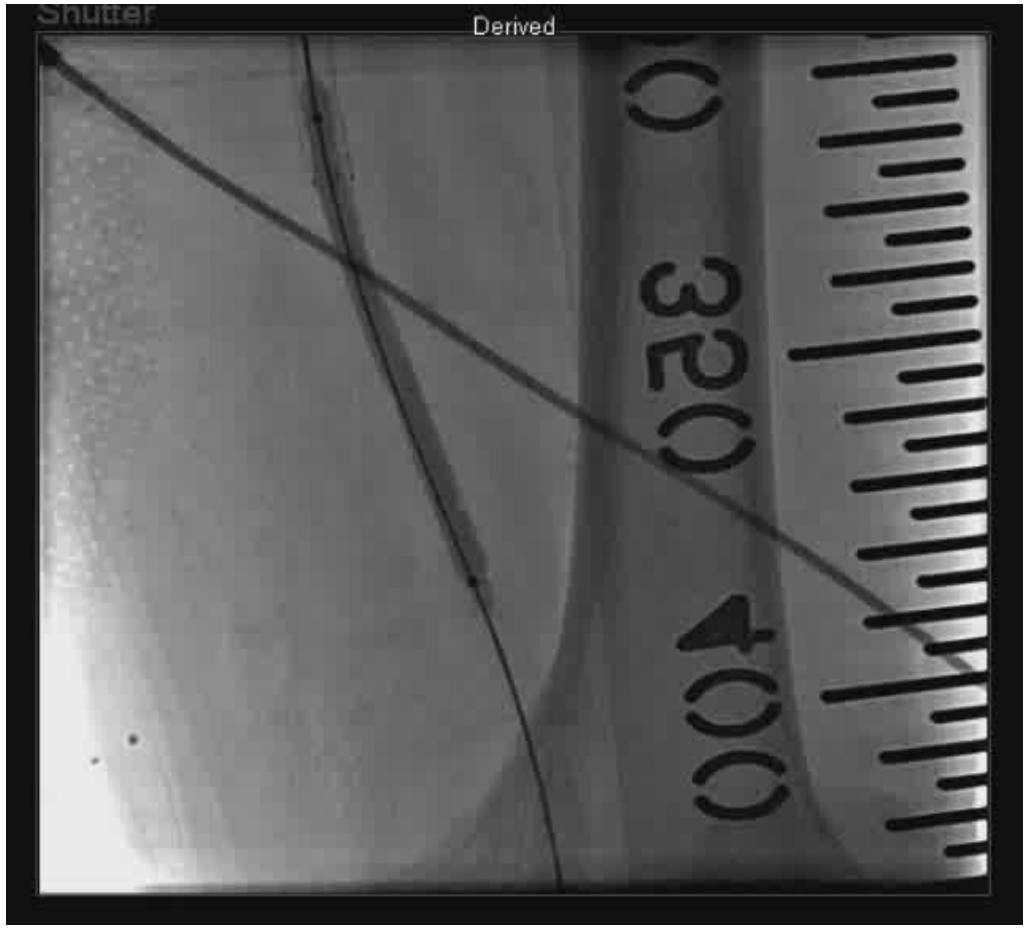




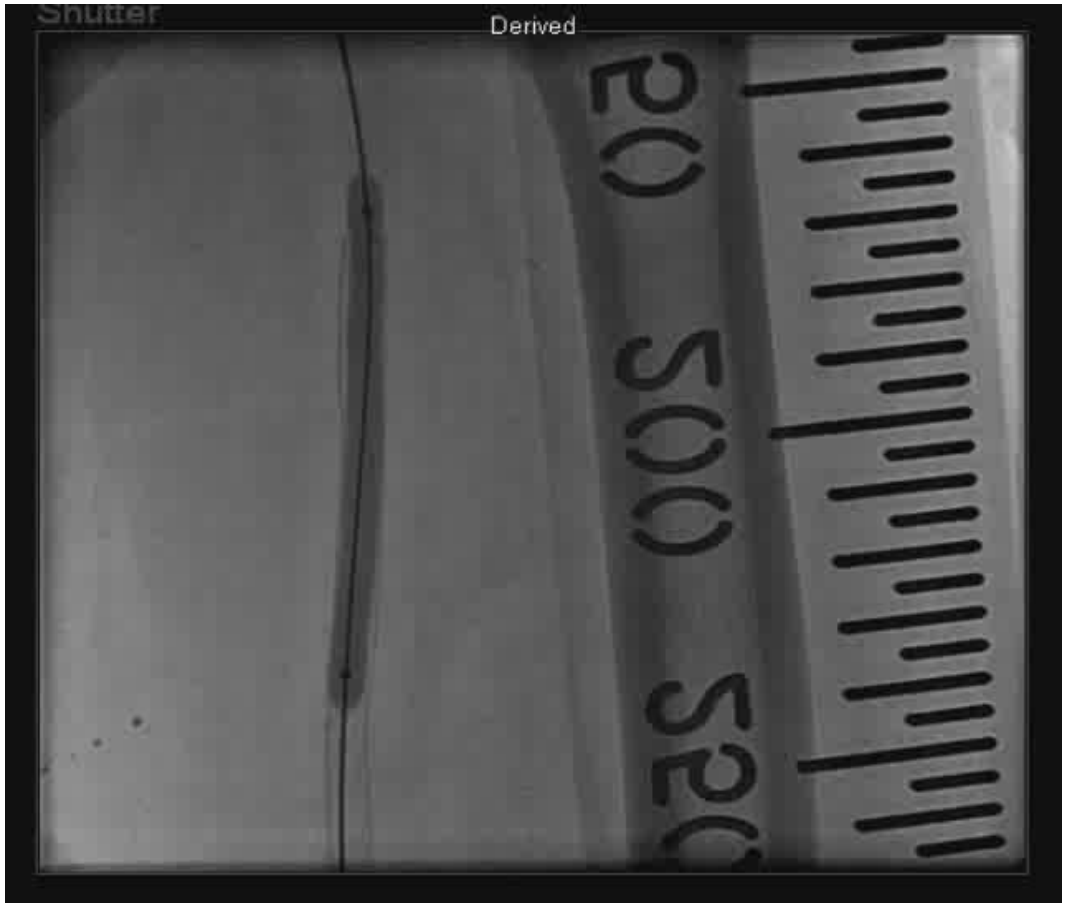
The direction of the blade was rotated

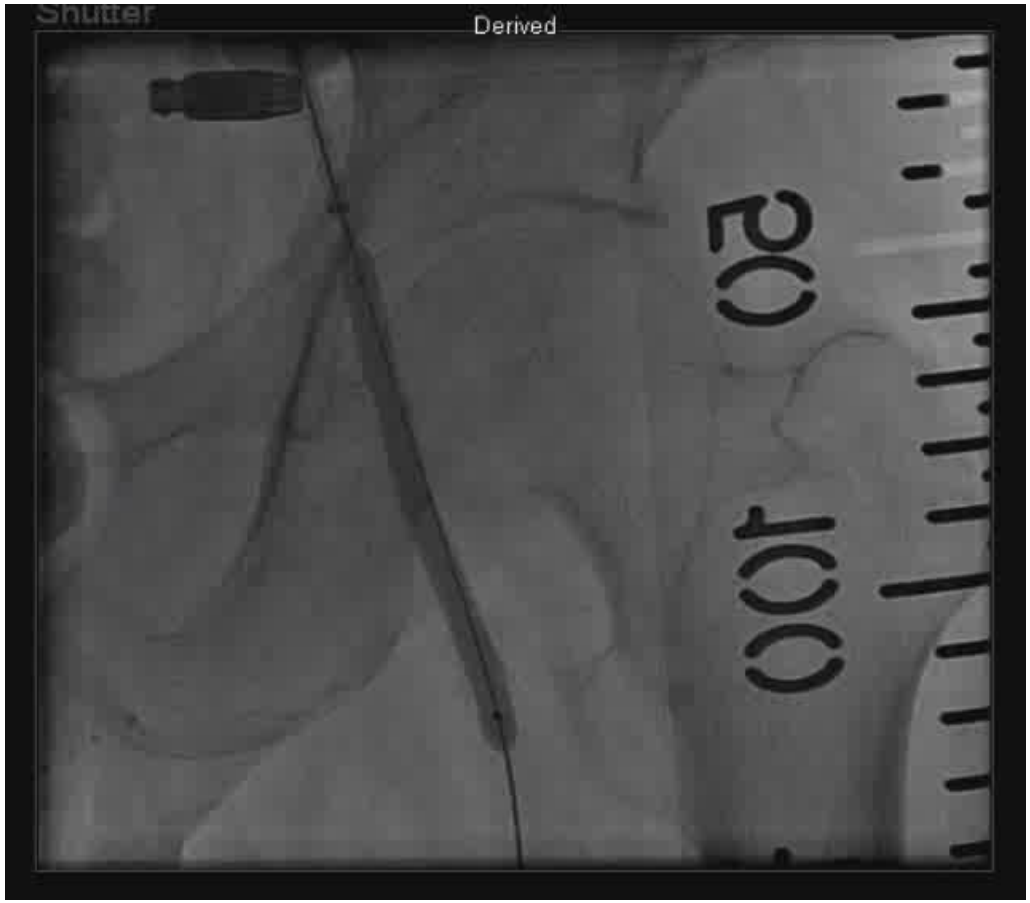
Balloon Angioplasty



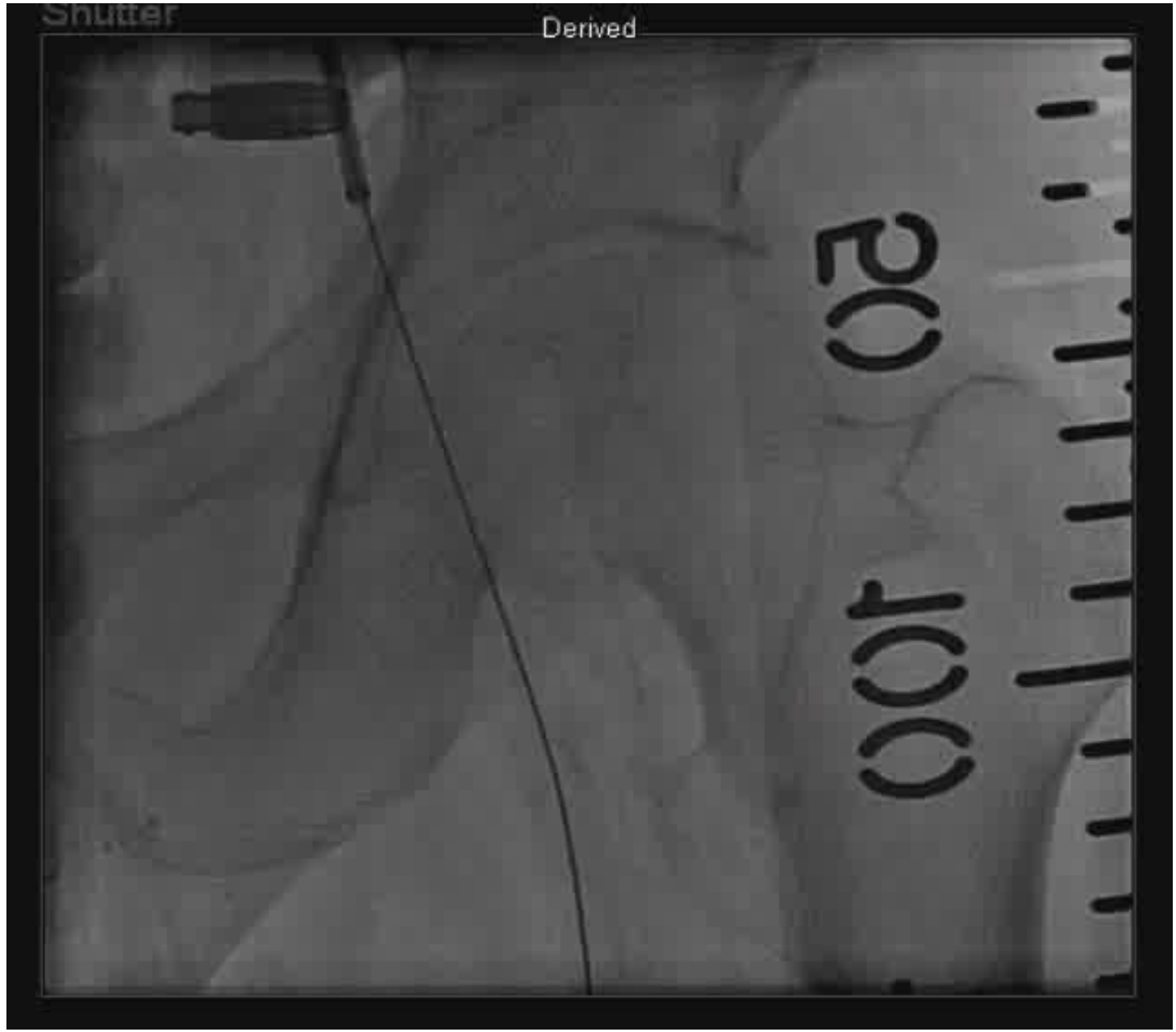


.6.0 x 80 mm balloon (Powerflex®, Cordis; Johnson & Johnson Medical, Miami, FL)



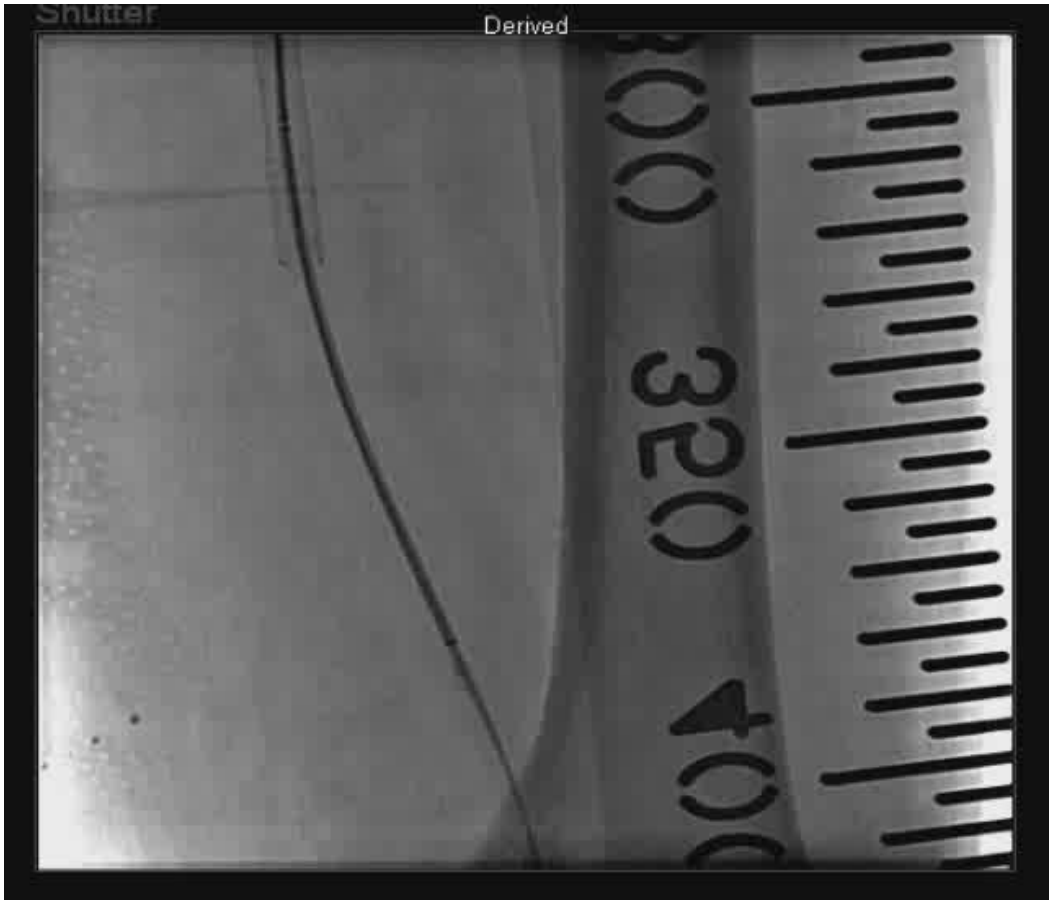


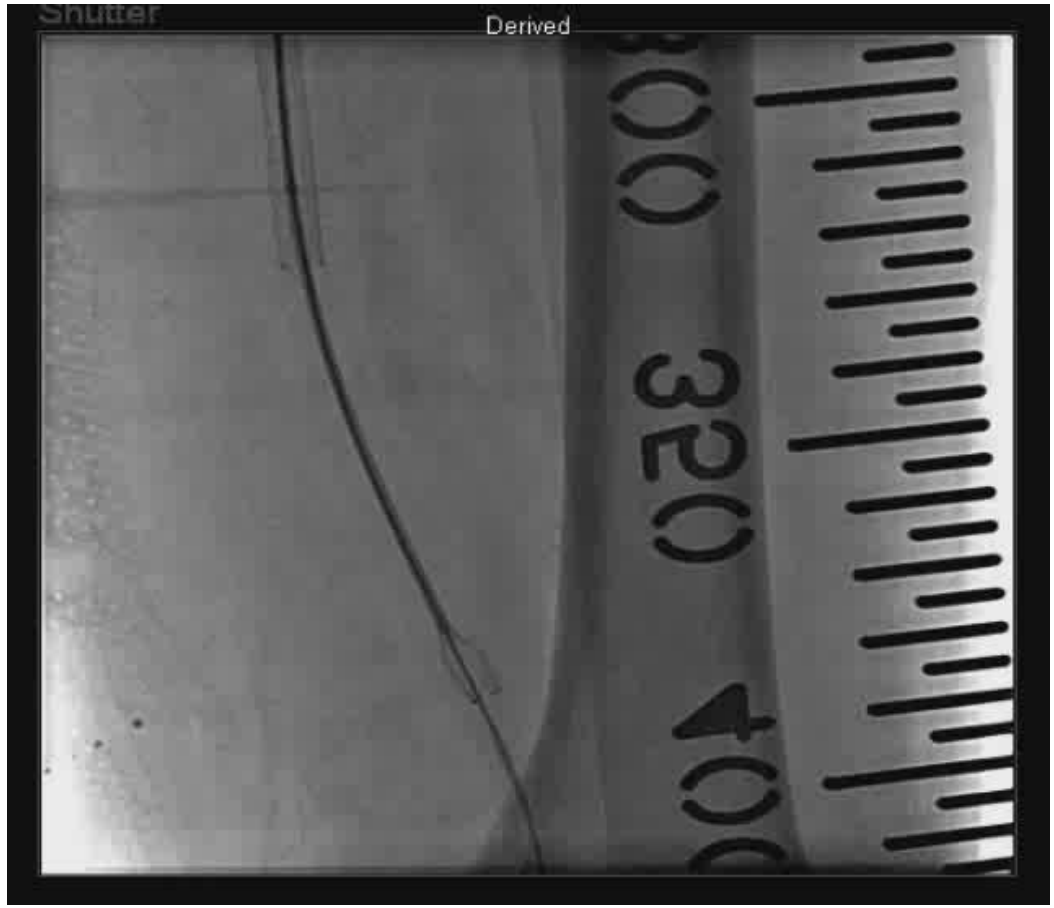
Continuous balloon expansion up to LT. SFA ostium



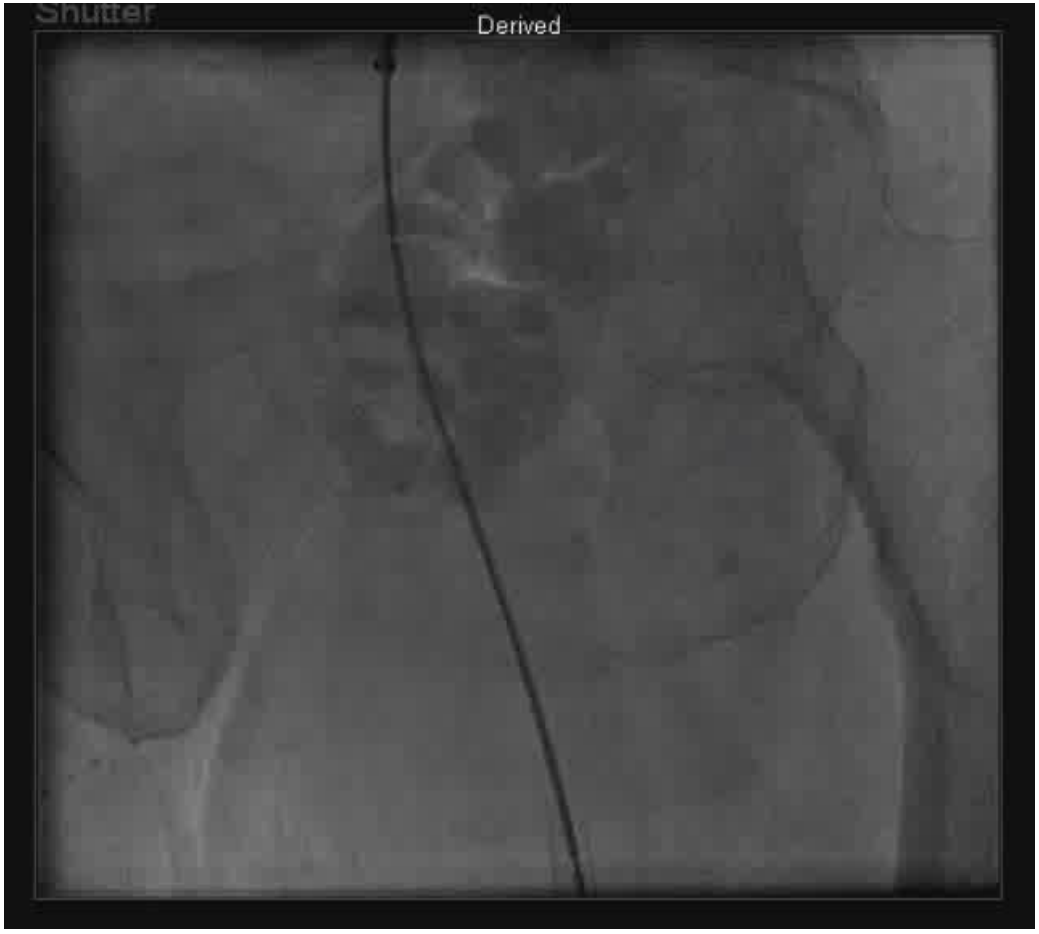
After balloon expansion, more dilated lumen, but not satisfied.

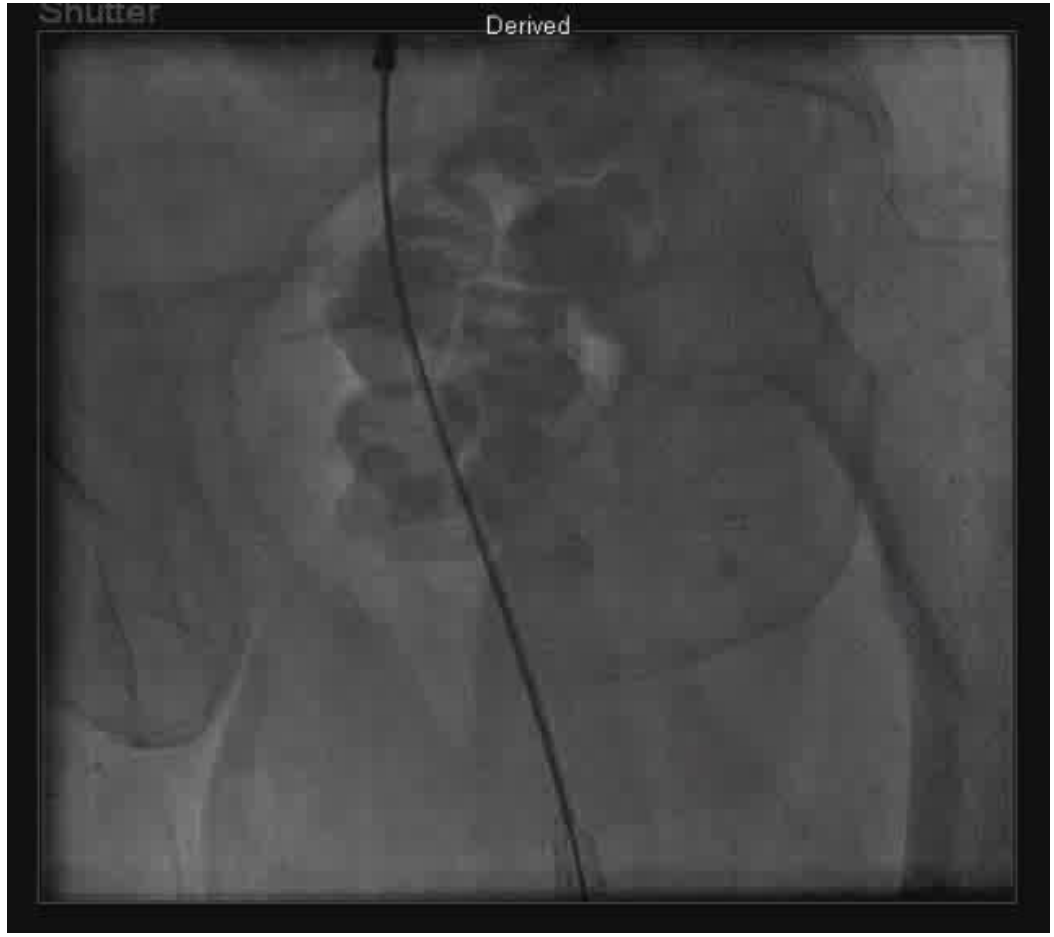
Lt.SFA PTA (stenting)



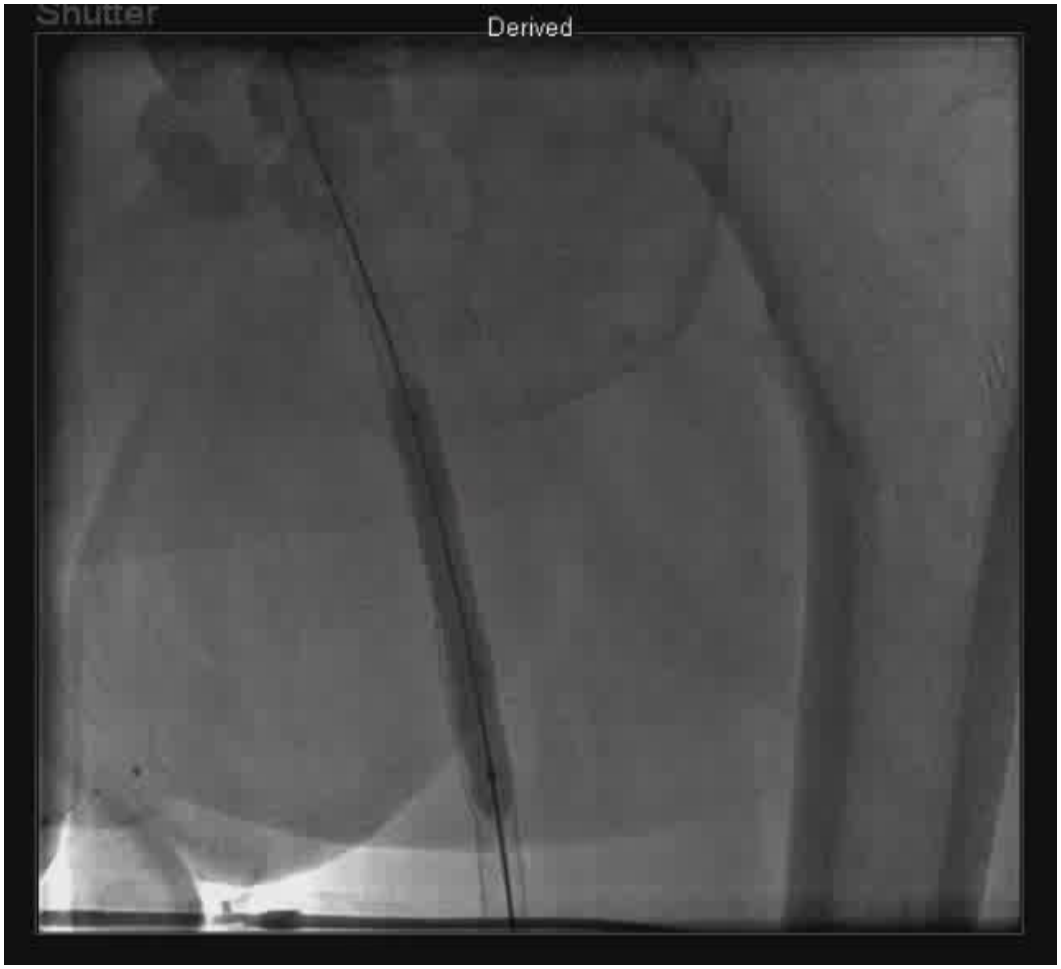


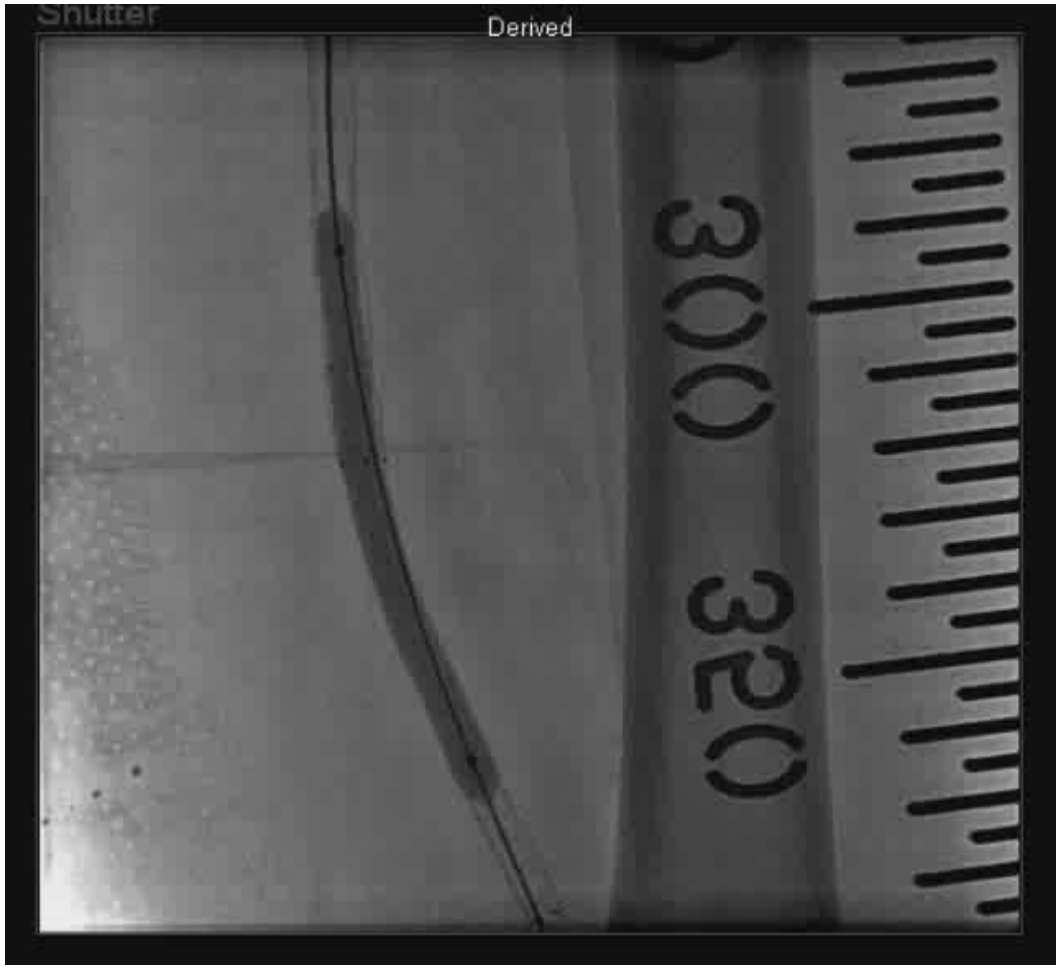
.6 x 80 mm stent (SMART-Control, Cordis; Johnson & Johnson Medical, Miami, FL)



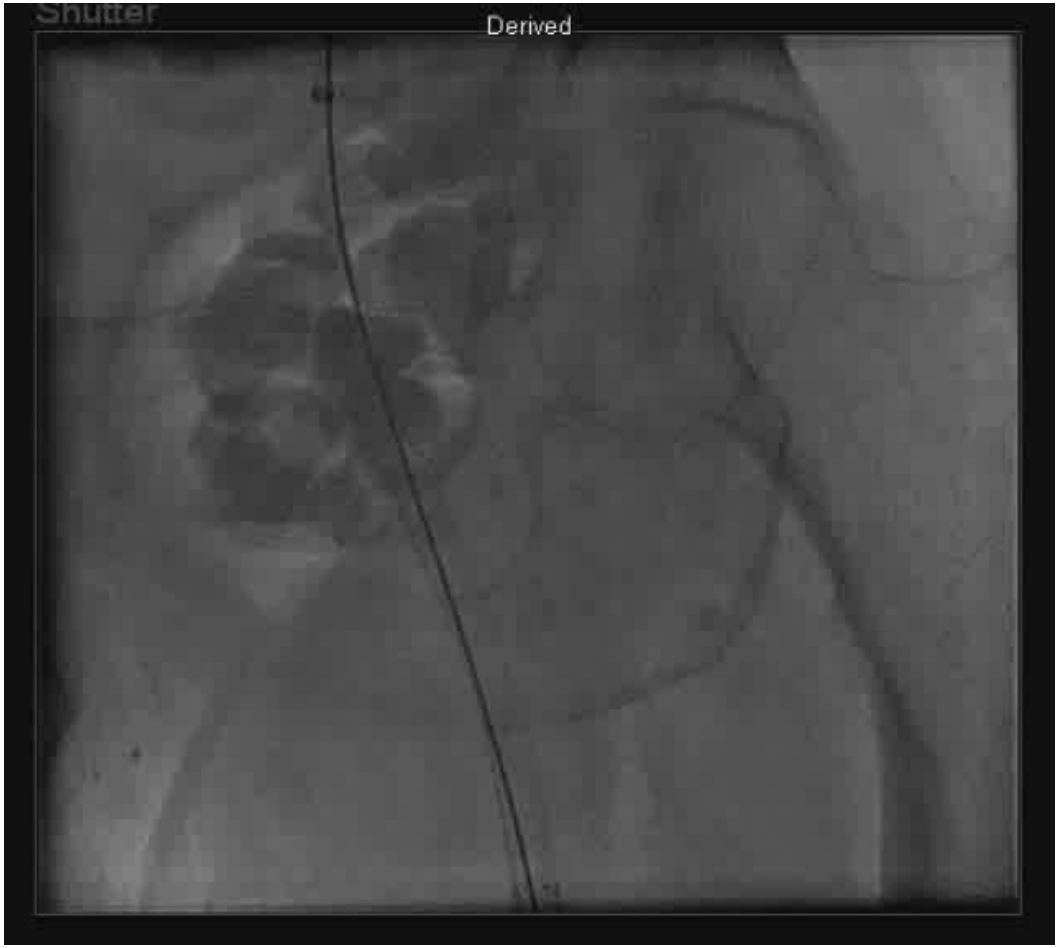


.8 x 100 mm stent (SMART-Control, Cordis; Johnson & Johnson Medical, Miami, FL)

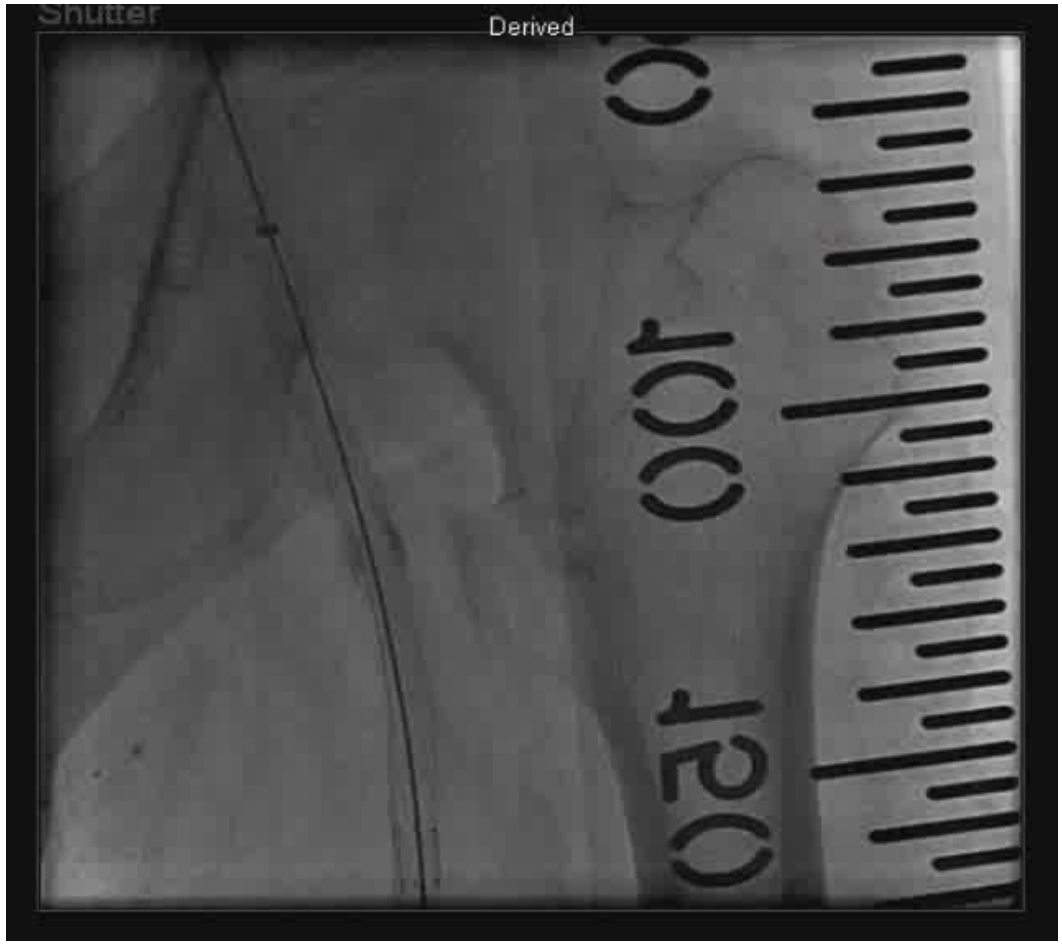




.6.0 x 80 mm balloon, proximal and distal overlapped stenting site



LT. SFA ostium : fully dilated



Final angiography : all patent stents

Thanks yours attention