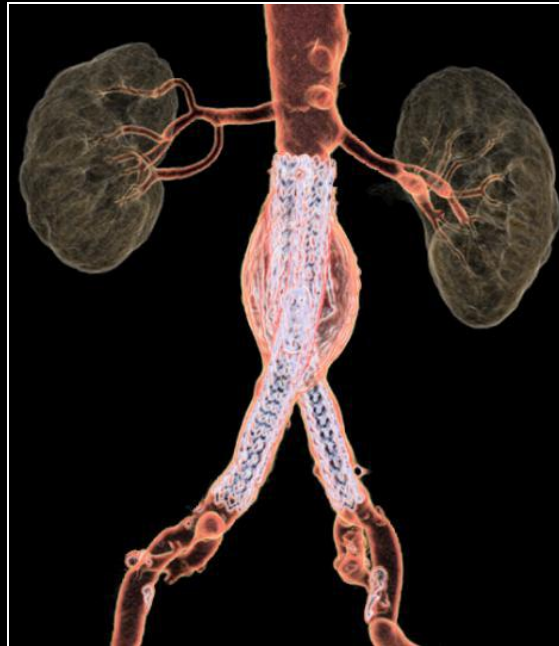
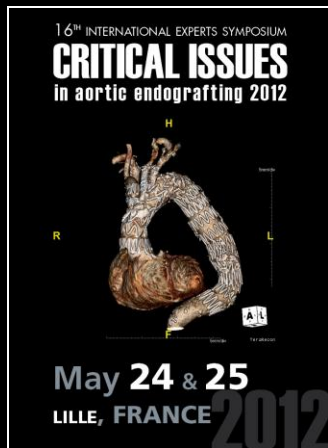


Endologix Nellix: Can Nellix Repair All Para-renal Aneurysms?



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Disclosures

Andrew Holden, MBChB, FRANZCR

For the 12 months preceding this CME activity, I disclose the following types of financial relationships:

Honoraria received from: Nil

Consulted for:

Abbott Vascular Laboratories

Endologix Inc

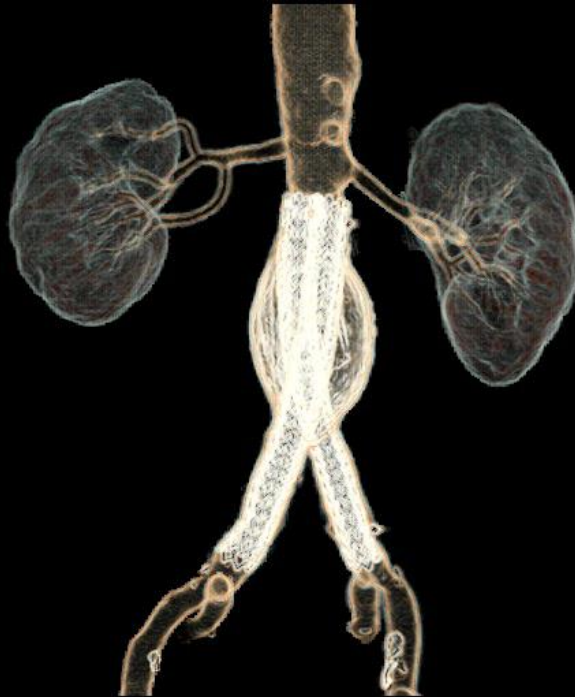
Cook Medical Systems

480 Biomedical

Held common stock in: Nil

Nellix Endovascular System

A radically different endovascular system for AAA repair



Nellix Endovascular System



**Introduce both catheters
over .035" wires**



**Balloon expand both stents
(Chromium Cobalt)**



**Fill with Polymer using
pressure monitoring**

- Designed to fill and seal the entire aneurysm sac and target the direct causes of secondary interventions
- Endobags filled with biostable polymer seal anatomy from renals to hypogastrics

Nellix Endovascular System Delivery System

Angio-Tip (Hand or Power Contrast
Injections)

17 Fr OD Catheter

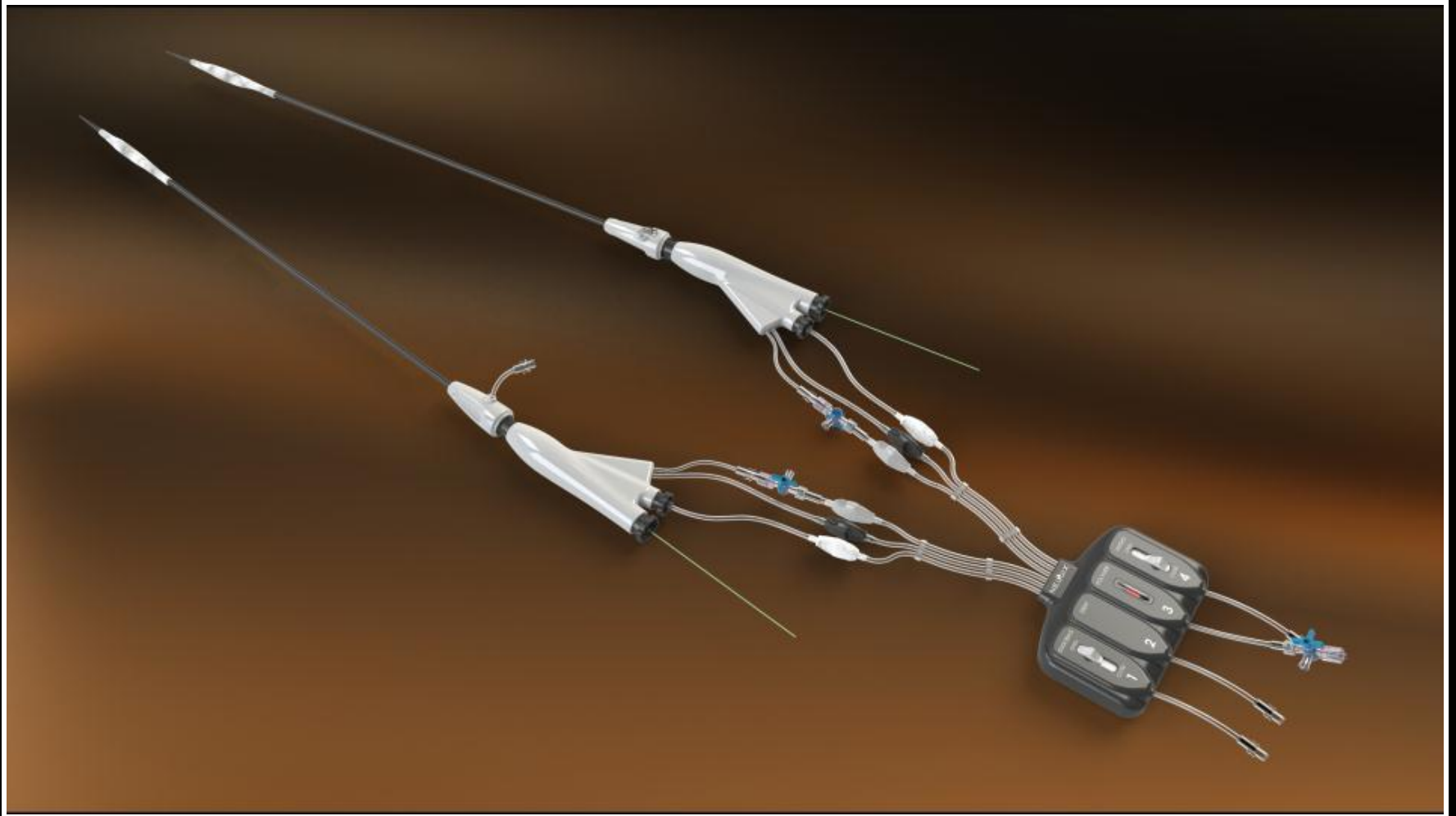
Ergonomic Handles

.035" Guidewire Lumen

Console Quick
Connects with Access
Ports



Nellix Endovascular System Operator Console

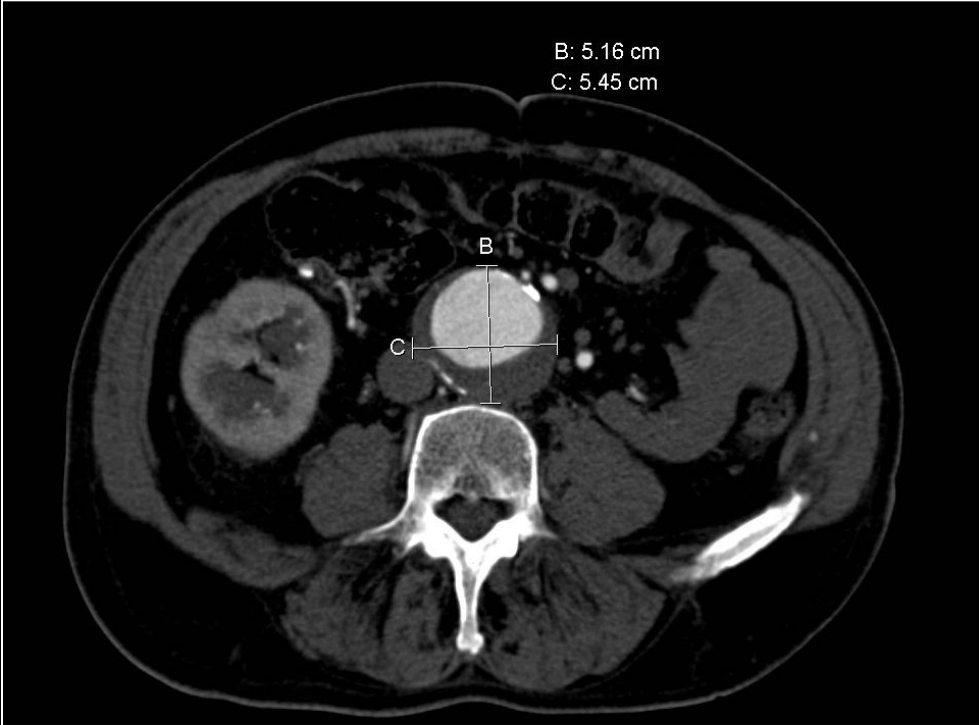


Nellix Endovascular System In-line Pressure Monitor



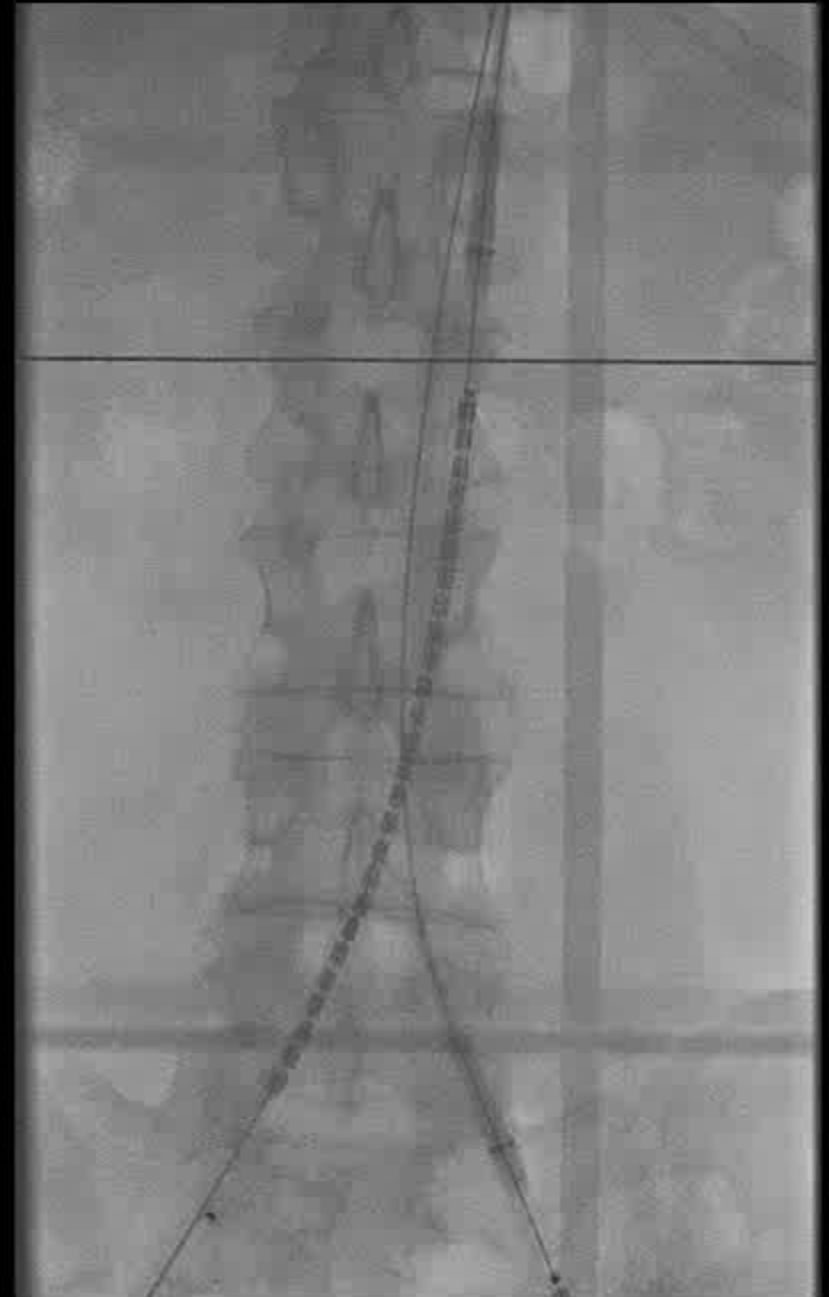
Sterile pressure transducer
In-line design
Integrated display
Real time monitoring



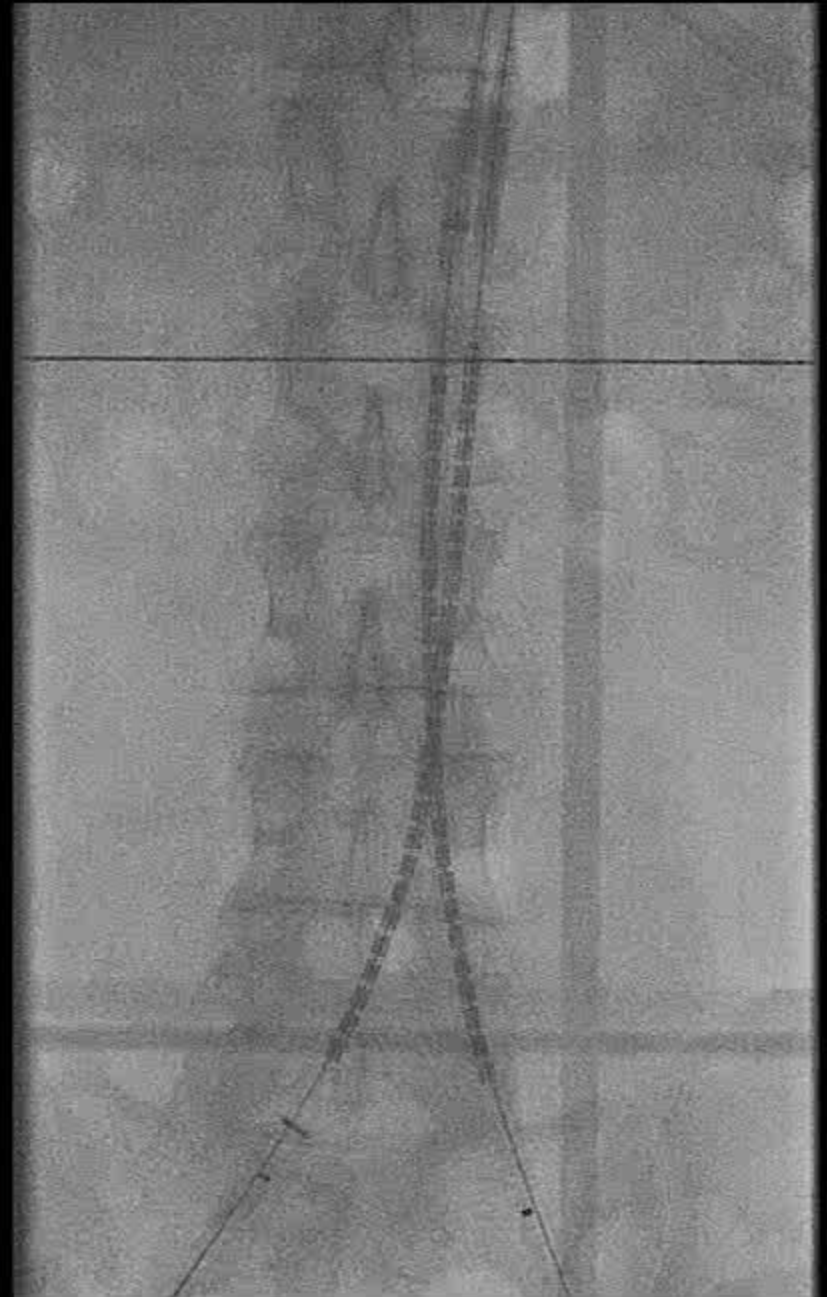


Step 1: Introduce Devices

0915 hours



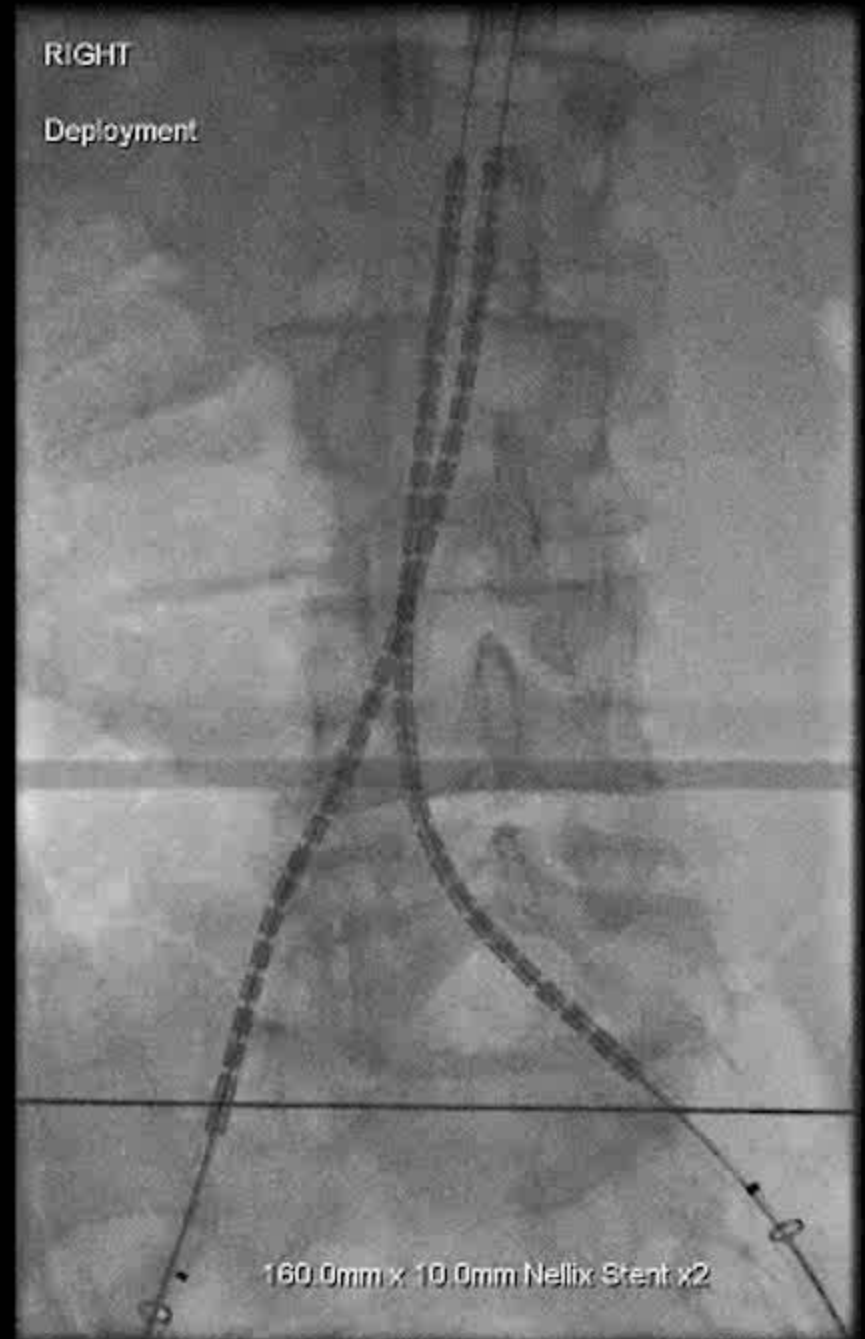
Step 2: Withdraw Sheaths



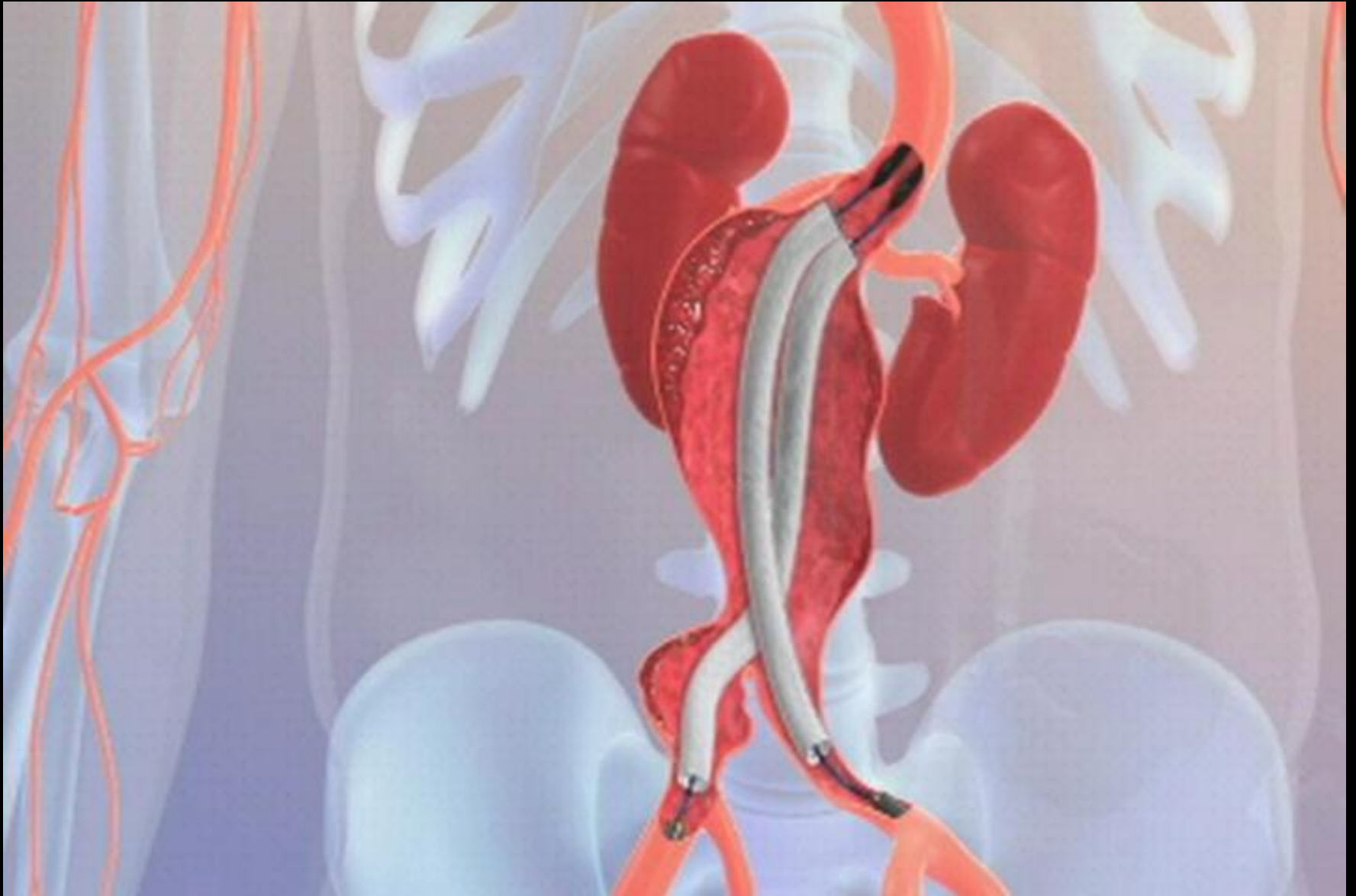
Step 3: Confirm Device Position



Step 4: Deploy Stents

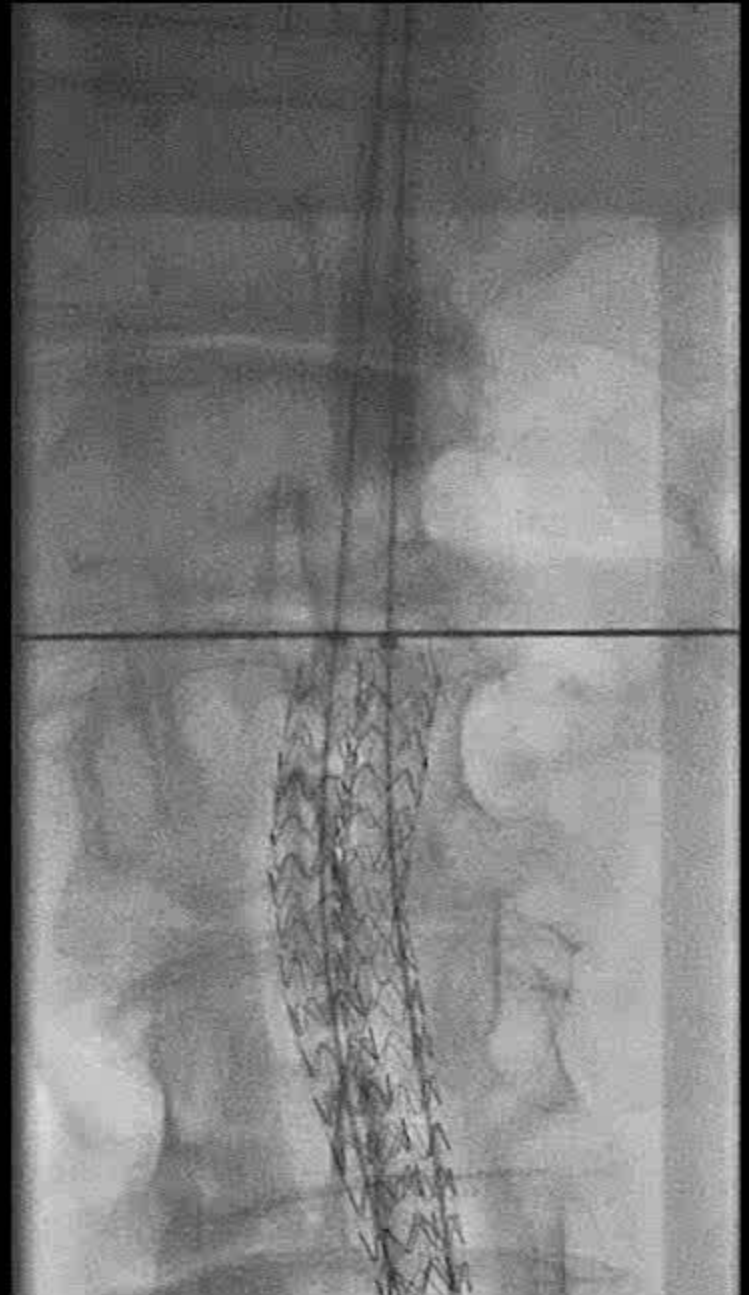


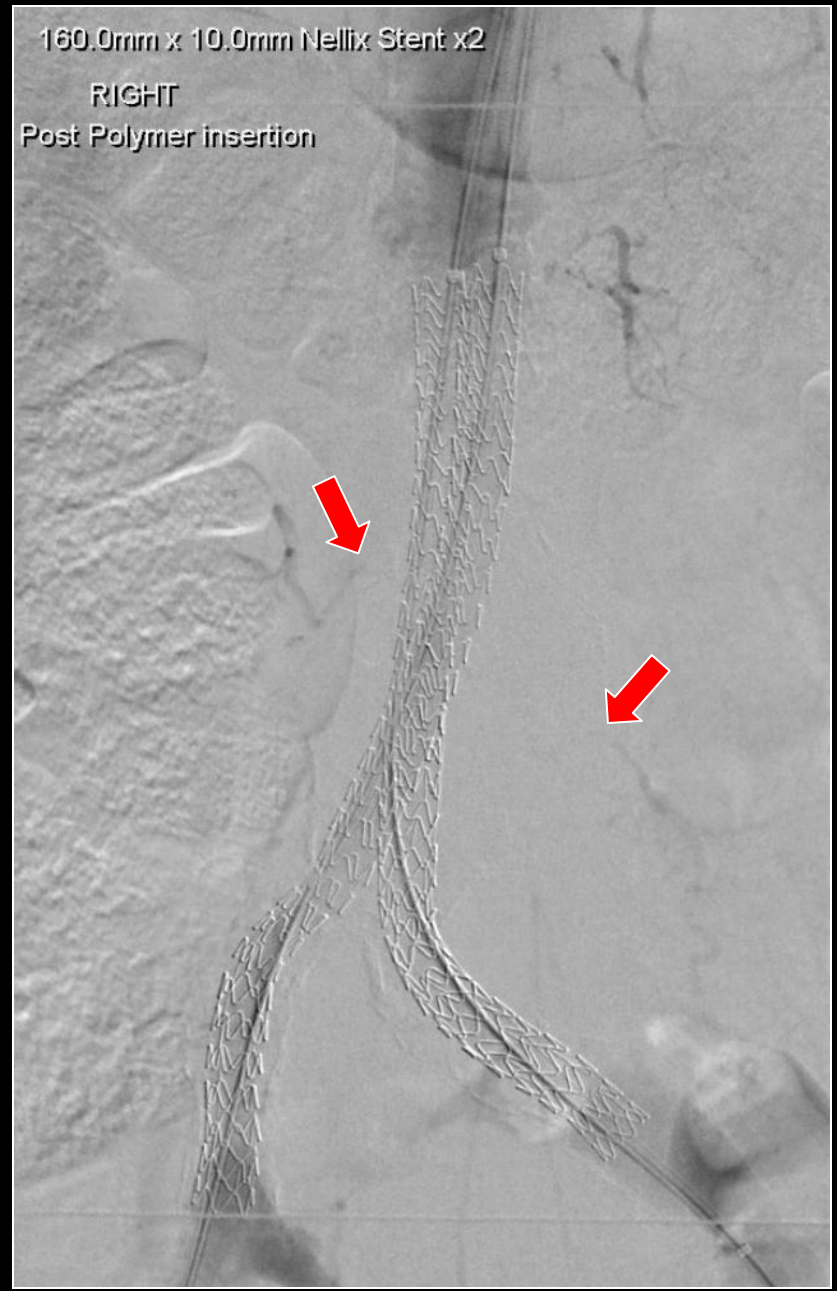
Step 5: Fill Endobags with Polymer



Step 5: Polymer Fill

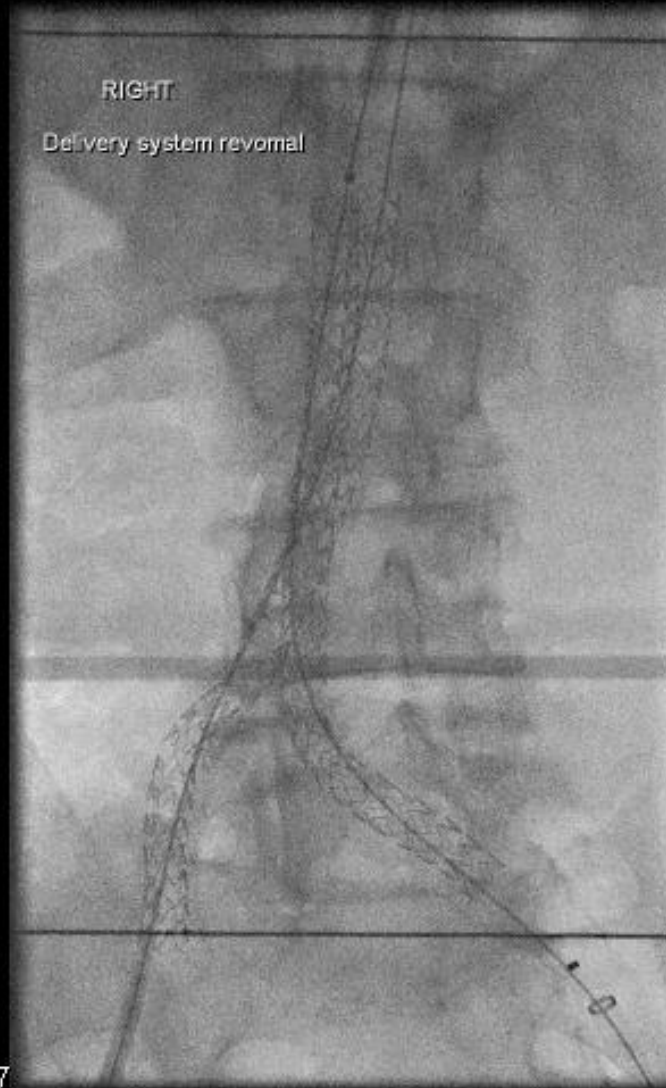
- In-line pressure monitor
- Aim for endobag pressure 180mmHg





Step 6: Device Removal

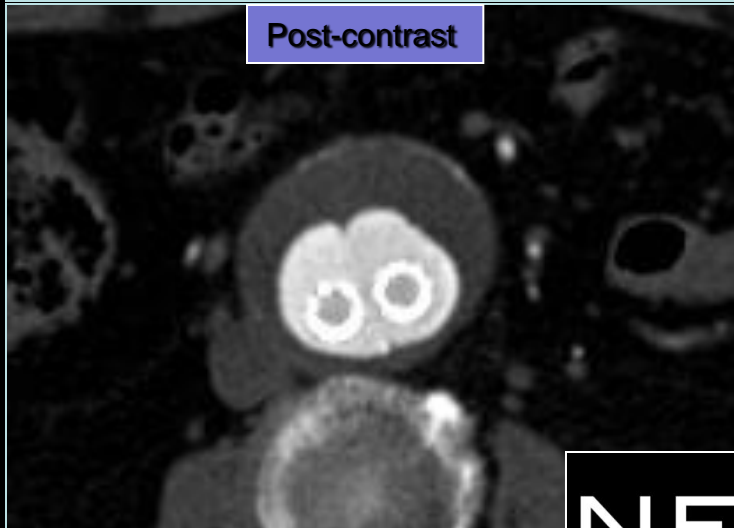
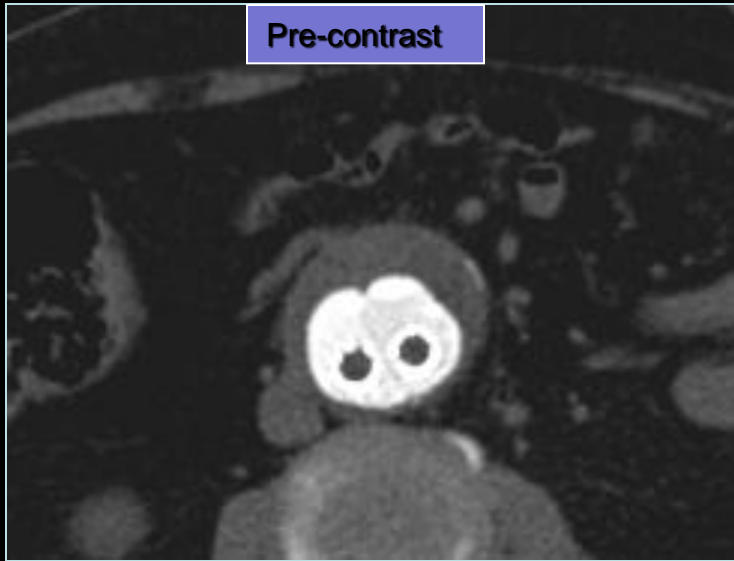
1



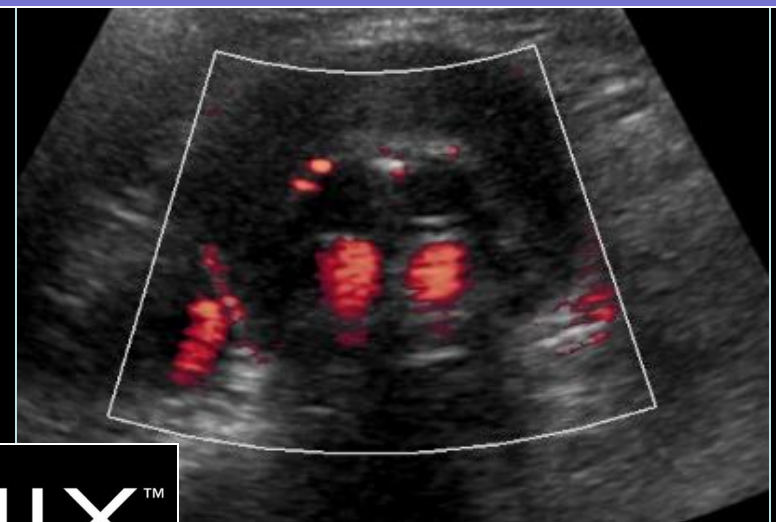
W 255 : L 127

0932 hours

Nellix Endovascular System

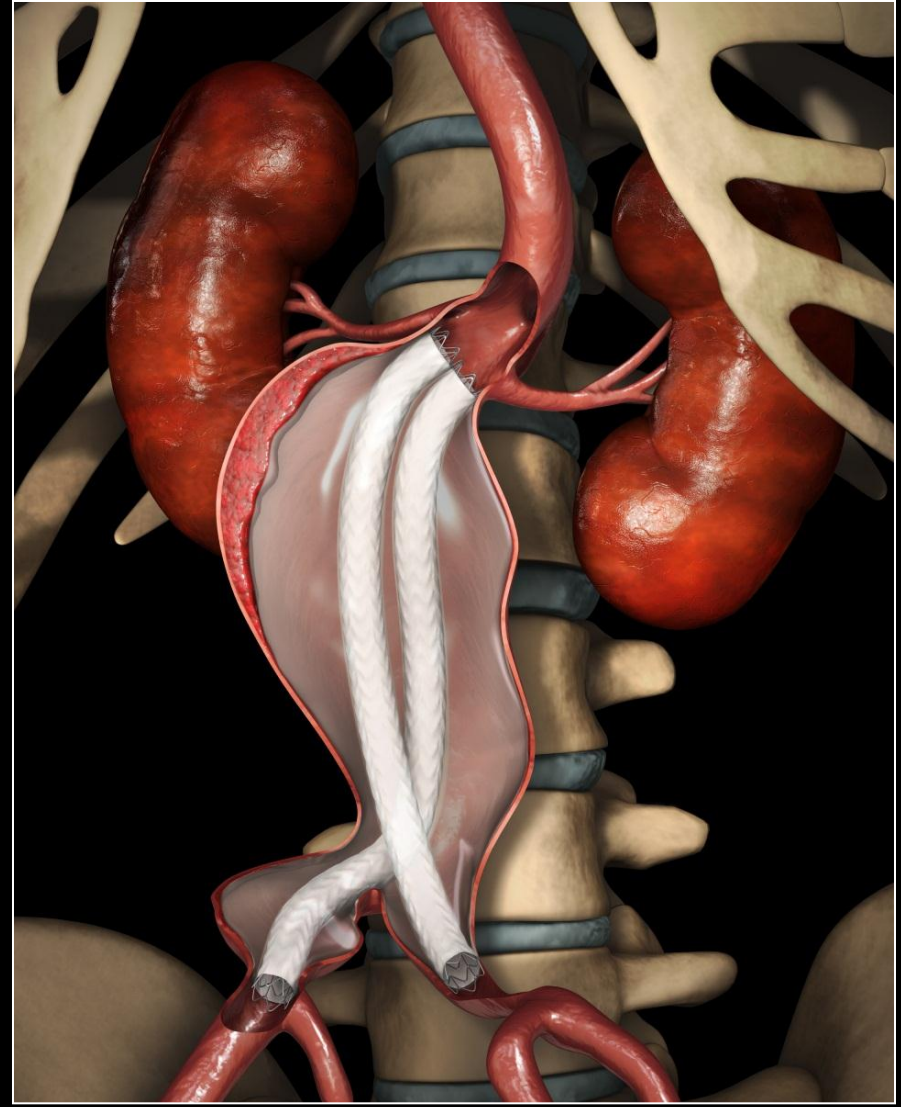
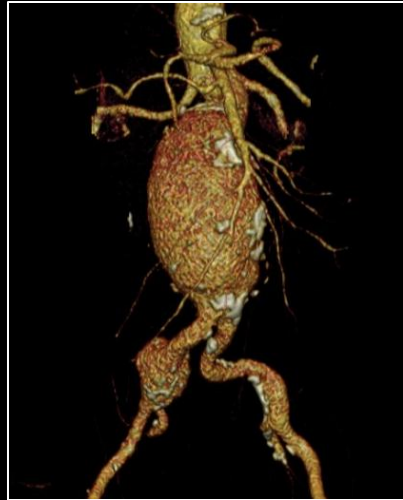


Thrombus, endobags (arrows) and stents easily seen

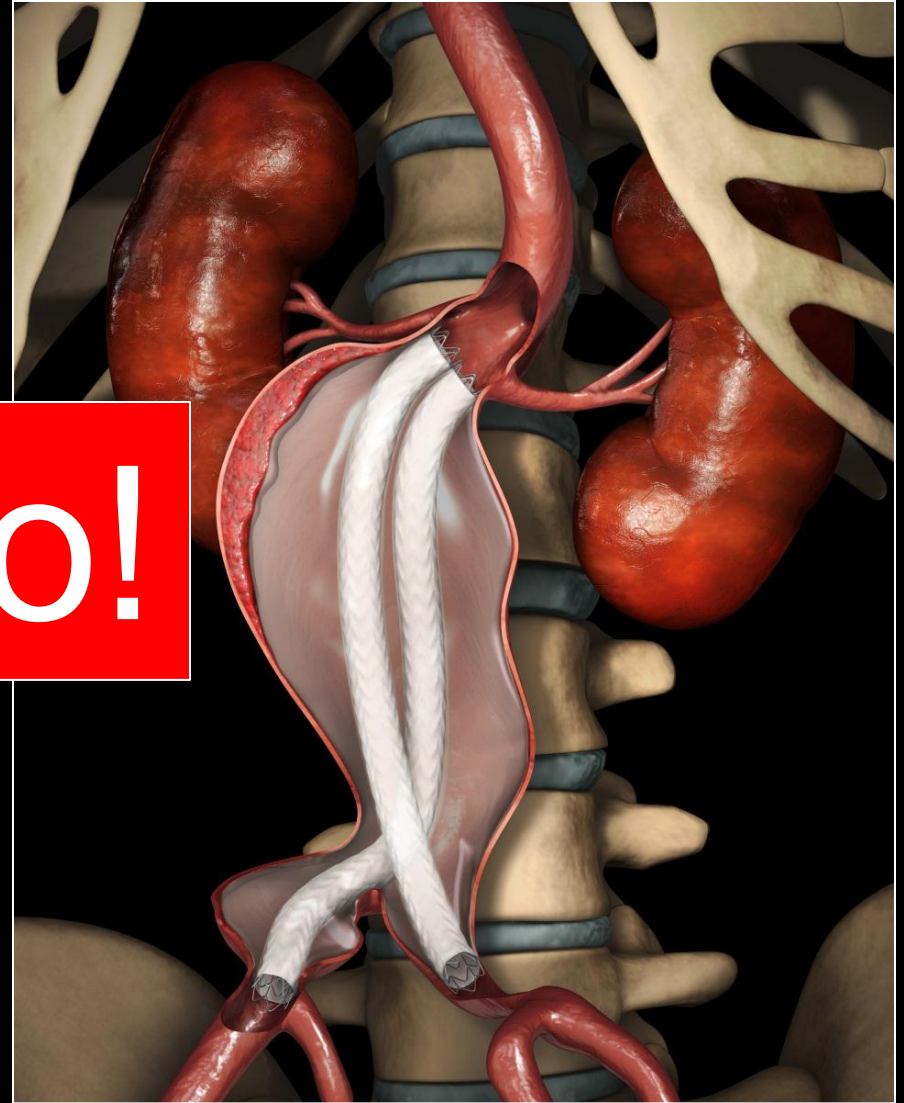
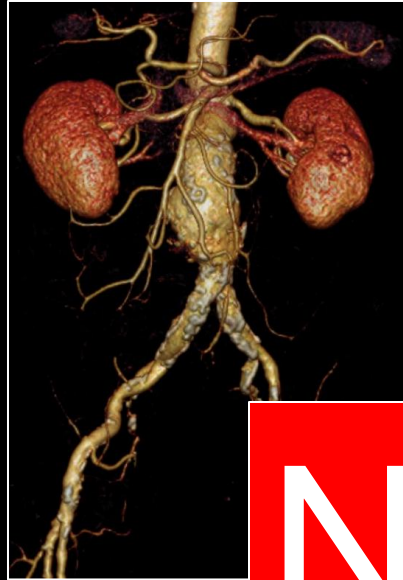


NELLIX™

Can Nellix Repair All Para-renal Aneurysms?



Can Nellix Repair All Para-renal Aneurysms?



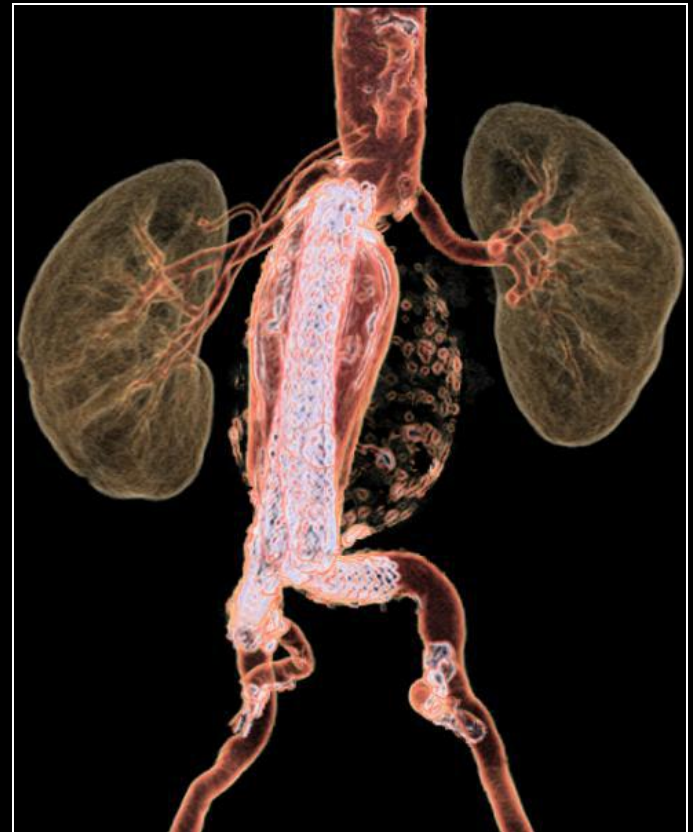
No!



Unique Nellix Features

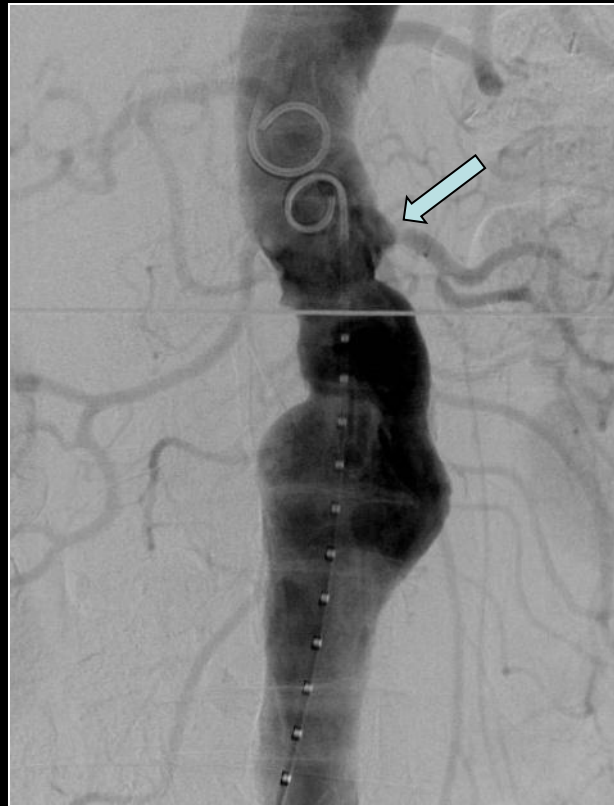
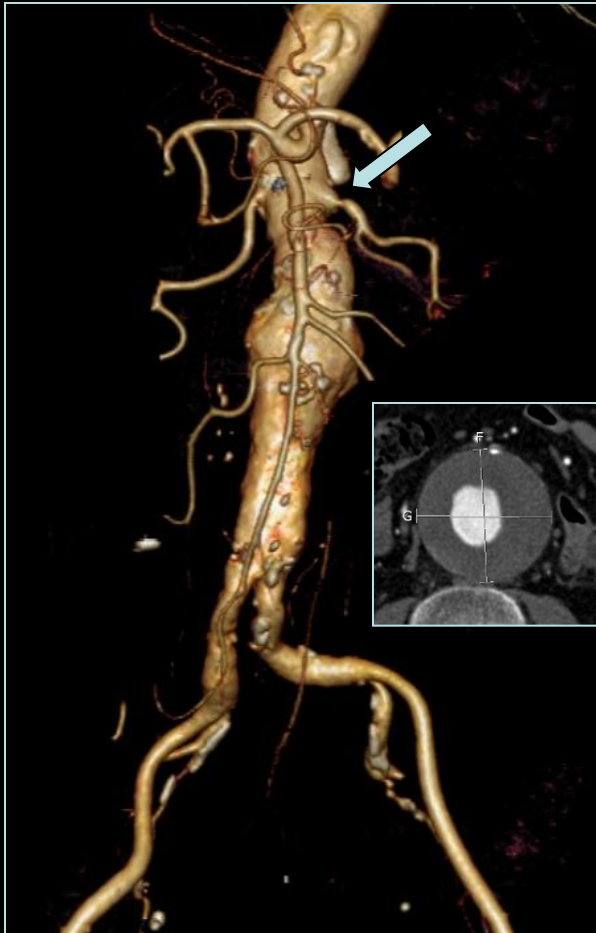
Motivation for Endovascular Aneurysm Sealing

- **Address Challenging Proximal Neck Anatomies**
 - Shorter lengths (<10mm)
 - Irregular (reverse conical)
- **Treat Iliac Aneurysm Disease**
 - Avoid IIA occlusion or IBDs



Short Infra-renal Neck

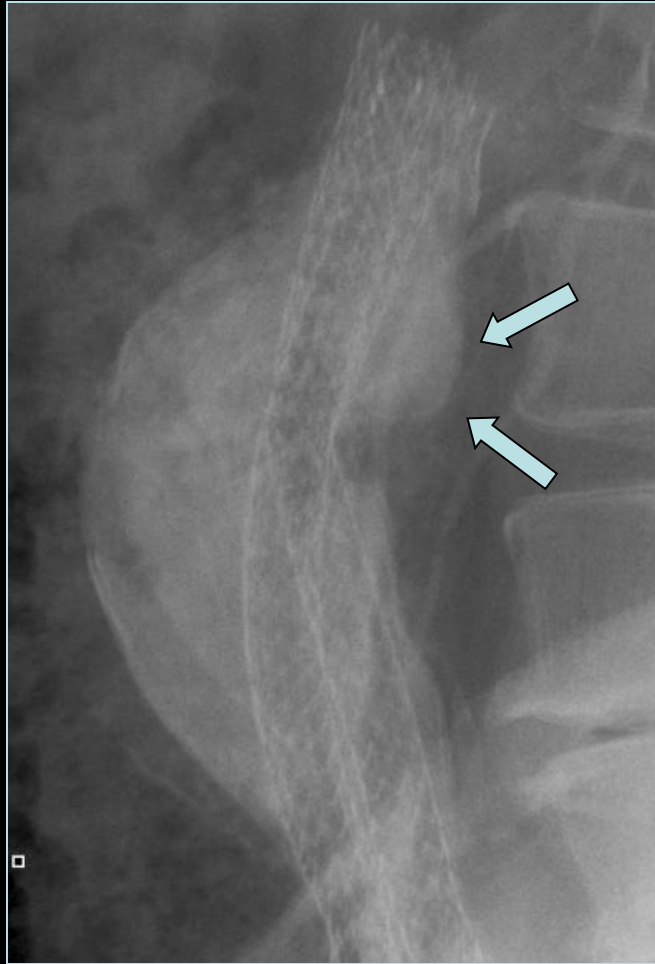
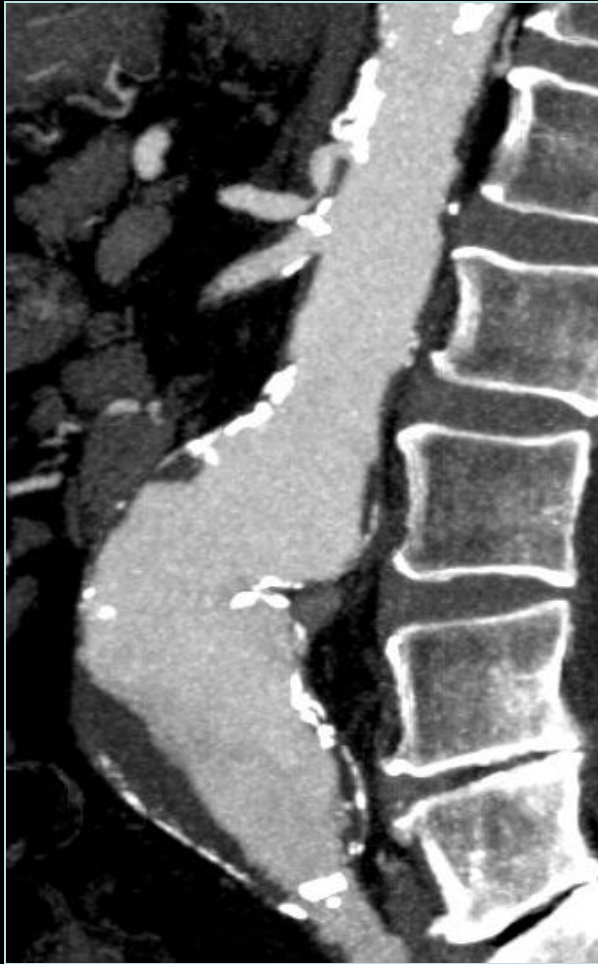
5mm long neck



Short Proximal Neck with “Posterior Bulge”



Because the endobags are sealing the aneurysm, short and adverse neck anatomies can be treated



Note the superb apposition of endobags to the dangerous posterior bulge in the infra-renal neck



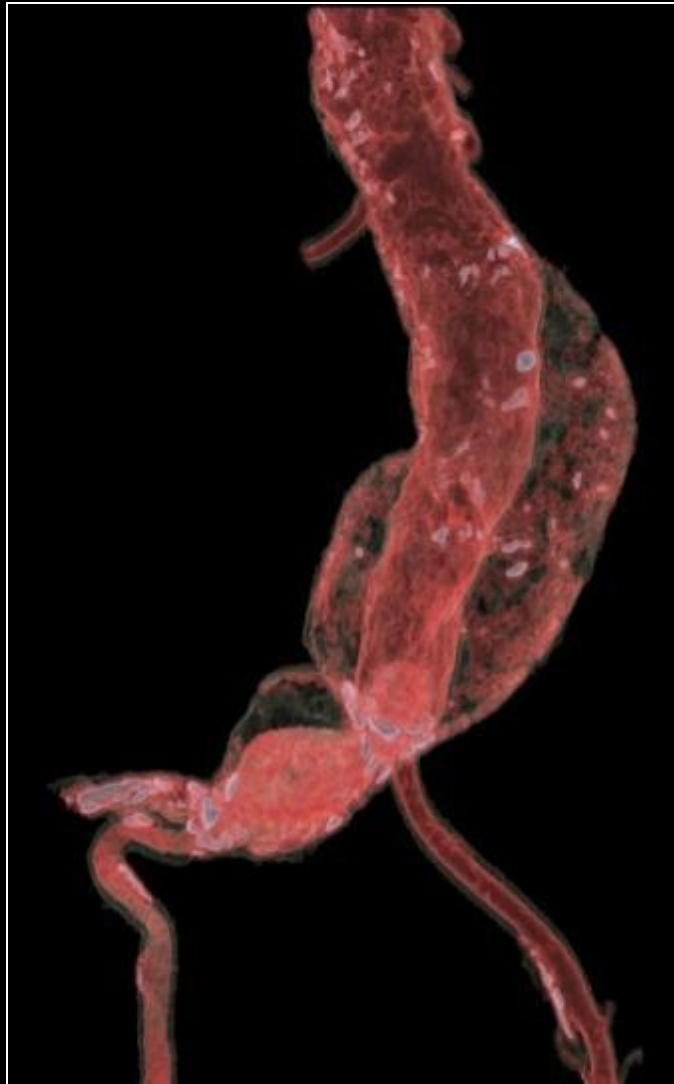
Pre-procedural CT



Post-procedural CT



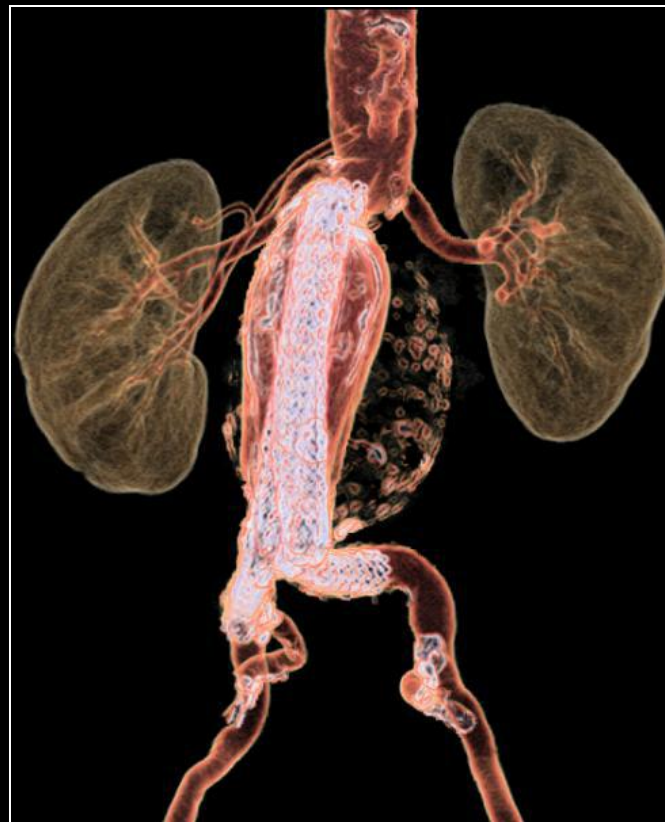
Reverse Conical Neck



Unique Nellix Features

Motivation for Endovascular Aneurysm Sealing

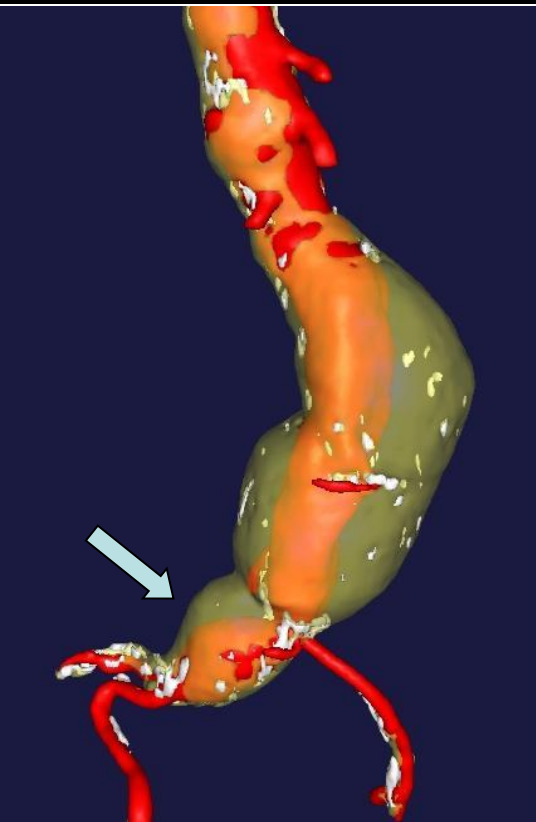
- Address Challenging Proximal Neck Anatomies
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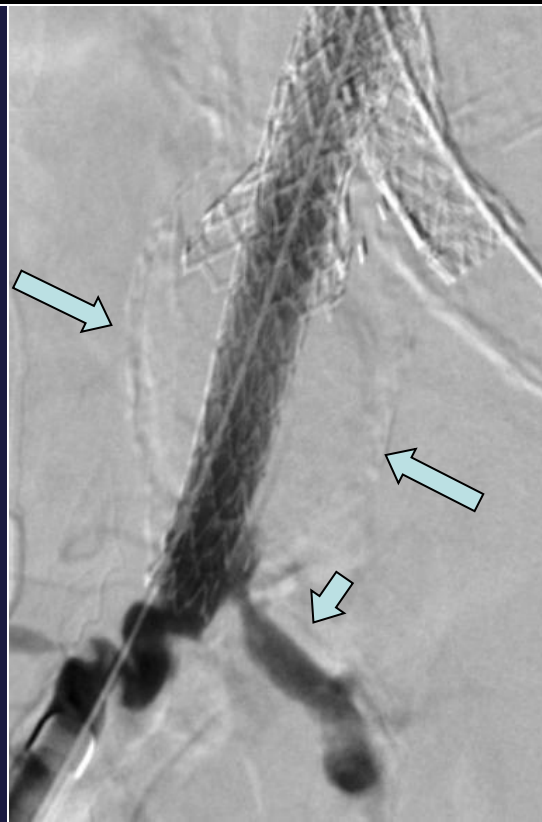


Iliac Artery Issues

Common Iliac Artery Aneurysms may be treated with an iliac extender, avoiding hypogastric artery embolization or IBD



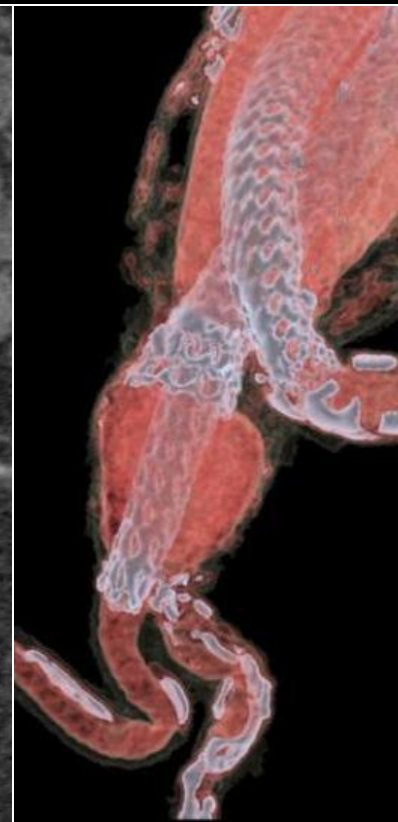
Aneurysmal RCIA



Nellix iliac extender preserving hypogastric artery

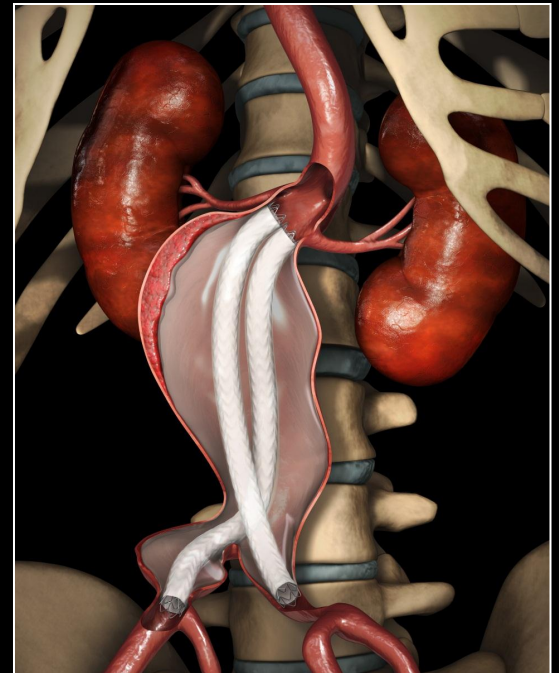


6 month CT – RCIAA excluded



Nellix Endovascular System

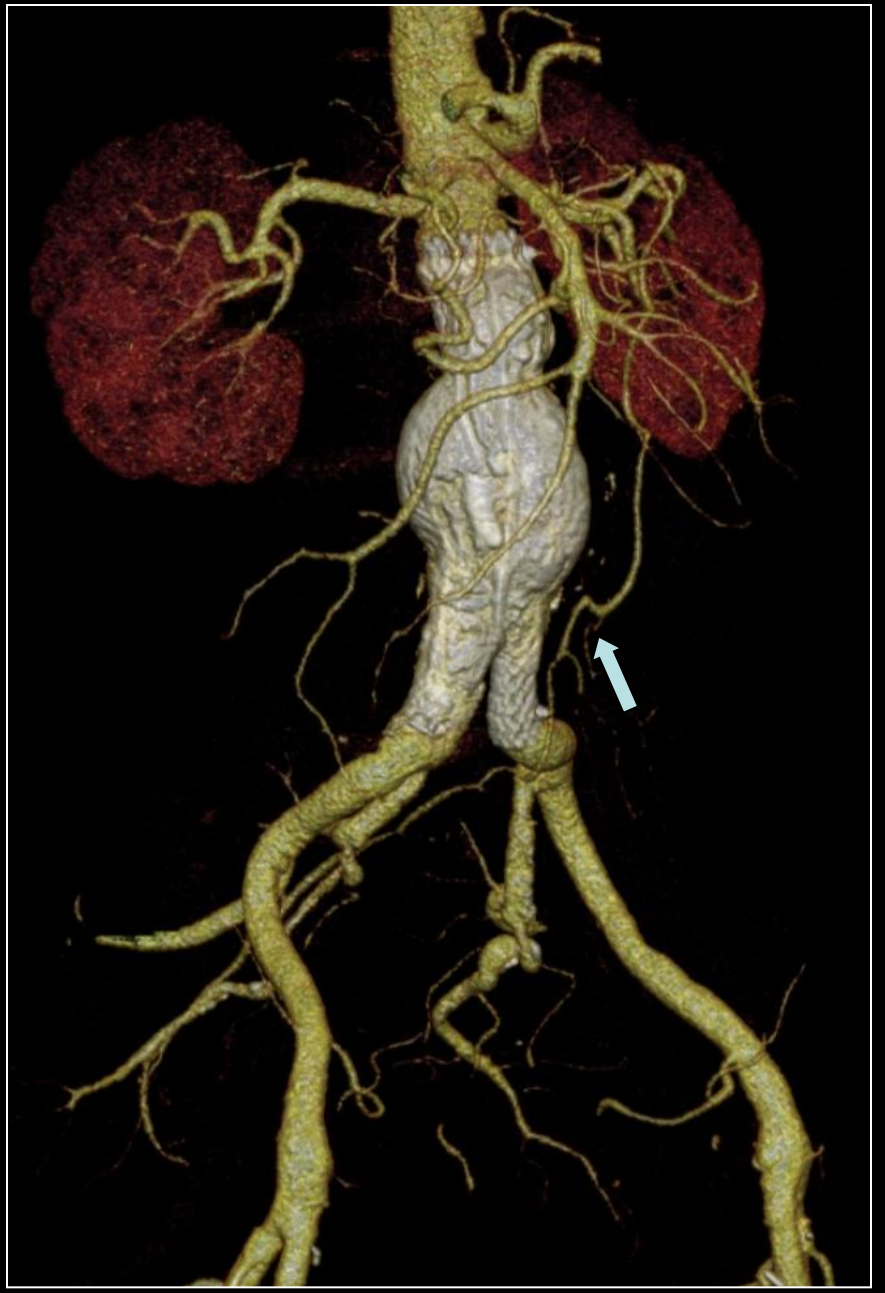
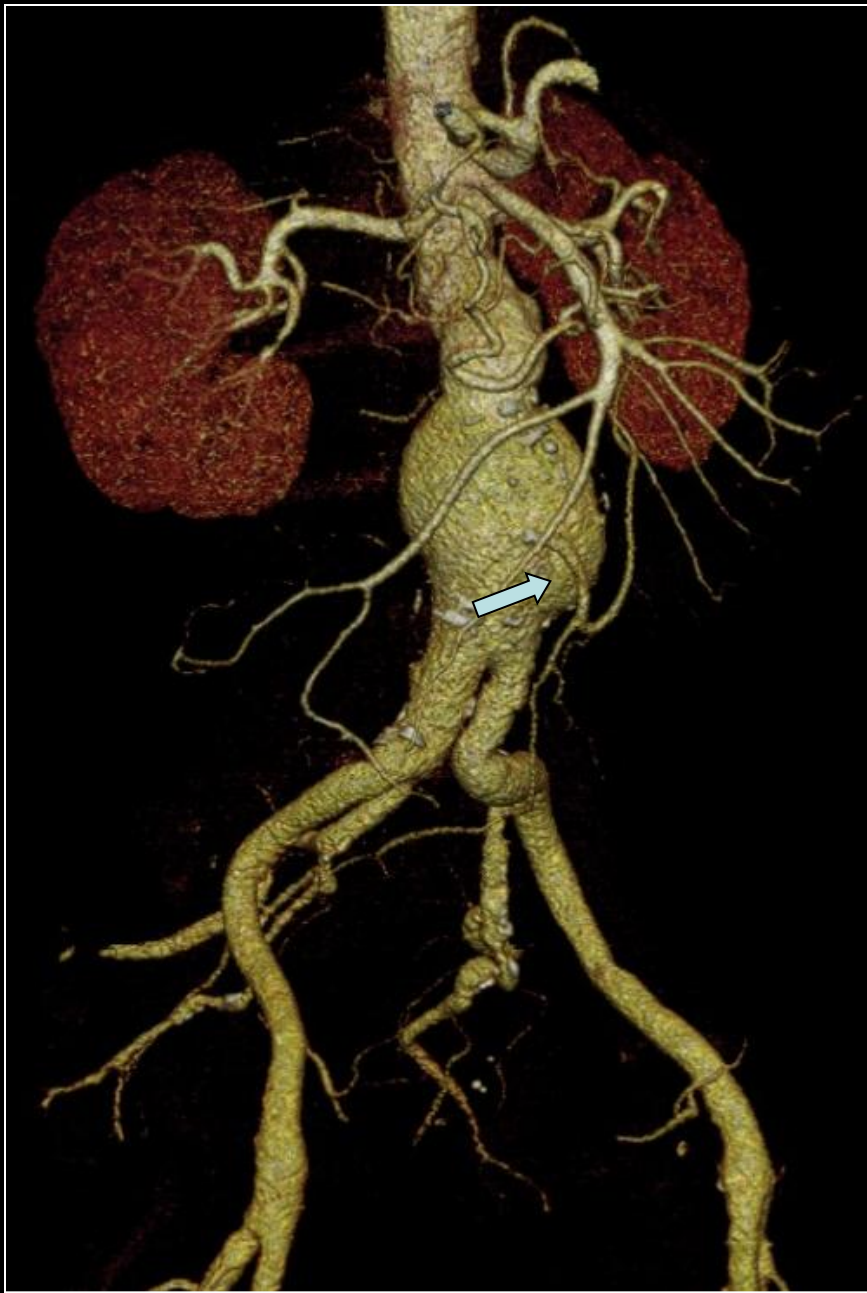
- Endovascular Aneurysm Sealing Technology should minimize the risk of all forms of endoleak (including type 2) and graft migration
- This could have a major impact on:
 - Secondary intervention rate
 - Frequency of surveillance
 - Procedural cost

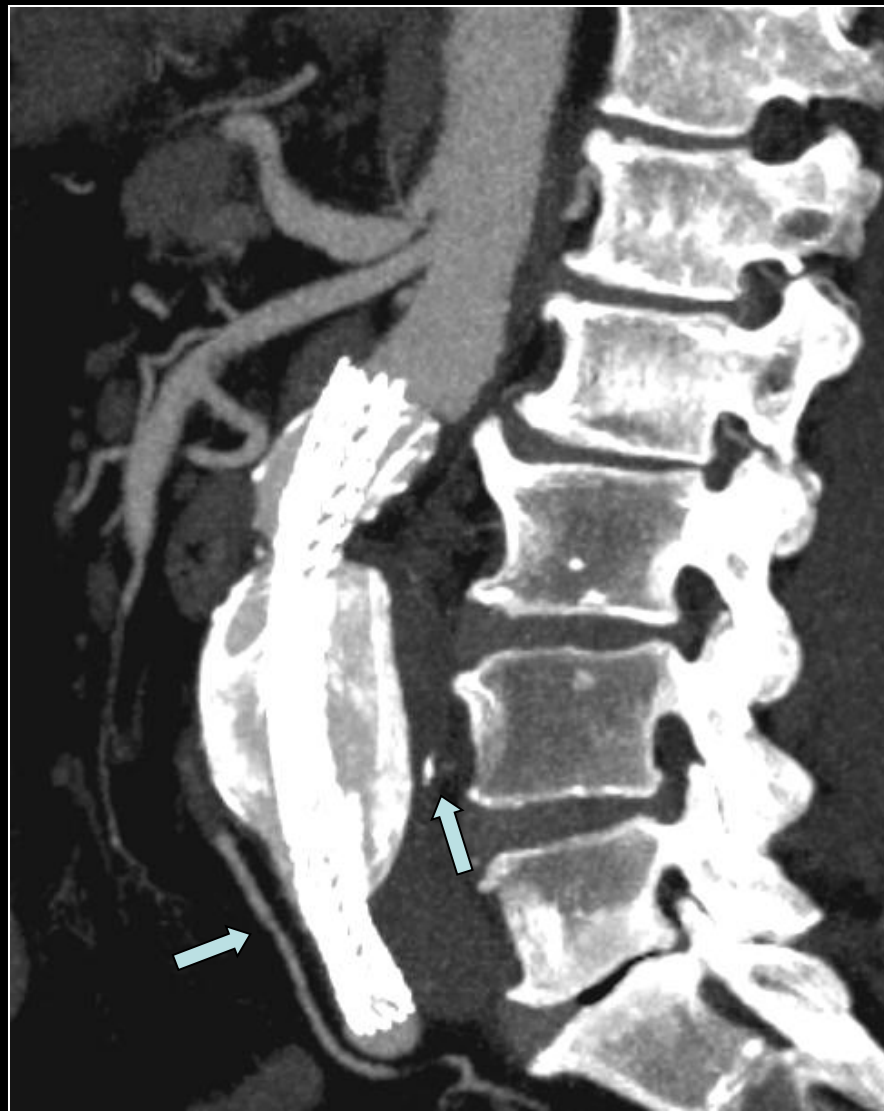
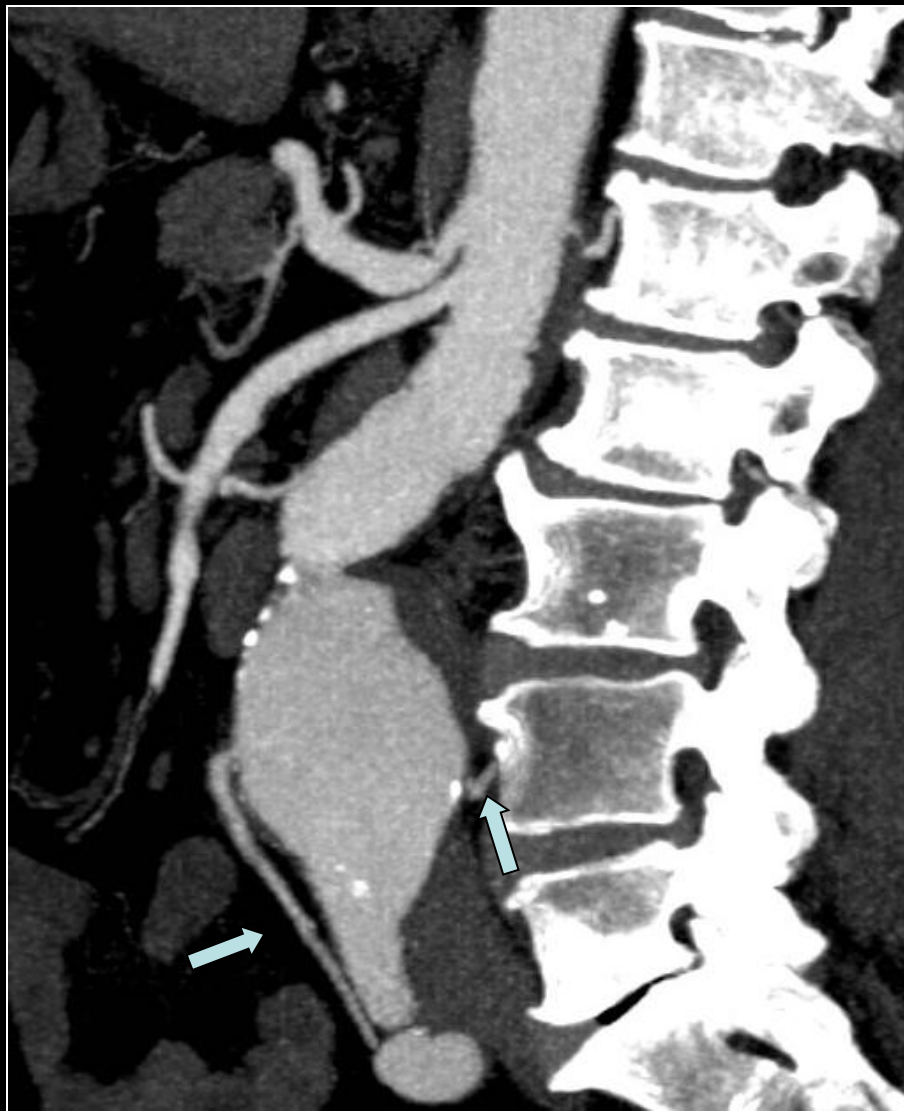




Prevention of Type 2 Endoleaks





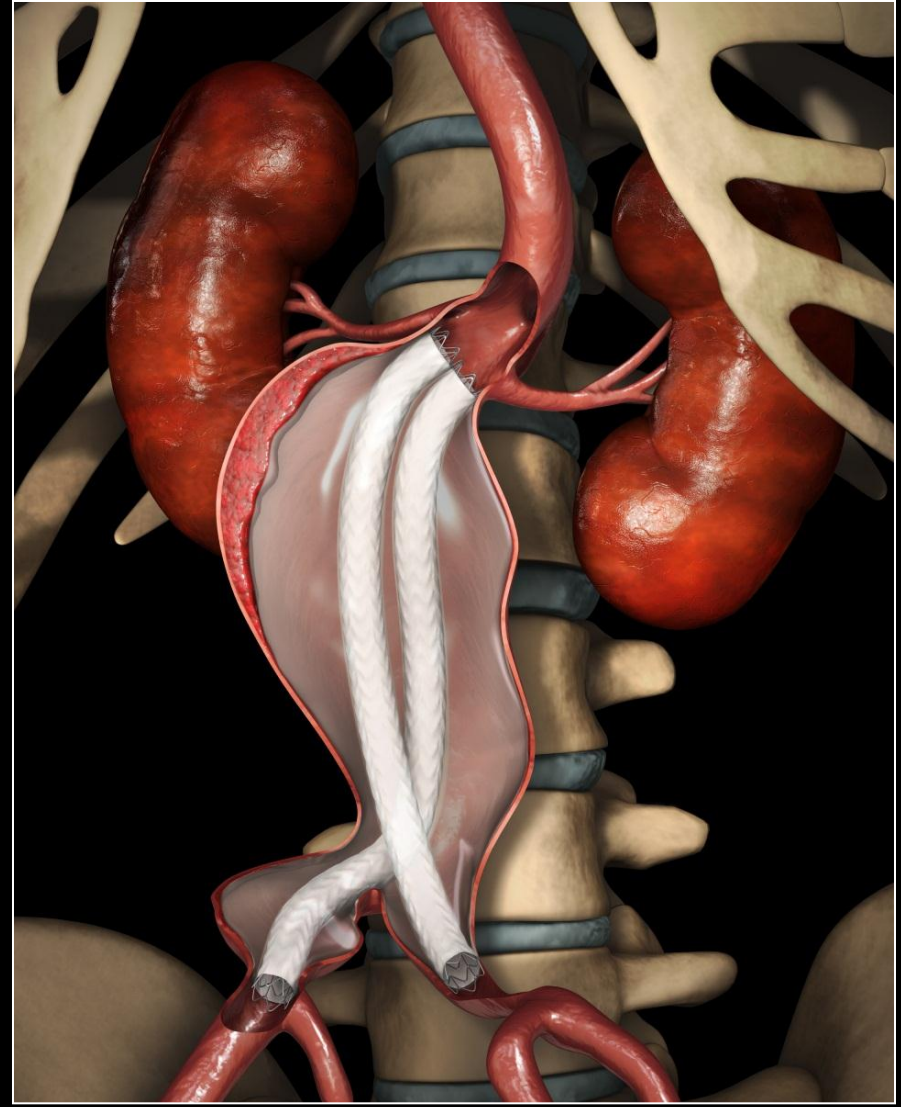
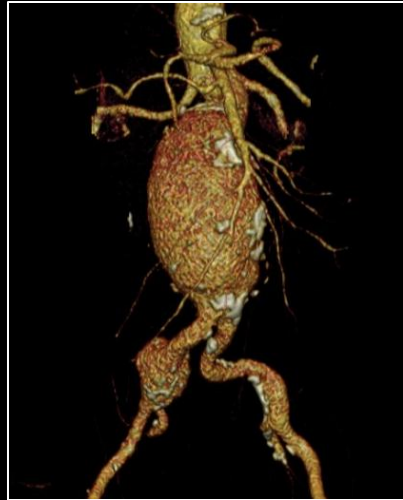


NELLIX GLOBAL CLINICAL EXPERIENCE – RESULTS

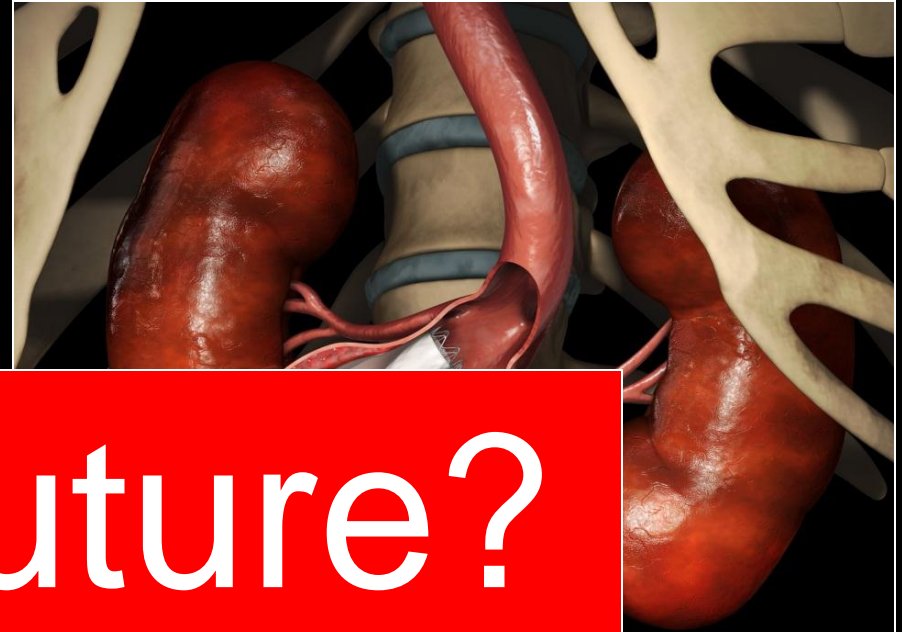
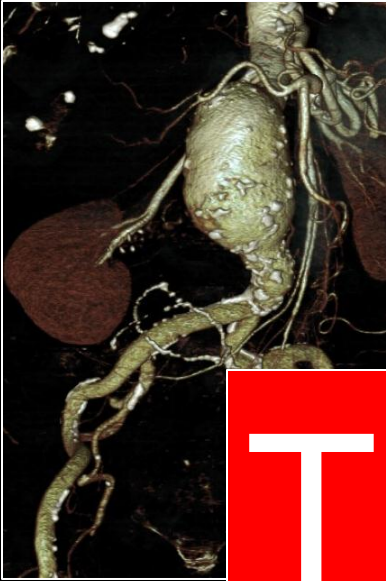
Evaluation	30 Days (N = 47)	6 Month (n = 46)	1 YR (n = 32)	2 YRS (n = 23)
Rate of Secondary Procedures (Endoleaks)	0	0	0	4.3% (1)
Aneurysm Rupture	0	0	0	0
Device Migration	0	0	0	0
Sac Expansion	0	0	0	0
Endoleak – Type 1A	2.1% (1)	0	0	0
Endoleak – Type 1B	2.1% (1)	2.2% (1)	3.1% (1)	0
Endoleak – Type II	2.1% (1)	0	0	0
Endoleak – Type III/IV	0	0	0	0
Stent Occlusion	0	0	0	0
Fracture or Fatigue	0	0	0	0

- **Type 1A Endoleak resolved spontaneously within 60 days**
- **Type 1B Endoleak was due to improper device sizing (too short). A limb extension was added at 15 months which resolved the endoleak**
- **Type II Endoleak due to undersized endobag - resolved spontaneously within 60 days**

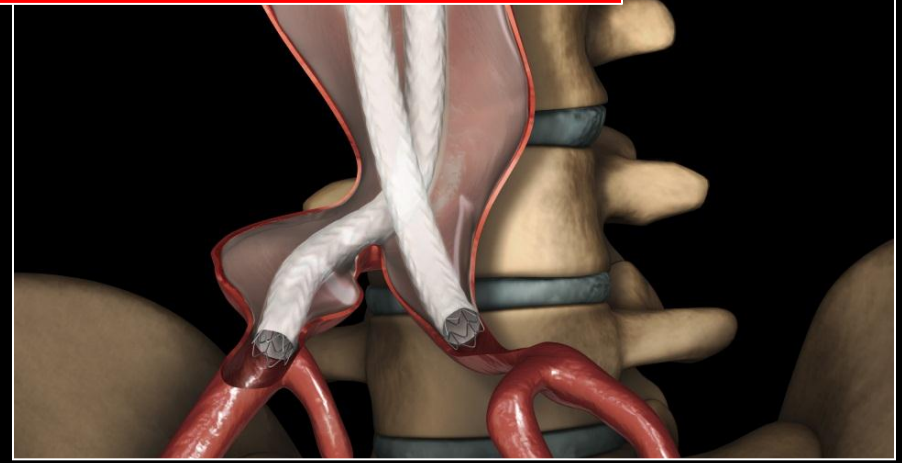
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Can Nellix Repair All Para-renal Aneurysms?

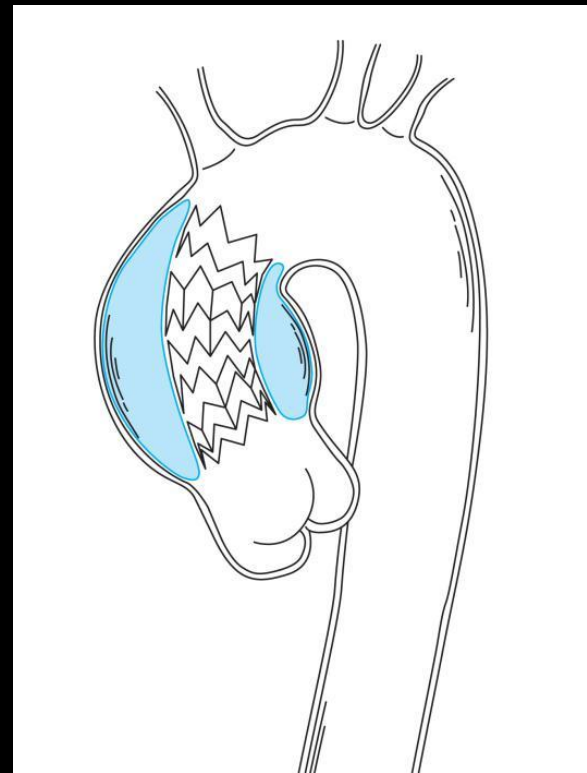
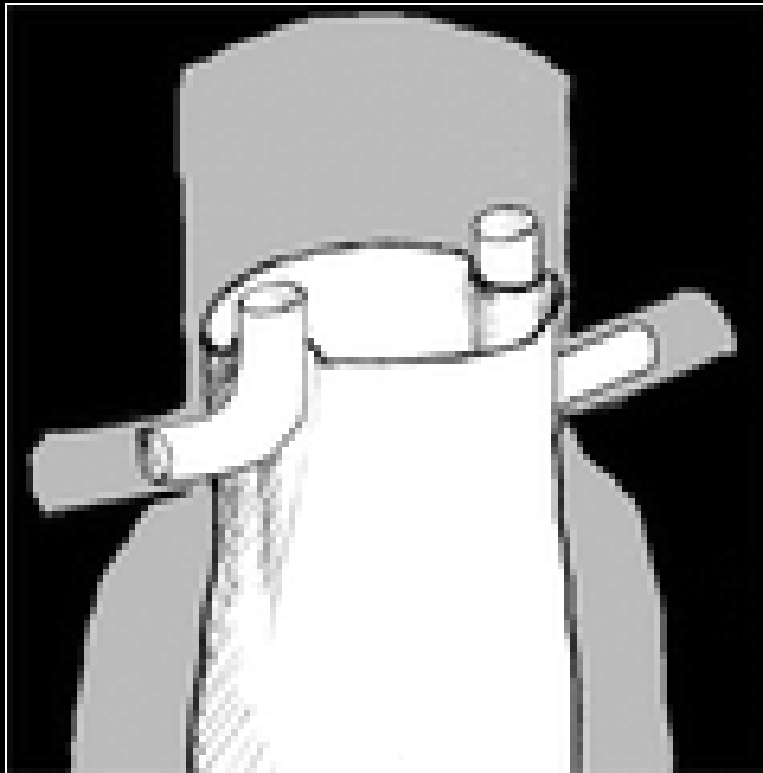


The Future?



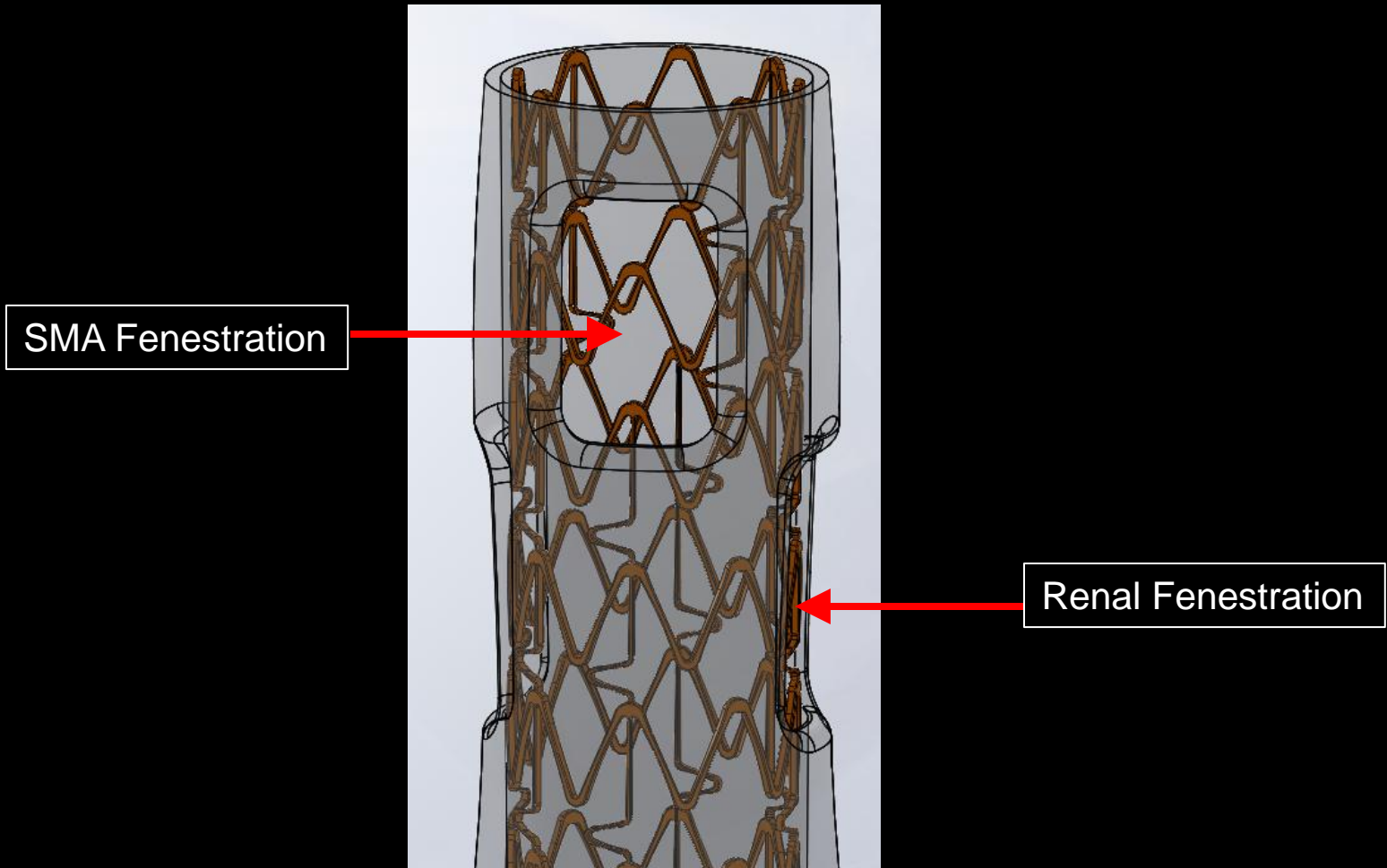
Chimneys and Snorkels

- The endobag concept works could easily accommodate chimneys and snorkels
- Nellix concept could extend to the thoracic aorta



Branch Nellix Device

- Modified endobags with large fenestrations for branch arteries
- Stents extend from the aortic lumen to the branch lumen to maintain patency



The Future is Here!!

