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Color Duplex Ultrasound After EVAR: Image optimization, pitfalls and endoleak typing

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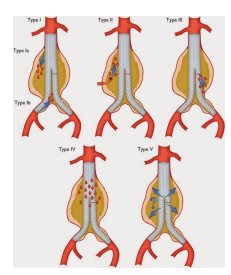
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Endoleak

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TABLE 1. TYPES OF ENDOLEAK	
Type	Definition
Type I	Persistent filling of the aneurysm sac due to incomplete seal or ineffective seal at the proximal (type IA) or distal (type IB) end of the stent graft.
Type II	Persistent filling of the aneurysm sac due to retrograde branch flow from collateral vessels.
Type III	Blood flow into the aneurysm sac due to inadequate or ineffective sealing of overlapping graft joints or rupture of the graft fabric.
Type IV	Blood flow into the aneurysm sac due to the porosity of the graft fabric, causing blood to pass through from the graft and into the aneurysm sac.
Type V	Aneurysm sac expansion without clear evidence of endoleak origin.



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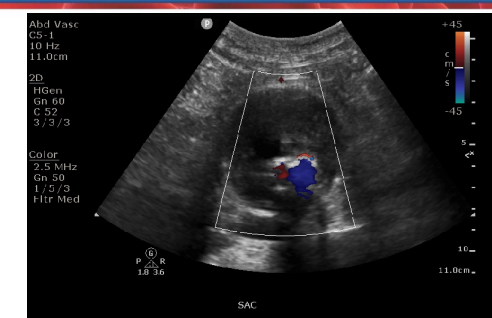


SAC

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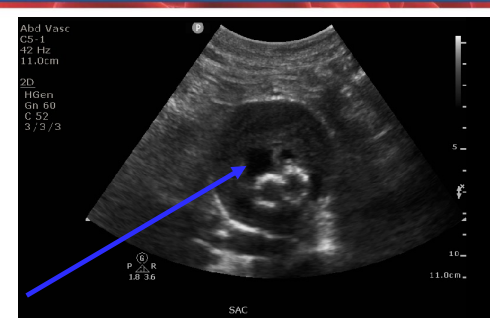


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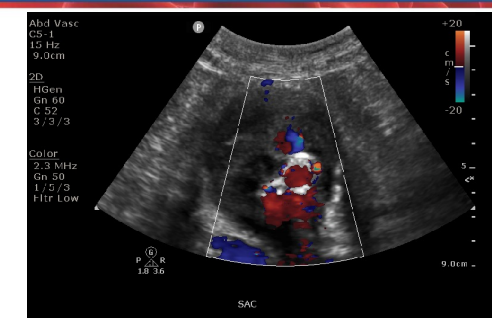
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Optimize!

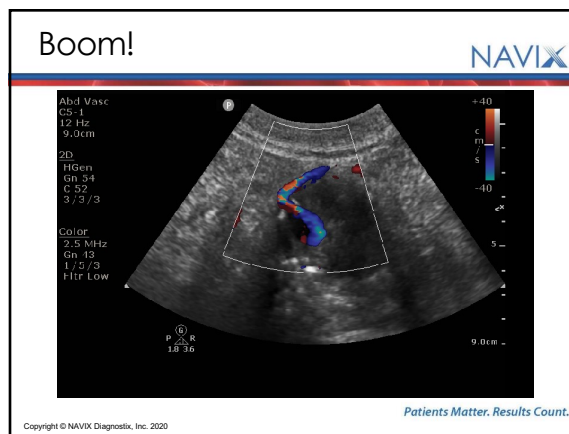
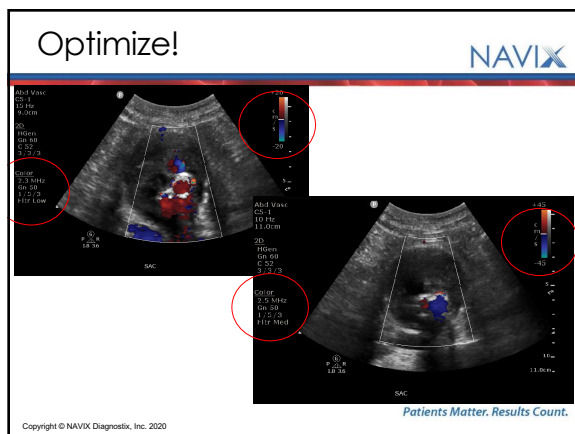
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Technical Considerations

- Start with "aorta vascular" or "abdominal vascular" preset
- Most important data point is residual sac size
- Endoleak assessment should include:
 - Lowering wall filter "low"
 - Drop scale
 - Turn up gain to the noise floor
 - Sweep through sac
 - Spectral Doppler to confirm presence or absence of endoleak

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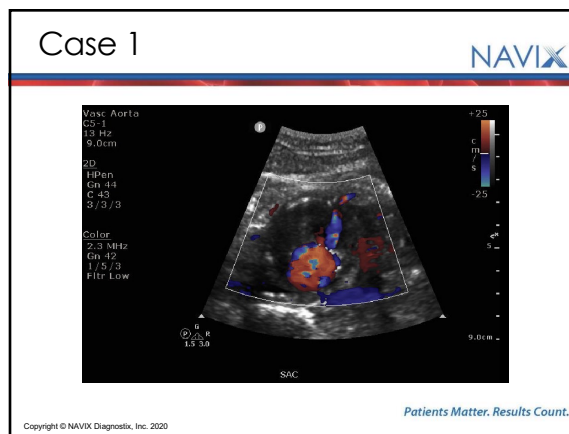
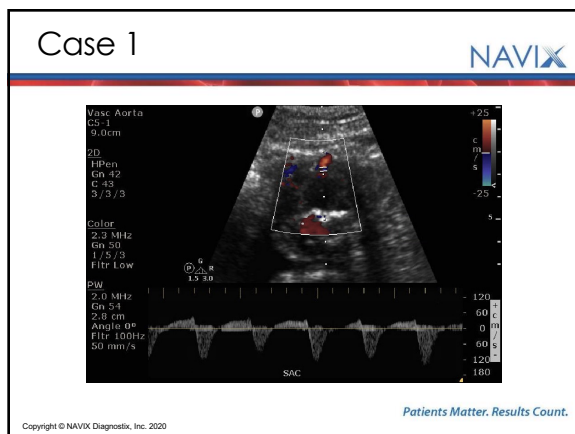
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Case 1

- 77 y.o. male who presents today for evaluation of his aortic endograft for treatment of his abdominal aortic aneurysm. He denies any abdominal pain or back pain.

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Case 1 NAVIX

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Case 1 NAVIX

- 5.6 x 5.4 cm today (duplex)
- 4.8 x 4.9 previously (duplex)
- On to CT

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Case 1 NAVIX

FINDINGS:

Abdominal aorta: Aneurysm sac diameter 5.5 x 5.8 cm measured at the L3 level. Bifurcated stent graft repair with juxtaceliac proximal fixation. Type II endoleak supplied by bilateral lumbar arteries arising at the level of the L3-L4 disc and

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Case 1 NAVIX

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Case 1 NAVIX

Procedure(s):

1. ultrasound guided access right CFA
2. Selective catheterization IMA
3. Onyx glue embolization Type 2 endoleak IMA

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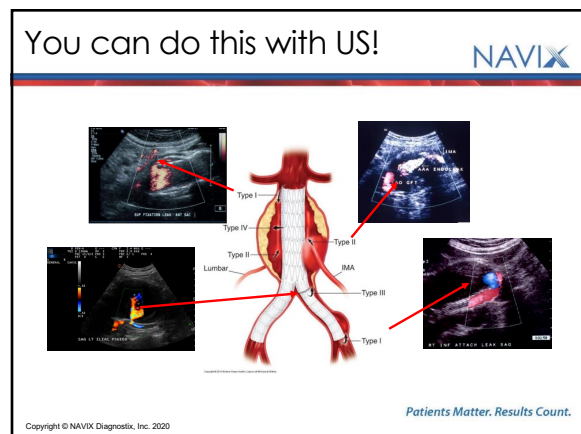
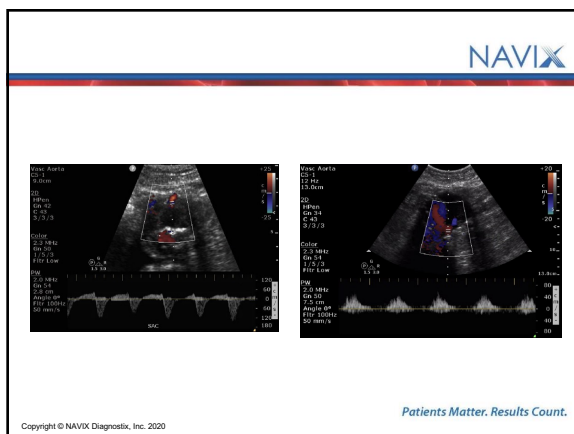
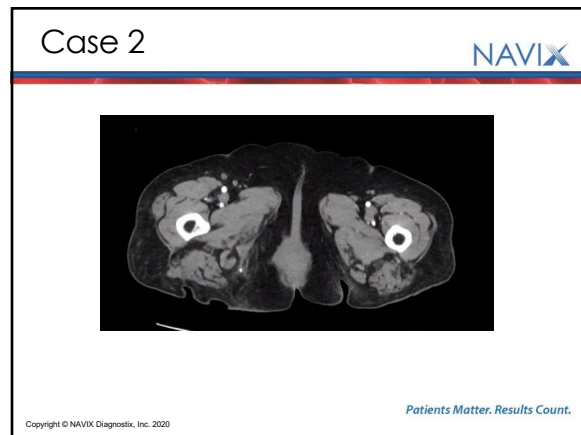
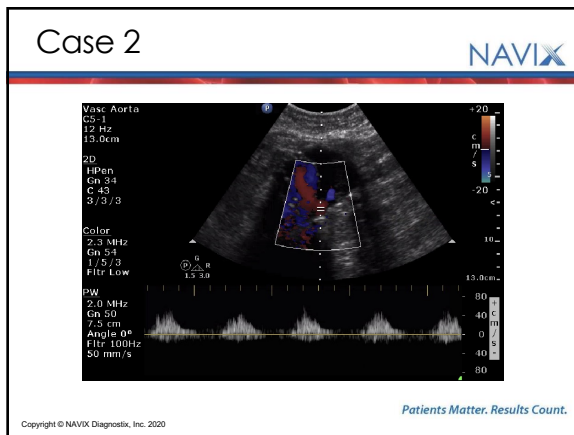
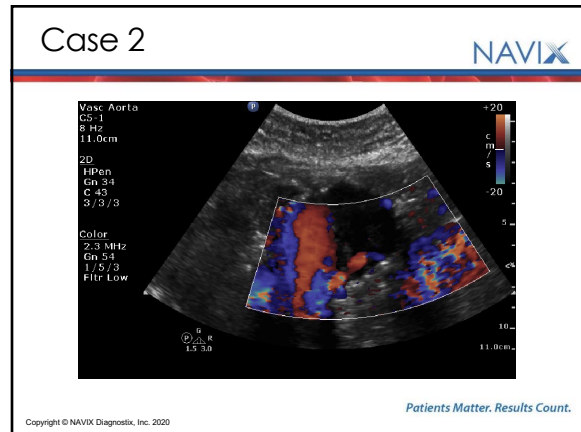
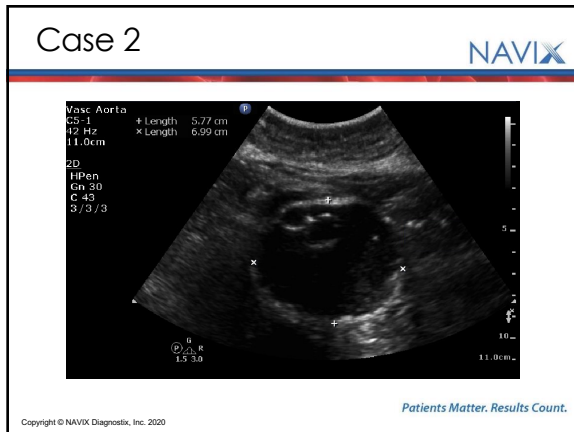
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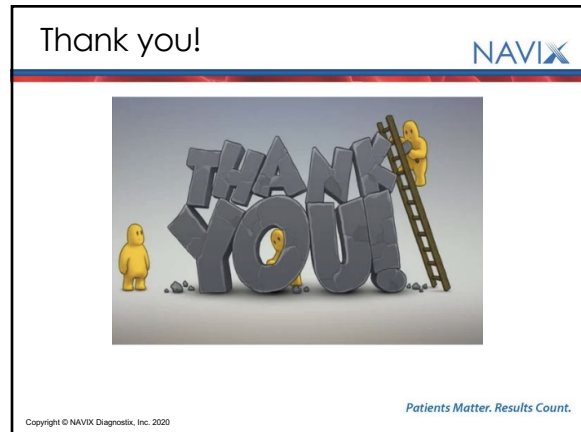
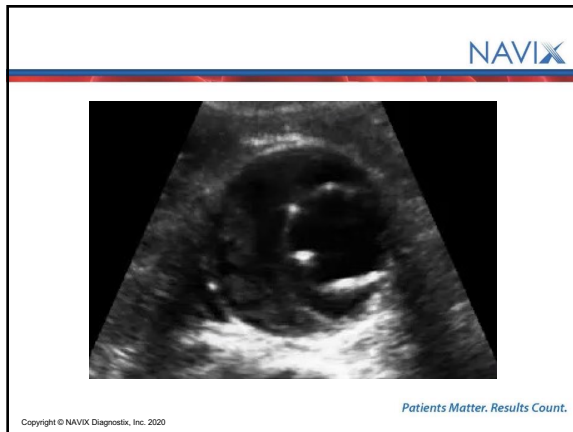
Case 2 NAVIX

- 69 y.o. female who presents today for initial visit of abdominal aortic aneurysm status post EVAR in 2018 at outside hospital.
- She denies any abdominal or unusual back pain.
- No prior imaging or reports

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