

Endoanchors Improve Seal Zones And Outcomes With Fenestrated Endografts

When And Where Should They Be Used And Technical Tips

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Disclosures

- None

Complex EVAR

Options for Complex repair

Open repair includes debranching	ZFEN Fenestrated Endograft 4mm neck	Aptos Endoanchors 4mm neck	Alto grafts 7mm neck	Gore conformable 10mm neck ? Angulated	Custom made grafts/ IDE grafts/ PMEGs	Snorkles	In-Situ Fens

Aptos Endoanchors .. 4mm neck

Hostile necks <ul style="list-style-type: none"> • 4.5X increased risk of Type Ia endoleak • 10X increased risk of aneurysm-related mortality 	Wide necks <ul style="list-style-type: none"> • 6.7X more likely to have Type Ia endoleak • 10X more likely to have sac expansion • 5.1X more likely to rupture
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ZFEN Endograft IFU



19-31mm neck diameter	
45 degrees infra renal angle	
45 degrees supra renal angle	

Our Experience

- Since 2016, for 8 years
- 15 patients: don't fit in either category following device IFU.
- Single operator utilizing both technologies in combinations to
 - improve seal zone
 - decrease chance of type 1A endoleak.



Patients anatomical features includes the following

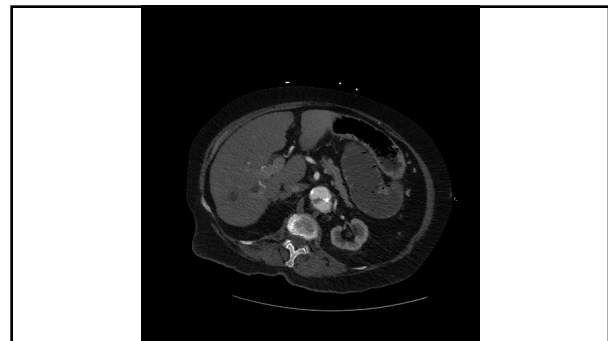
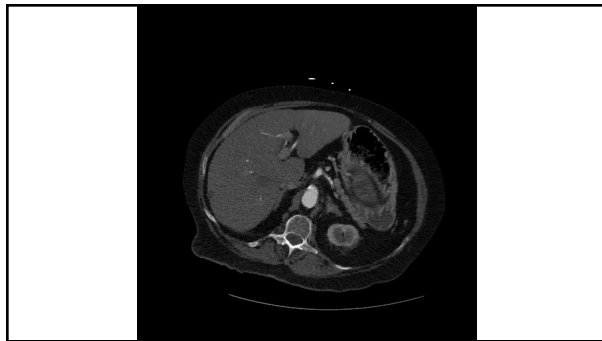
- Large neck 32-36mm
- short necks 0-3mm
- Pararenal Anatomy in two patients
- Heavy angulation infrarenal or pararenal segment (60-90 degrees)
- Neck thrombus >8mm thick

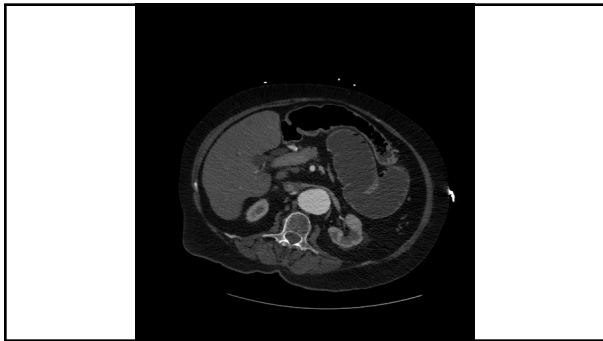
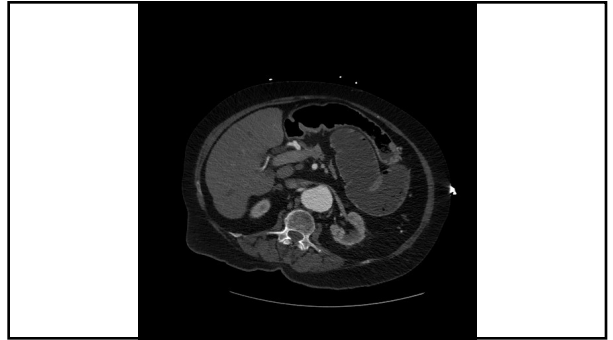
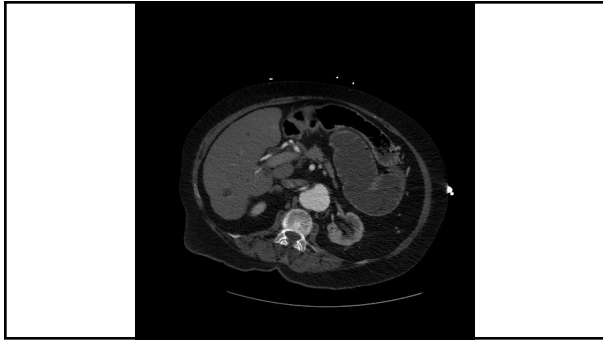
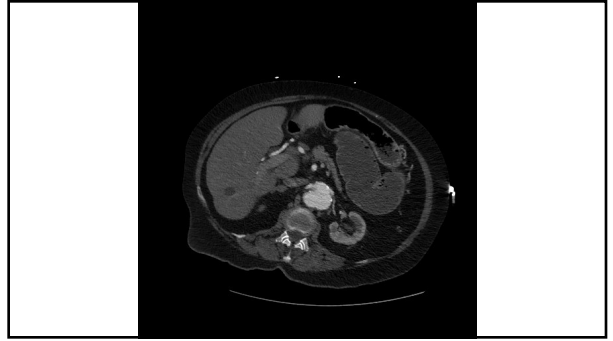
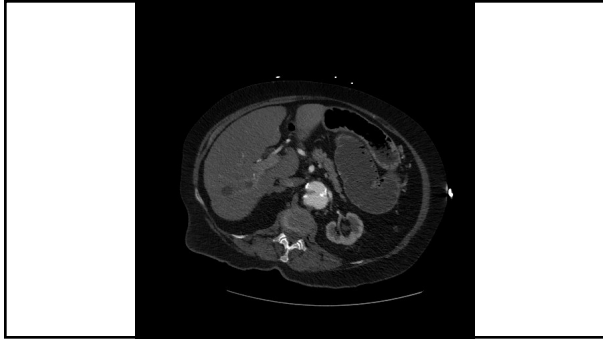



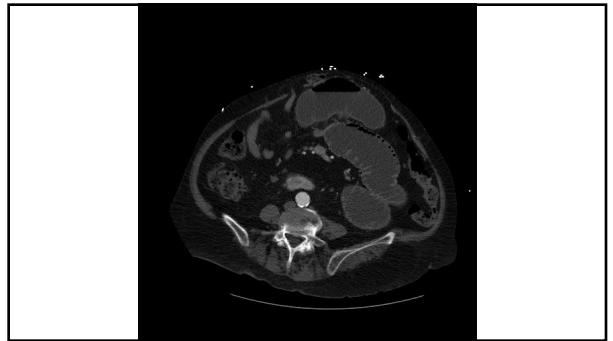
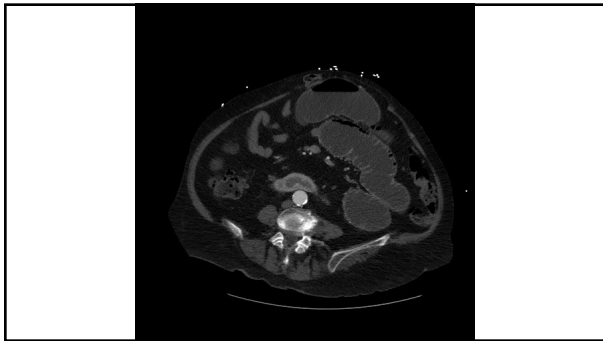
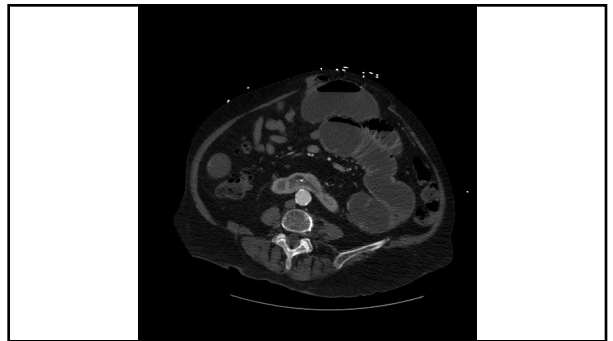
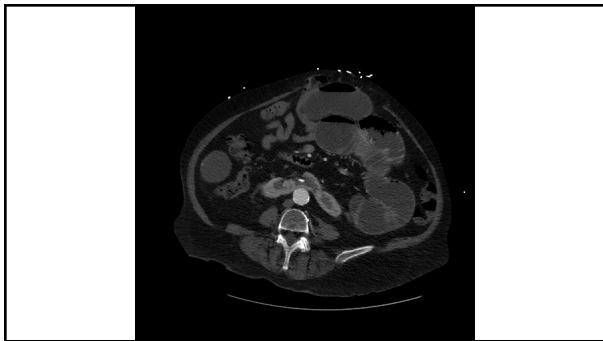
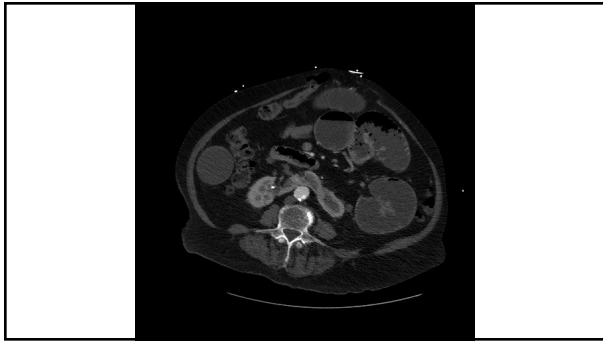
Case

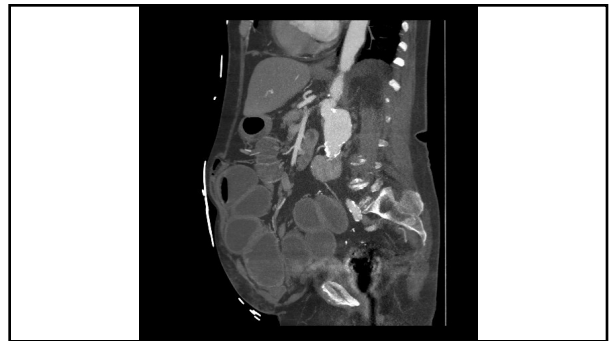
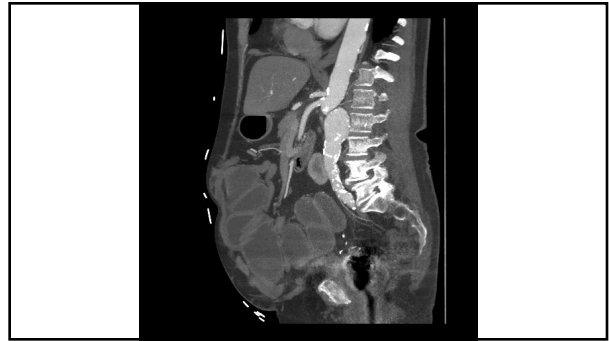
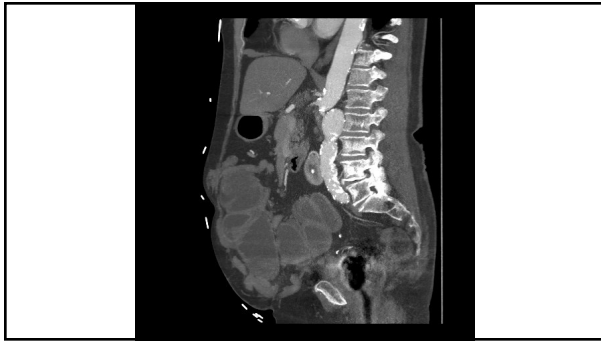
- 79 yr old female. 5.5cm AAA **Pararenal**
- Saccular aneurysm. Back pain.
- Multiple ventral hernia repairs. **Now loss of domain.**
- CKD stage2 GFR 45-47
- **No neck.** Aneurysm involves renal origins.







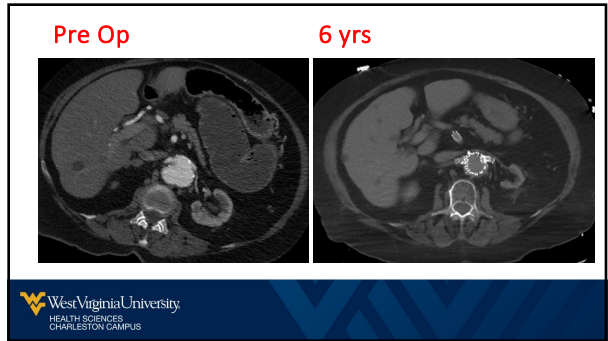
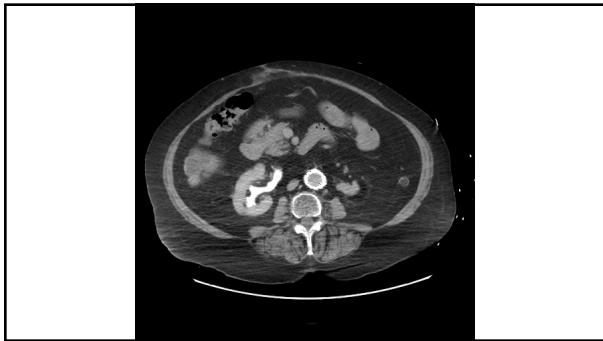
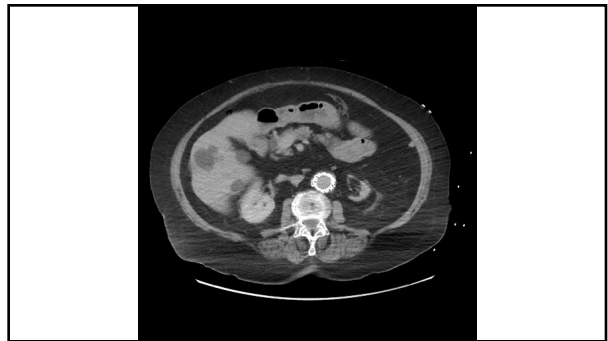


Case

- Zfen
- [Endoanchors around renals and anterior wall below SMA](#)
- **Post op CTA. No endoleak.**
- **6 years out:**
- **Patent renal stents, SMA stent.**
- **Aneurysm sac < 3cm**

6 year post op





Our Experience

- 15 patients over 8 years
- Various follow ups .. Average 4 years
- **Why not fit in Endoanchors or ZFEN?**
 - Large neck 32-36mm: 12 patients
 - short necks 0-3mm: 13 patients
 - Pararenal Anatomy in two patients
 - Heavy angulation infrarenal or pararenal segment (60-90 degrees): 3 patients
 - Neck thrombus >8mm thick : 6 patients

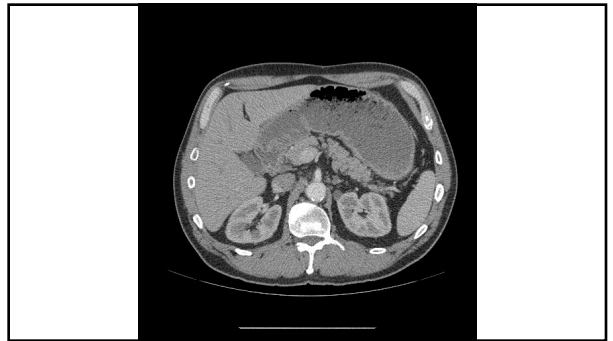
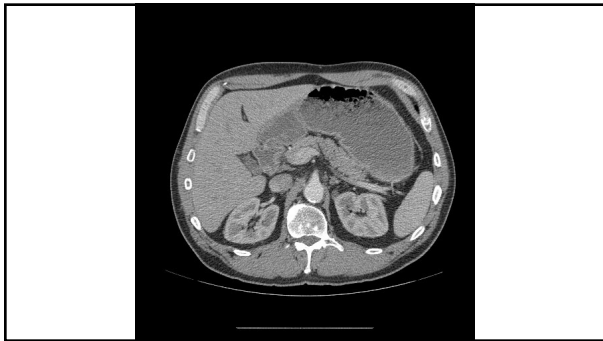
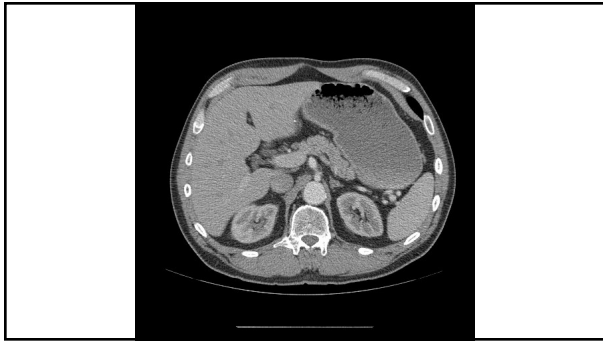
Our Experience

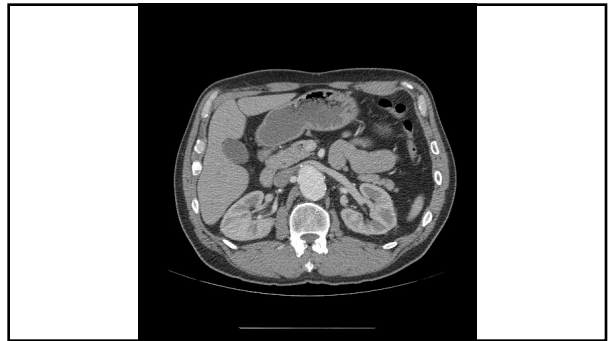
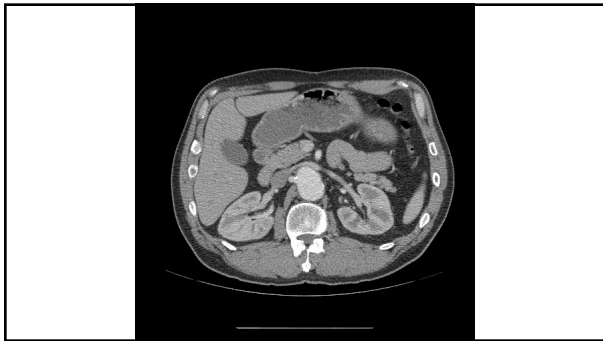
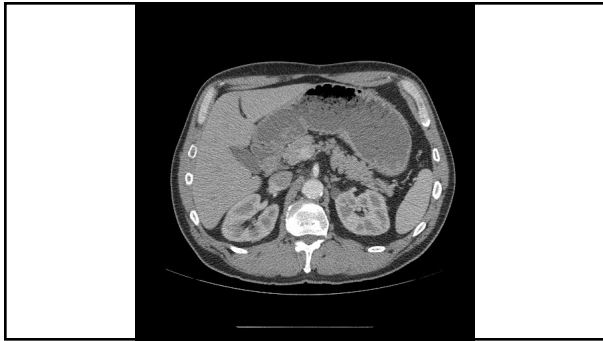
- No aneurysm related mortality
- Post op Hospital stay 1-2 days
- Aneurysm shrinkage 5-10 mm in one year in 80% (12/15)
- 1 enlarging Aneurysm- Type 2 endoleak IMA
- 13% Secondary intervention, 2/15
 - One renal snorkel thrombosis – thrombectomy and re-stent
 - Type 2 endoleak IMA embolization
- Degeneration !!!! Almost all will
- Stent migration !!! Yes but No

Case

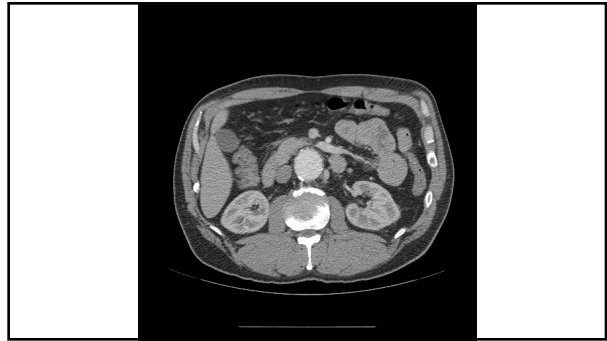
- 62 year old male patient
- 8.9 cm AAA
- Infra renal angle 60 degrees.
- 3 mm neck 34 mm diameter
- Aorta at renals 29 mm
- Open vs ??
- Would not go out for CMDs/ P-Branch









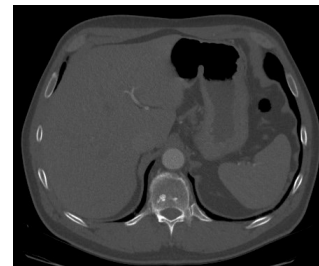


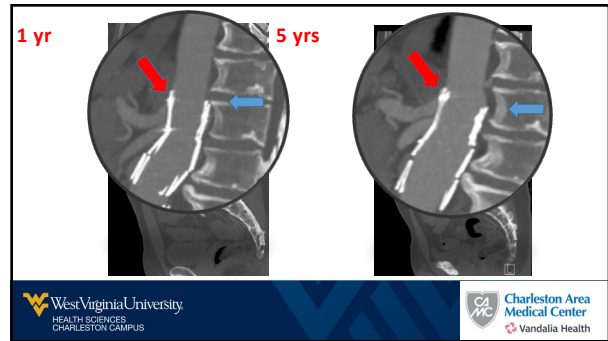
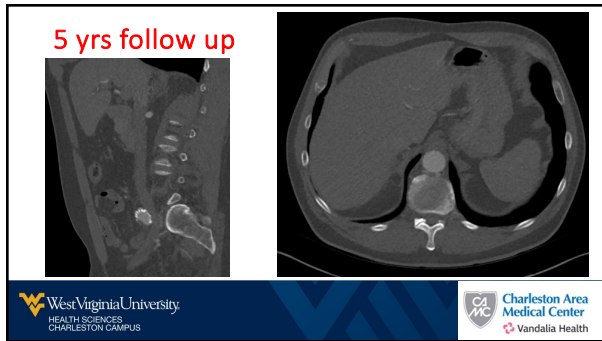


Case

- ZFEN with 36mm device
- Aptus-Endoanchors at SMA level and renals
- 5 years no endoleak
- Stent graft migration!!!! Yes and No
- Neck dilated to 36mm
- AAA 4.5 cm

1 yr follow up





5-Year Outcomes of Endovascular Aneurysm Repair in Patients With Short-Neck Abdominal Aortic Aneurysm From the ANCHOR Registry

- **No stent graft migrations through 5 years.**
- 3 pts had surgical conversions to treat
 - aneurysm rupture (two)
 - aneurysm enlargement/type II endoleak (one).
- 9 type IA endoleaks detected,
 - Two resolved spontaneously
 - Remainder required secondary interventions.
- **After 5 years,**
 - 68.2% (15 of 22) of subjects had sac regression
 - 13.6% (3 of 22) had stable sacs,
 - 18.2% (4 of 22) had increased sac diameter as compared with their 1-month measurements.

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Conclusion

Aptus and ZFEN

- Can complement each other
- Creating more landing zone
- **Prevent migration**
- **May stop degeneration to max graft diameter.**
- Decrease graft movement and separation of components
- Use with heavy Angulation
- Use with large necks >28-30mm (hostile necks)
- **New ZFEN+, P-Branch & others**

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