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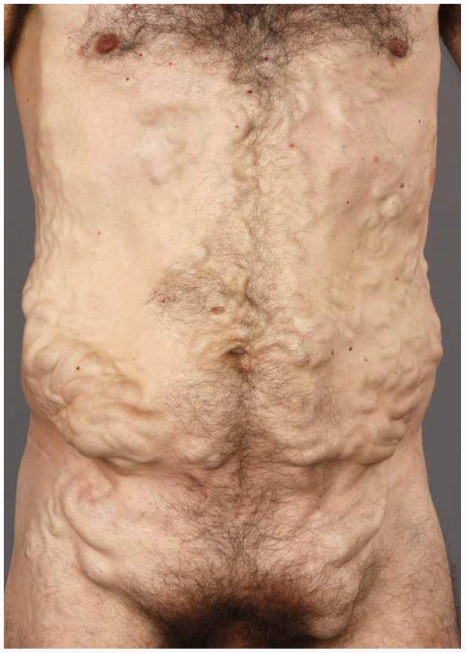
# Venous Stenting
# Anat David
# Yael Pintel

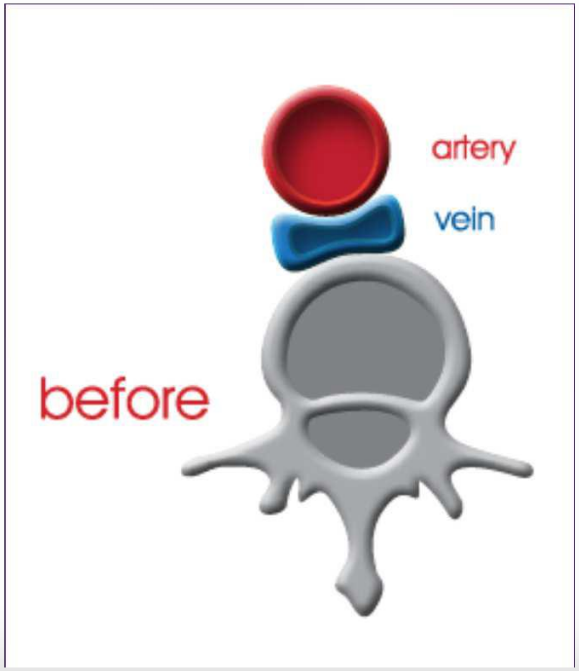
# Typical Venous Disease

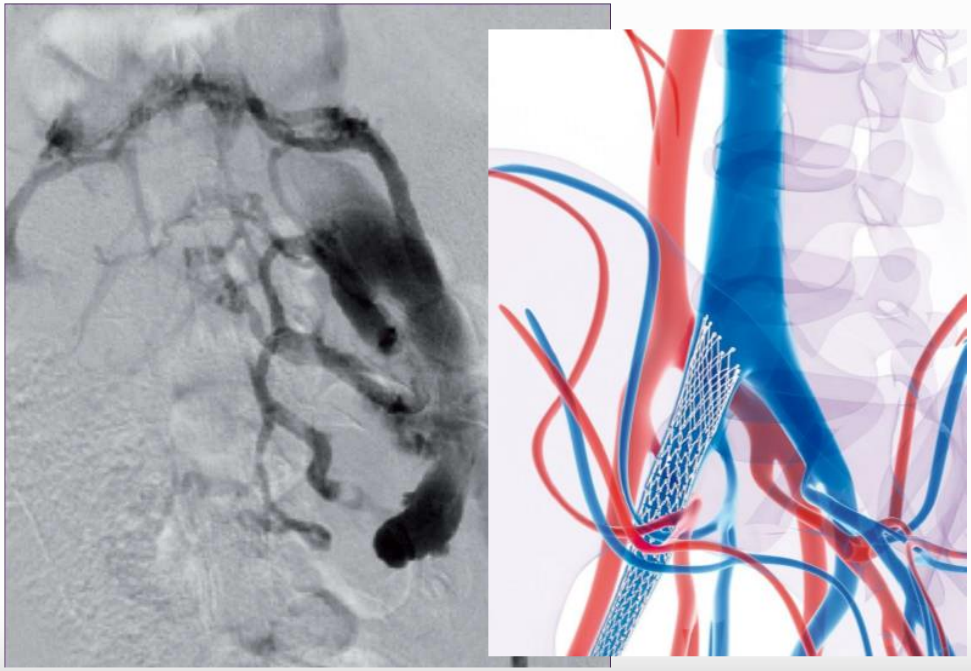
- DVT – (Deep Vein Thrombosis)
  - Clot obstructing the flow of blood through the circulatory system.
  - Symptoms: Swelling, pain (esp. in walking long distance), discoloration



# Typical Venous Disease

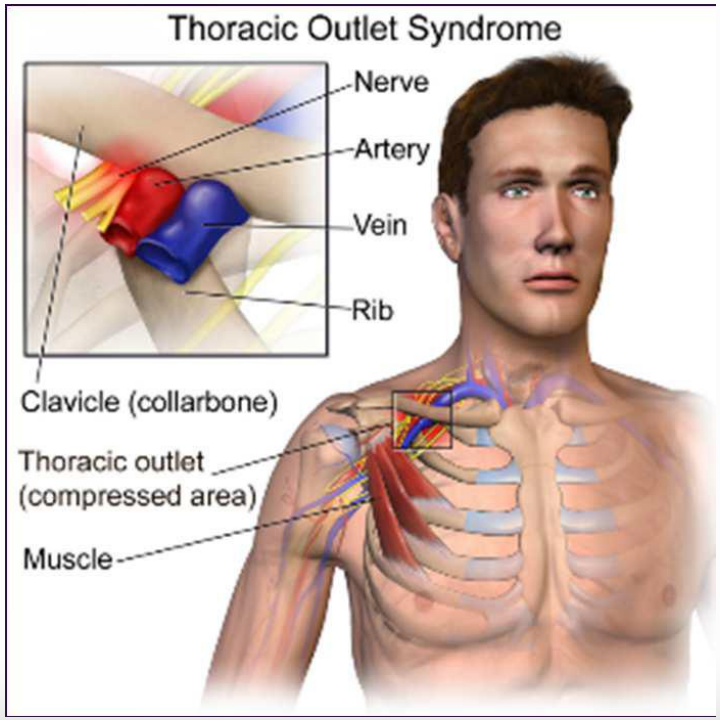
- **May – Thurner Syndrom:**
  **- 50% of all DVT shows up as MTS.**
  **- 3X more common in female.**
  **- External compression, 5X more likely in left leg.**



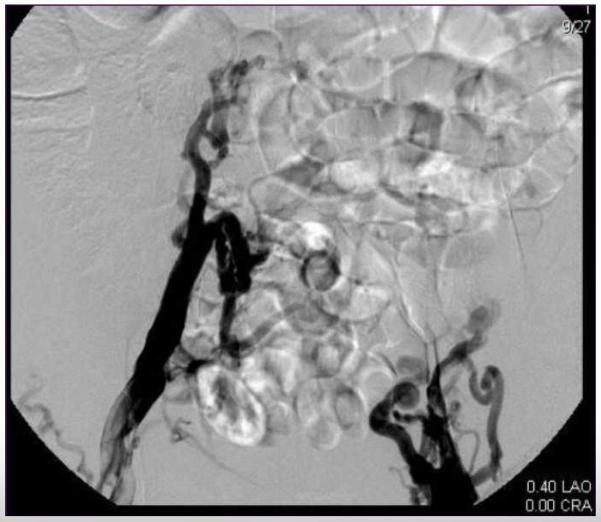
# Typical Venous Disease

- **Thoracic Outlet Syndrome:**
  **- Obstruction of the upper extremity vein (S.C.)**
  **- Anatomic abnormality Upper Rib – Clavicula (Congenital) or Trauma.**
  **- Age 20 – 50**



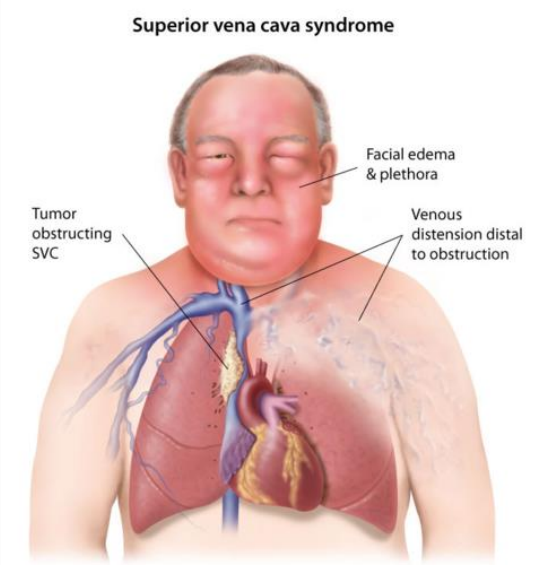
# Typical Venous Disease

- **Post Thrombotic syndrome (PTS)**
  - **Long term complication of the DVT.**
  - **signs & symptoms may vary with increased severeness and over time.**
  - **ulcers, Severe Redness, swollen.**



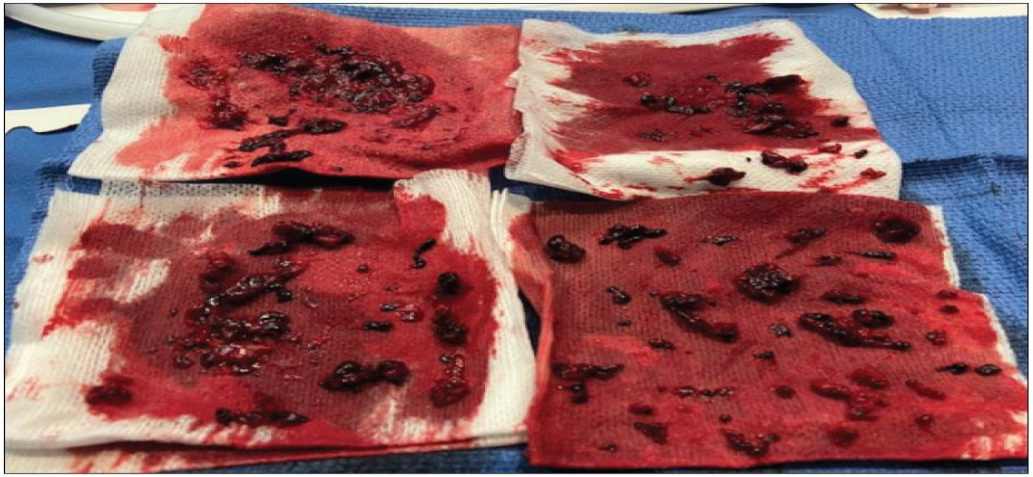
# Typical Venous Disease

- Superior Vena Cava Syndrome:
- partial or complete obstruction of blood flow through the SVC.
- Mainly cased by malignant tumor (Lung/Lymphoma)
- Palliative Procedure.



# Treatment options

- Anticoagulation (drugs to prevent clotting)
- Compression stockings (to increase circulation)
- Thrombolysis: endovascular placement of infusion catheter into effected area. Thrombolytic drug migrated into clot. (ICU – risk of bleeding)
- Thrombus aspiration:
  - Mechanical thrombolysis
  - Mechanical thrombectomy

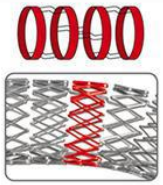


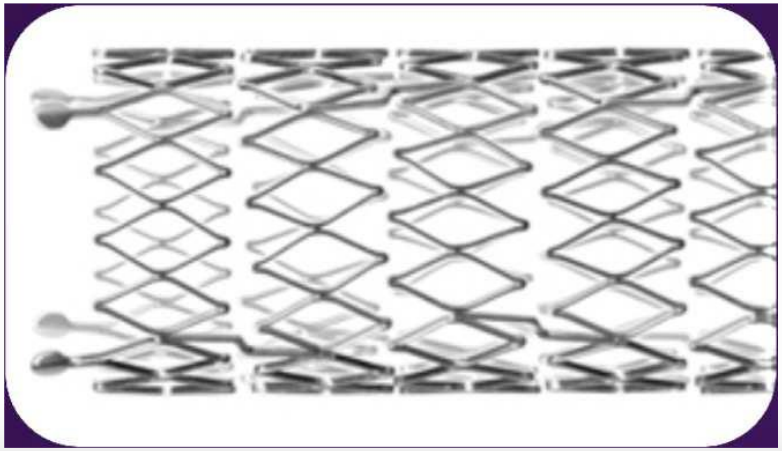
# PTA & Stenting

- **Balloon features required: large diameter and high pressure.**
- **Venous stents features required:**
  **- Large diameter**
  **- High radial force**
  **- Flexibility**
- **In confluence (Venous Biforcation), Oblique Stent is state of the art.**

# Sinus Venous

- **The Sinus Venous is especially adapted for venous indications:**
  **- high radial force**
  **- unique hybrid design enables the combination of outstanding power with maximum flexibility.**
  **- Segment ring design**





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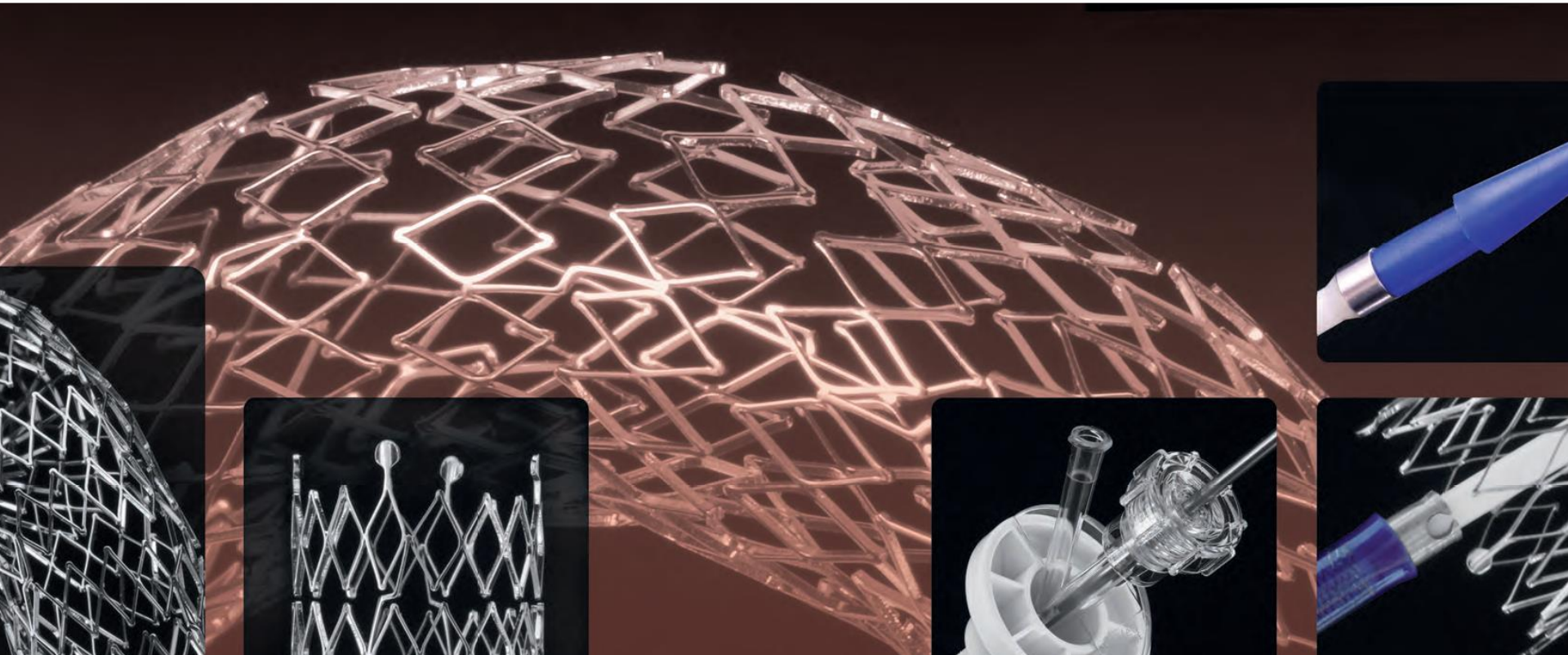
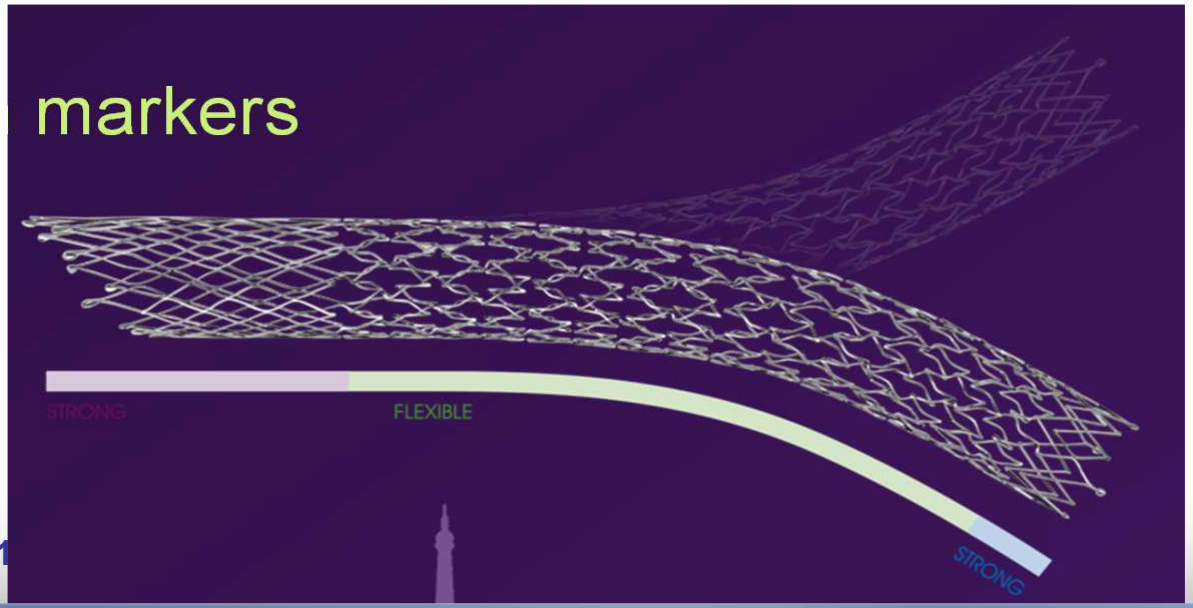
# Sinus Venous - Indications

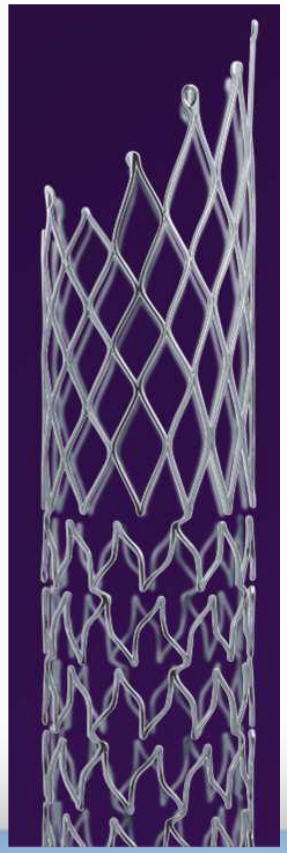
- Illiofemoral vein thrombosis
- Post thrombotic syndrome
- May – Thurner Sundrom
- DVT
- Tumor related stenosis



# Sinus Obliquus

- It is Oblique design, offers the possibility to place the stent directly at the confluence.
  - dedicated May-Thurner syndrom
  - high radial force
  - flexibility to adapt to the anatomy
  - easy placement through markers.



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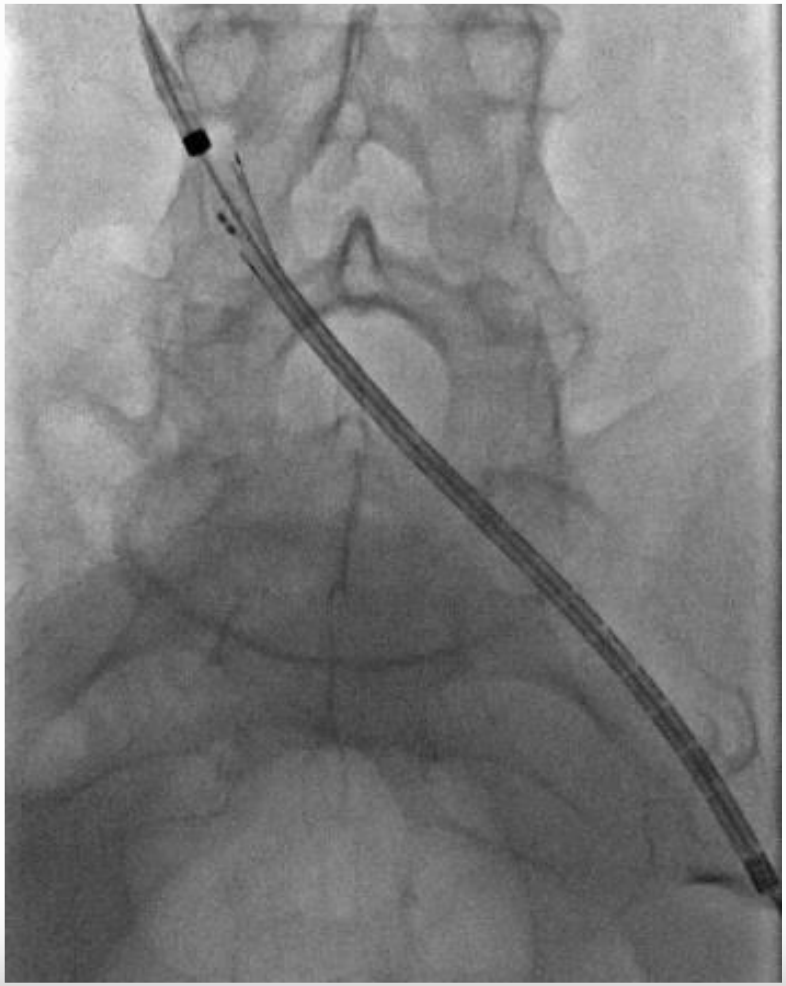
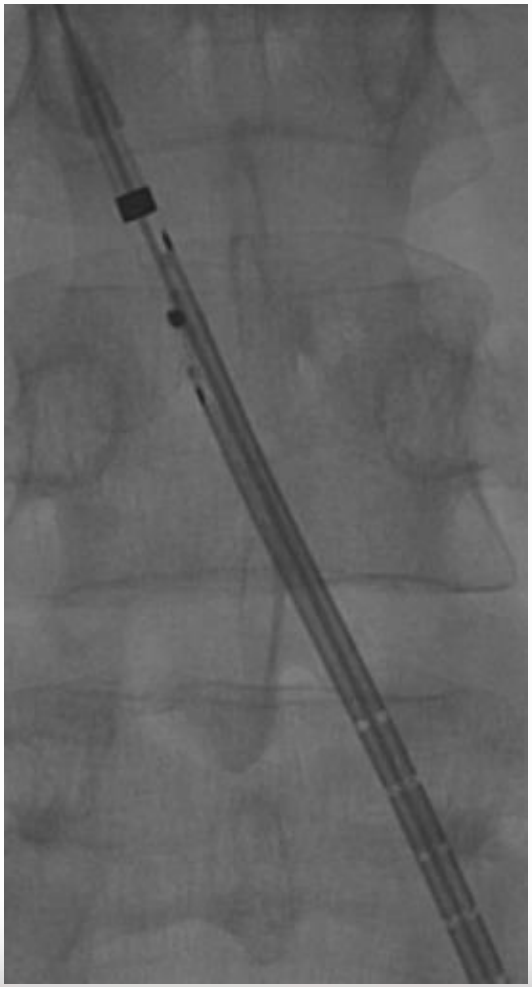
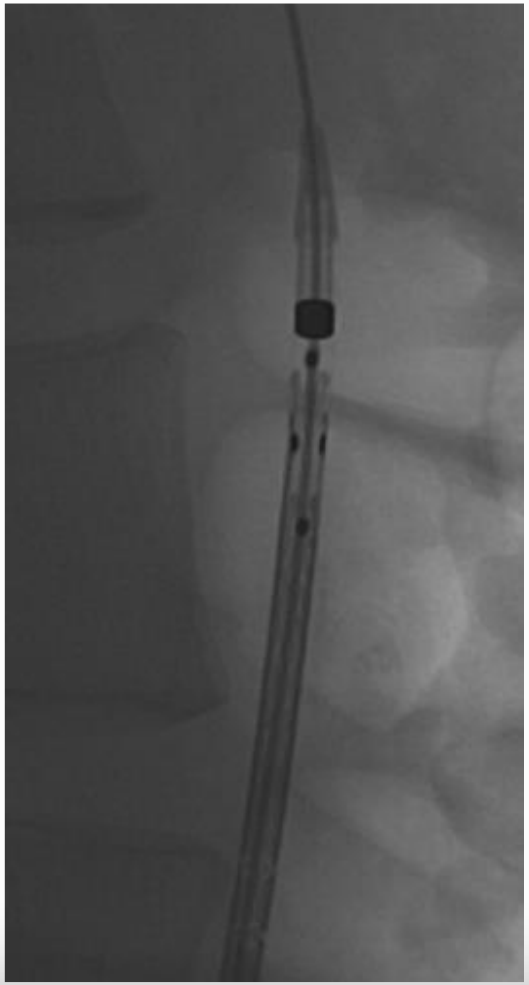
# Sinus Obliquus







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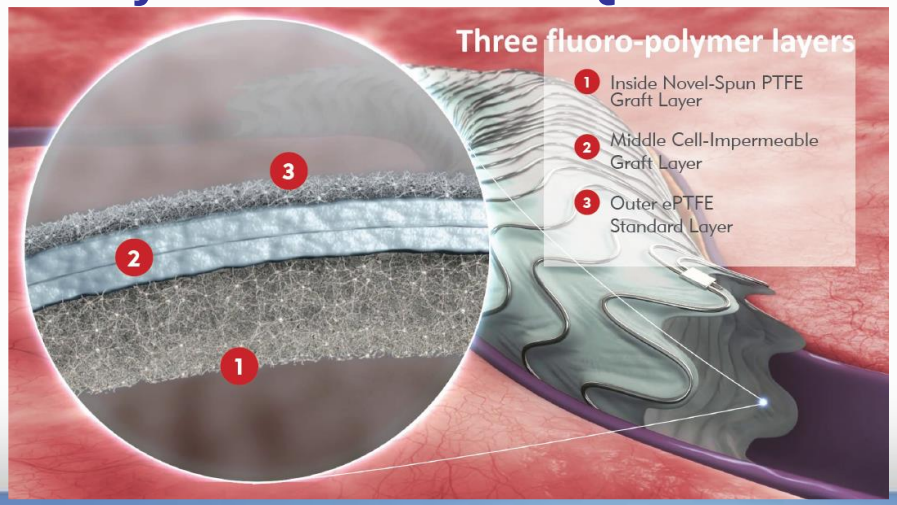
# MTS Case (Bnei Zion☺):

# WRAPSODY – A new Stent Graft

- 6-16 mm Diameter
- Unique 3 leyers stent graft (cell impermeable graft layer in the middle)
- 35% softer end rows (prevent vessel trauma = long term patency)
- Radial force – Better then leading covered stents.
- Flexible.
- Indicated for Dialysis outflow circuit.
- By the end of 2022 Q1: Vessel indications!



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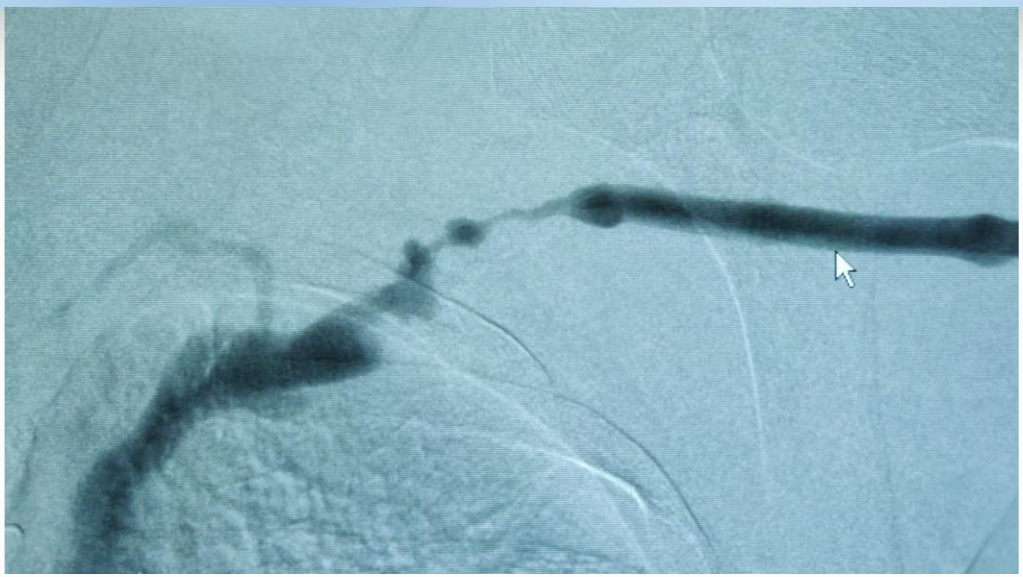
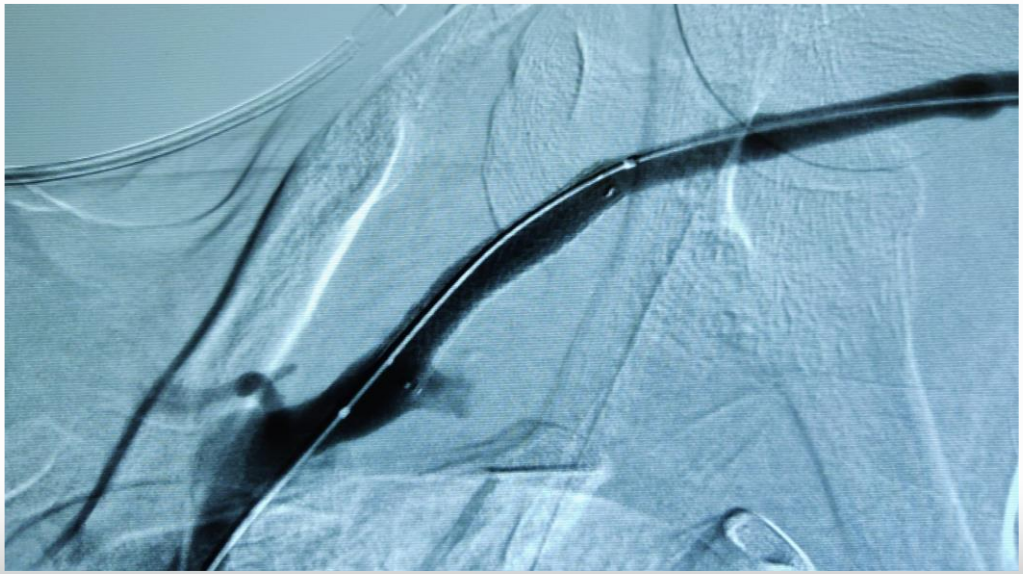
# Cephalic Arch – WRAPSODY 9/50mm





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# AV Access Covered Stent and DCB Trial Data

| | COVERED STENT | | | | | DCB | | | WRAPSODY FIRST |
|---|---|---|---|---|---|---|---|---|---|
| Study | Flair Pivotal | Flair RENVOVA | Viabahn REVISE | Covera AVeVA | Covera AVeNEW | Lutonix AVF | Lutonix PAVE | Admiral In.Pact AVF | |
| Sponsor | BD Bard | BD Bard | Gore | BD Bard | BD Bard | BD Bard | Investiga-tor-led | Medtronic | Merit |
| NCT Number clinicaltrials.gov | 00678249 | 00677235 | 00737672 | 02790606 | 02649946 | 03506308 | NA | 03041467 | 03644017 |
| Design | RCT | RCT | RCT | Registry | RCT | RCT | RCT | RCT | Registry |
| Control | PTA | PTA | PTA | N/A | PTA | PTA | PTA | PTA | N/A |
| Sample Size (study arm) | 227 (97) | 270 (138) | 293 (131) | 110 (110) | 280 (142) | 285 (141) | 212 (106) | 330 (170) | 46 (46) |
| AVF | 0 | 0 | 0 | 0 | 142 | 141 | 106 | 170 | 16 |
| Central | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| AVG | 97 | 138 | 131 | 110 | 0 | 0 | 0 | 0 | 19 |
| 6 Month TLLP | 50.6% | NA | 52.9% | 71.7% | 78.7% | 71.4% | 71.7% | 82.2% | 97.7% |
| 6 Month ACCP | 38.0% | NA | 43.4% | 40% | 50.7% | NA | NA | 72.5% | 84.4% |
| 12 Month TLPP | NA | 47.6% | 30.2% | 54.2% | 57.5% | 44.4% | 52.5% | 65.3% | 84.6% |
| 12 Month ACPP | NA | 24% | 21.4% | 17.9% | 28.9% | NA | NA | 55.1% | 65.9% |

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# Thank You !