Mobile C-Arm (Ziehm Vision RFT Hybrid) And Stille Mobile Floating Table Has Many Of The Advantages Of A Hybrid Room At A Lower Cost And They Can Function In Multiple ORs.

**Diclosure**

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- I have the following potential conflicts of interest to report:
  - Consulting:
    - Abbott Vascular; Angioslide; Atrium Maquet Getinge group; Bard Peripheral Vascular; Cardionovum; Cordis-Carnial Health; IMDS; Ivascular; Stille; Veyran; Ziehm Imaging

**Why we need vascular imaging?**

- Begin '80 introduction of endovascular therapy
- Belgium: domain of the vascular surgeon
- Shift from classic vascular to endovascular
- Tendency endovascular first
  - 2009: 50-60 still vascular
  - 2015: >80% endovascular
- More “hybrid procedures”

**Necessity of better and better imaging**

- Endovascular therapy:
  - Longer interventions
  - More complex interventions
  - Re-interventions
- Need for:
  - Longer fluoroscopic time
  - HD imaging
  - Ergonomic interventions

**Necessity of better and better imaging**

- Endovascular therapy:
  - Below The Knee
  - Pedal Arch
  - Visceral arteries
  - Re-interventions
  - EVAR-TEVAR-FEVAR
  - Branched reconstructions
  - Vascular trauma care
  - Ruptured aneurysms
  - etc

With fenestrated endoprosthesis
Necessity of better and better imaging

With fenestrated endoprosthesis

Superior Mesenteric artery

Options:
- C-arm/Angio suite/Cath Lab/Hybrid room

- What to choose:
  - C-arms:
    - Available in every OR
    - Are they sufficient enough
  - Angio suite:
    - In the department of radiology
    - Have some disadvantages
  - Cath lab:
    - In the department of interventional cardiology
    - Have some disadvantages
  - Hybrid room:
    - In the OR
    - Nothing but advantages???

Options: C-arm or Hybrid or is there an "in between"

Ziehm Vision RFD Hybrid
Comparison
Ziehm Vision RFD Hybrid + Stille ImagiQ2 / Hybrid room

€ $ £ ???

Comparison
Ziehm Vision RFD Hybrid / Hybrid room

Surface

Comparison
Ziehm Vision RFD Hybrid / Hybrid room

Surface

Mobility & Flexibility
Ziehm Vision RFD Hybrid

Mobility & Flexibility
Ziehm Vision RFD Hybrid

My personal view and why
• Comparison of 2 configurations during 3 months
  – 1) Ziehm Vision C arm (non motorised) + Stille Imagiq1 floating table
  – 2) Ziehm Vision RFD Hybrid (motorised 4 axes) + Stille Imagiq2 (longer)

• Every external help (nurse/ technician) to chance:
  – Up-down movement
  – Back-forward
  – Longitudinal rotation
  – Axial rotation
  – Lateral movement (whole system)

Comparison of 2 configurations during 3 months
Interventions were divided in:
  – easy interventions:
    - ≤ 60 min
    - SFA, common iliac etc
  – more difficult interventions:
    - 60 – 120 min
    - redo peripheral, iliac, BTK etc
  – difficult interventions:
    - ≥ 120 min
    - aortic, visceral, embolisation

Comparison Ziehm Vision RFD Hybrid / regular non motorised C-arm : movements

<table>
<thead>
<tr>
<th>System that moves</th>
<th>Operator</th>
<th>Number movement</th>
<th>Average time/mov (sec/mov)</th>
<th>Mean time (sec/mov)</th>
<th>Compared To Stille Imagiq2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Stille Imagiq2</td>
<td>Surgeon 1</td>
<td>20 pp</td>
<td>2.84 sec</td>
<td>2.88 sec</td>
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<td></td>
<td></td>
<td>Surgeon 2</td>
<td></td>
<td>2.92 sec</td>
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<td>Option 2</td>
<td>C-arm</td>
<td>Nurse 1</td>
<td>20 pp</td>
<td>13.57 sec</td>
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<td></td>
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<td>Nurse 2</td>
<td></td>
<td>14.13 sec</td>
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<tr>
<td>Option 3</td>
<td>Motorised table top</td>
<td>Nurse 1</td>
<td>20 pp</td>
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<tr>
<td></td>
<td></td>
<td>Nurse 2</td>
<td></td>
<td>19.63 sec</td>
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</tbody>
</table>

My personal view and why
Which procedures can be done

Ziehm Vision RFD Hybrid + Stille Imagiq2 table:
  • Normal endovascular : SFA, poplitea, iliac
  • Complex endovascular:
    - EVAR-TEVAR-FEVAR-Branched EVAR
    - Carotid & supra aortic stenting
    - Visceral PTA
    - BTK & PEDAL interventions
    - Venous interventions
    - embolisations
    - Hybrid interventions : classic + all above
Hybrid room:
- Advantages:
  - Excellent imaging
  - Possibility to merge images
  - Every procedure is possible
- Disadvantages:
  - Large fixed position (mostly, you just have one)
  - Bulky environment
  - Extra personal
  - Expensive
  - Adapted infrastructure
  - etc

Ziehm Vision RFD Hybrid + Stile ImagiQ2 table:
- Advantages:
  - Compact (footprint: 0.8 m²)
  - Extremely mobile
  - Excellent imaging
  - Possibility to do long procedures without heating problems
  - Possibility of single operator
  - No need for extra technical personal
  - Can save procedure time
  - Possibility of endovascular (+/- hybrid) procedures
  - Very efficient and economic way of working
- Disadvantages:
  - Lack of table-device communication
  - Still cables on the floor

The mobile hybrid solution "alternative"