Workflow optimization in the hybrid OR

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Disclosure

Speaker name:

**Arjan Hoksbergen**

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- [ ] I do not have any potential conflict of interest
Construction 2 hybrid ORs
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Ideal Hybrid OR

- Large OR space
- Flexibility of a ceiling mounted system
- Outstanding image quality and dedicated navigation software
- Easy to use operating system
- Decrease procedural time
- Decrease radiation exposure and use less contrast medium
- Reduce complications (renal insufficiency, infections, blood loss, etc.)
Multiple disciplines and procedures in the hybrid room

- Heart disease
  - TAVI
  - Mitral valve

- Vascular
  - Aortic
  - Peripheral
  - Embolisation

- Neuro

- Oncology
  - TACE
  - SIRT
  - Ablation

- Spine surgery
• Enables integration of information from all technologies in the OR
• Advanced interventional tools (2D perfusion, 3D roadmap, VesselNavigator)
• High image quality at ultra-low X-ray dose
• Possibility of real-time image processing on multiple work spots within the OR
• Allows physicians to pre-program routine tasks and user preferences
84m²!
Move the system completely around table (foot end)

Park C-arm in all corners of the OR
Flexibility of ceiling mounted system

- Enables team members to work at both sides of the table, 2 large monitors
- The patient can be accessed at any location from head to toe
- The imaging system can be easily moved away from the table
58” monitor in OR

Multiple image sizes and screen lay outs

Display selected images PACS/anesthesia/other documents (graft plan)

Display Time out procedure checklists/other protocols
Work fully from table side with Touch screen module (IPAD)

- Control all connected applications
- Control
  - X-Ray protocol
  - Fr. per image
  - Viewing images
  - Measurements
- No need to leave sterile workspot
Touch screen module

- Collimate on clinical image with fingertips
- Pinch, zoom, pan and flag images for processing
- Store and recall system positions
- Get task guidance and switch control between rooms
- Use pointer to indicate items on screen
ClarityIQ technology to lower X-ray Exposure

Compared to Allura 83% dose reduction in endovascular applications maintaining same image quality\(^1\)

- Reduces risk of complications from radiation exposure for patients
- Enables longer procedures to treat obese and high-risk patients
- Enables longer more complex procedures
- Reduces long-term health risk for physicians and staff

\(^1\)van Strijen, et al. - In iliac DSA, ClarityIQ technology reduces patient dose by 83% while maintaining equivalent image quality, compared to an Allura Xper system c,g
Zero Dose positioning lowering X-ray Exposure

Intuitive region of interest positioning without using fluoroscopy

Pan the table, change table height or move the geometry on the Last Image Hold image to determine the new center position

Helps to quickly prepare the next run without applying radiation
Interventional tools in vascular procedures

2D Perfusion
Compares pre- and post intervention perfusion characteristics to provide real-time results

3D Roadmap
Creates full 3D image to enhance navigation of guide wire and catheter through complex vascular structures
VesselNavigator

Solution to reduce contrast enhanced runs and X-ray dose in FEVAR/BEVAR/Chimney procedures
Type V TAAA 6.2cm
3D-reconstruction of CTA
Position ringmarkers, record C-arm angles
3D roadmap *overlay* on live X-ray image

- Live image guidance
- Easy way to navigate, cannulate target vessels
- Decrease operative time 25%
- Using 2/3 contrast
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