

Radiation Exposure

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Disclosures

Cook:

Proctoring, Speaker's fees, Grant support, Consulting

Cydar Medical:

Advisory board



Procedure

- DAP: 777360 mGycm²
- ST: 81.04 mins

CT Dose

- 1336 mGycm

Why so high??



C-arm angulation

DSA

Obese

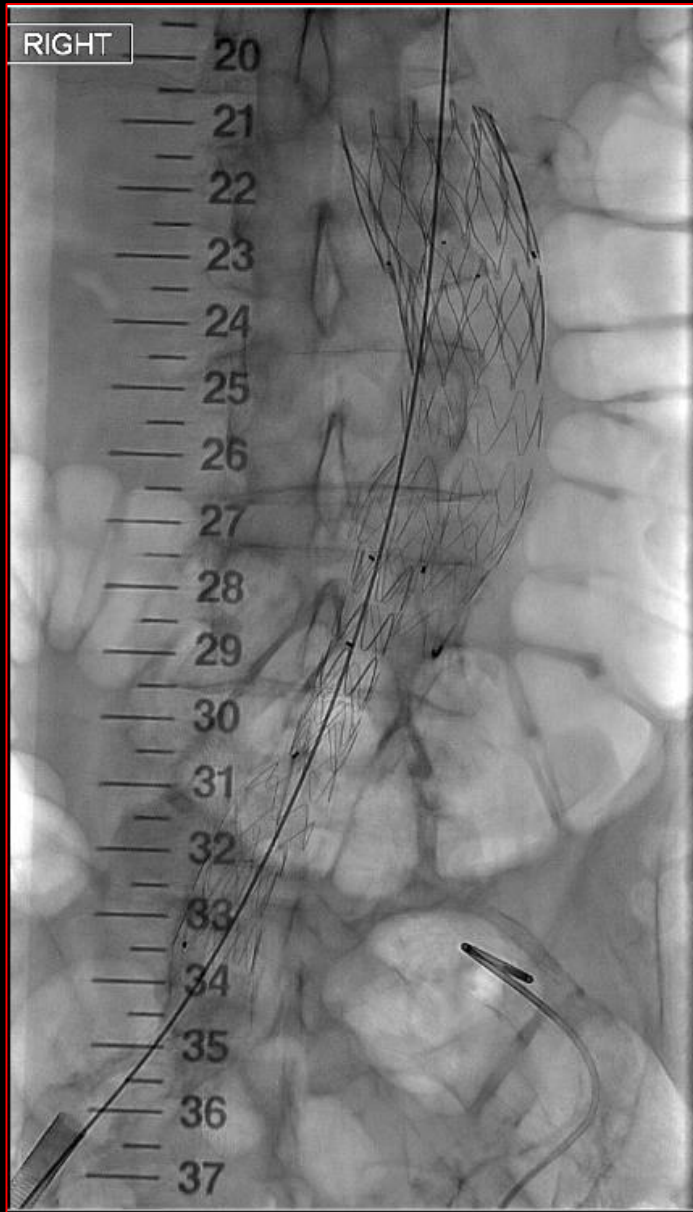
High dose setting



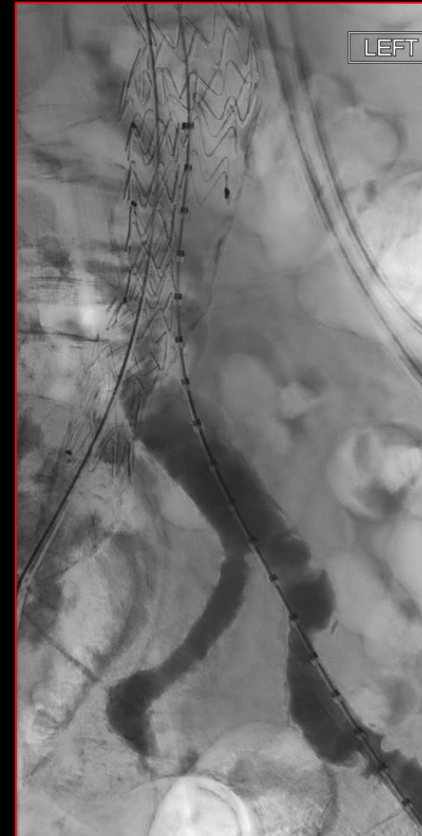
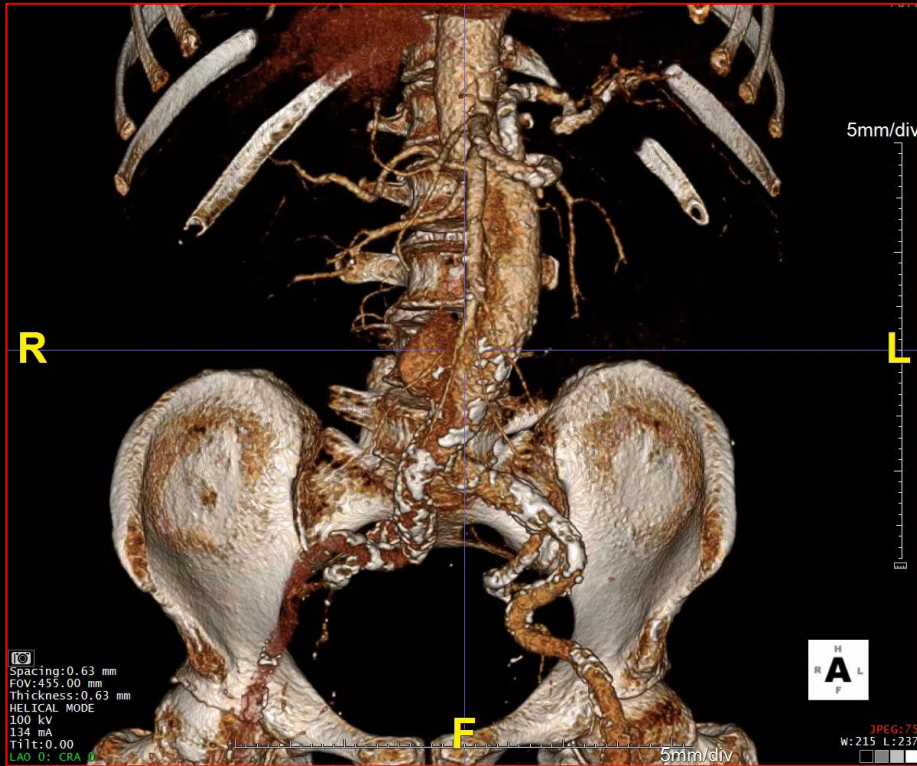
Low dose setting



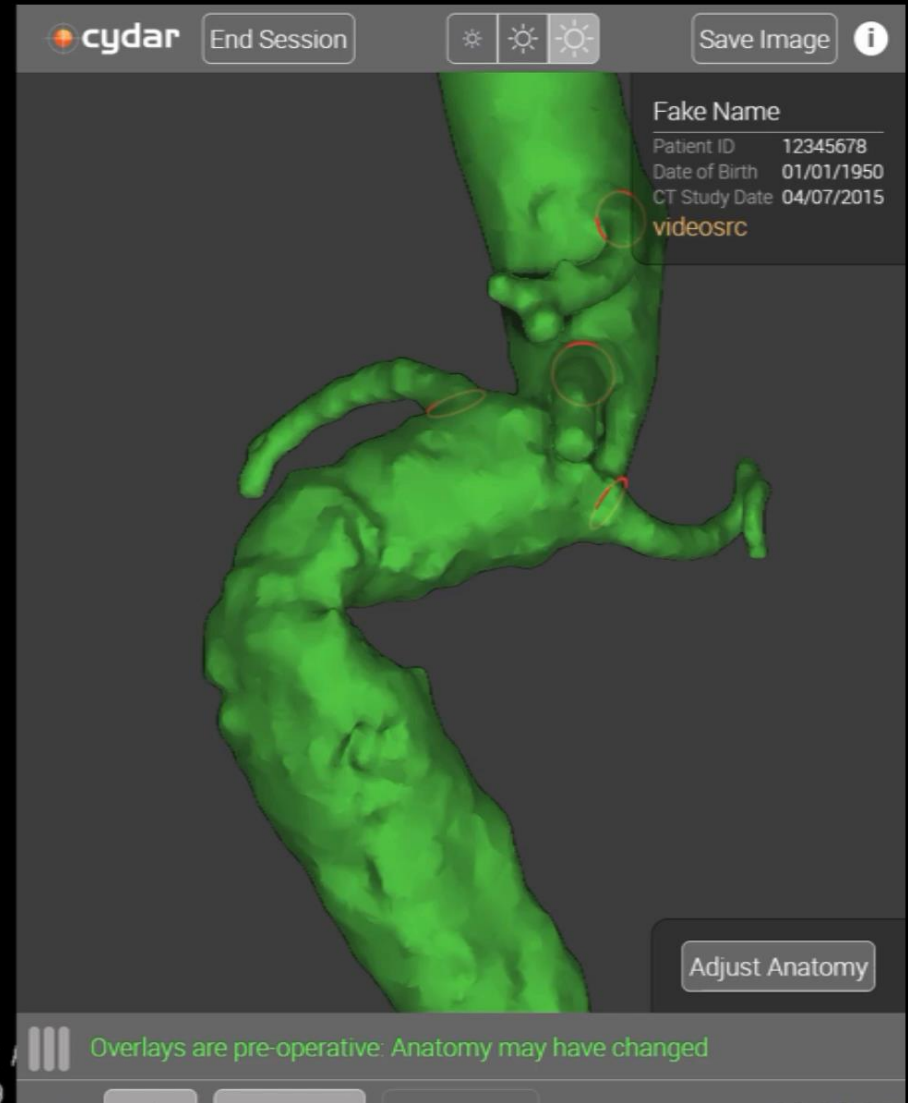
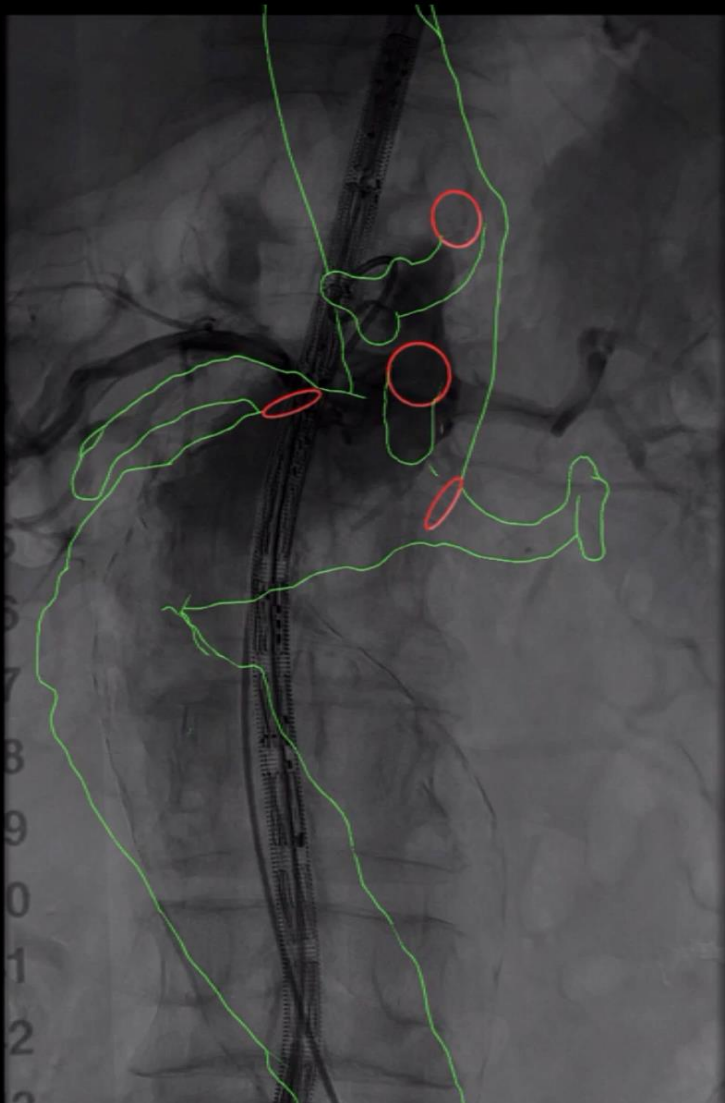
Collimation reduces dose



Dose reduction starts outside the OR



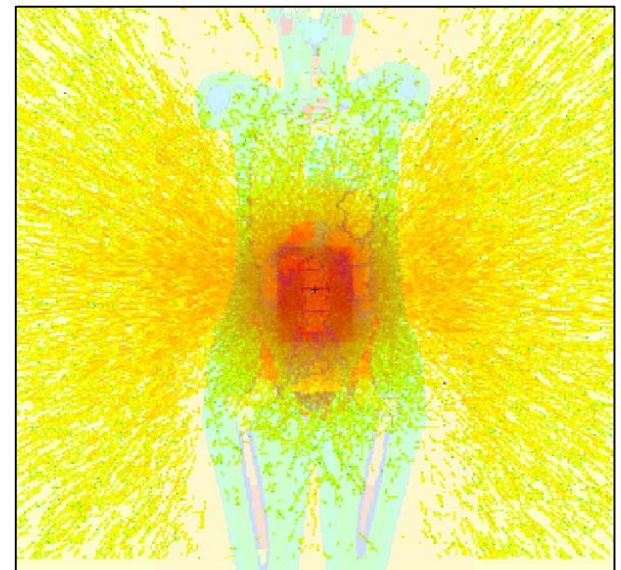
Automated image overlay



Modelling organ specific risk

Lifetime excess cancer risk
(per 100,000)

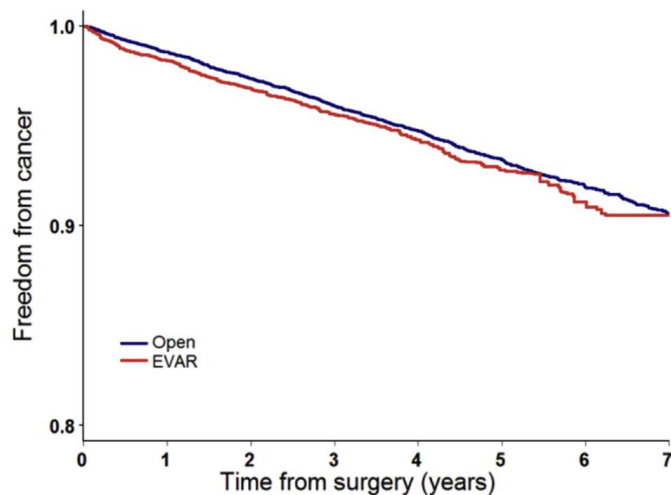
Leukaemia:	601 (95% CI 144-1310)
Colon:	517 (95% CI 293-848)
Kidney:	330 (95% CI 35.6 – 834)
Liver:	203 (95% CI 34 – 745)
Lung:	390 (95% CI 188 – 701)
Stomach:	247 (95% CI 40.1 – 890)



A population-based cohort study examining the risk of abdominal cancer after endovascular abdominal aortic aneurysm repair

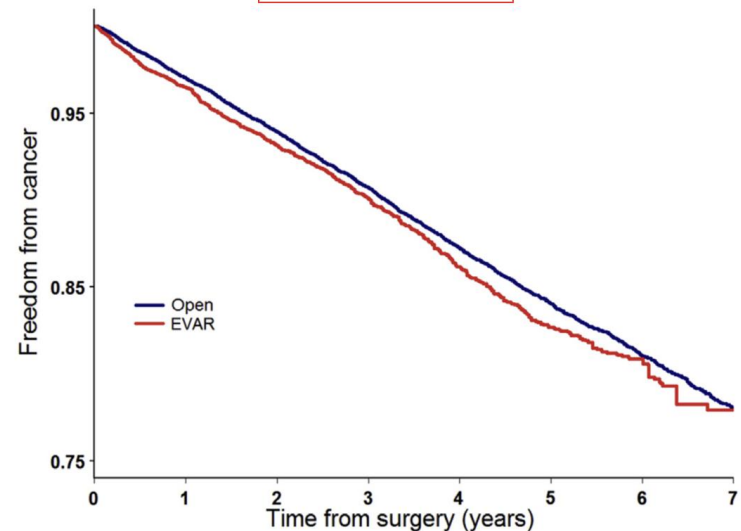
Sheraz R. Markar, PhD, MA, MSc, MRCS,^a Alberto Vidal-Diez, PhD,^{b,c} Viknesh Sounderajah, MRCS,^a Hugh Mackenzie, PhD, MRCS,^a George B. Hanna, PhD, FRCS,^a Matt Thompson, PhD, FRCS,^b Peter Holt, PhD, FRCS,^b Jesper Lagergren, PhD, MD,^{d,e} and Alan Karthikesalingam, PhD, MA, MSc, MRCS,^{a,b,c}
London, United Kingdom; and Stockholm, Sweden

Abdominal cancer



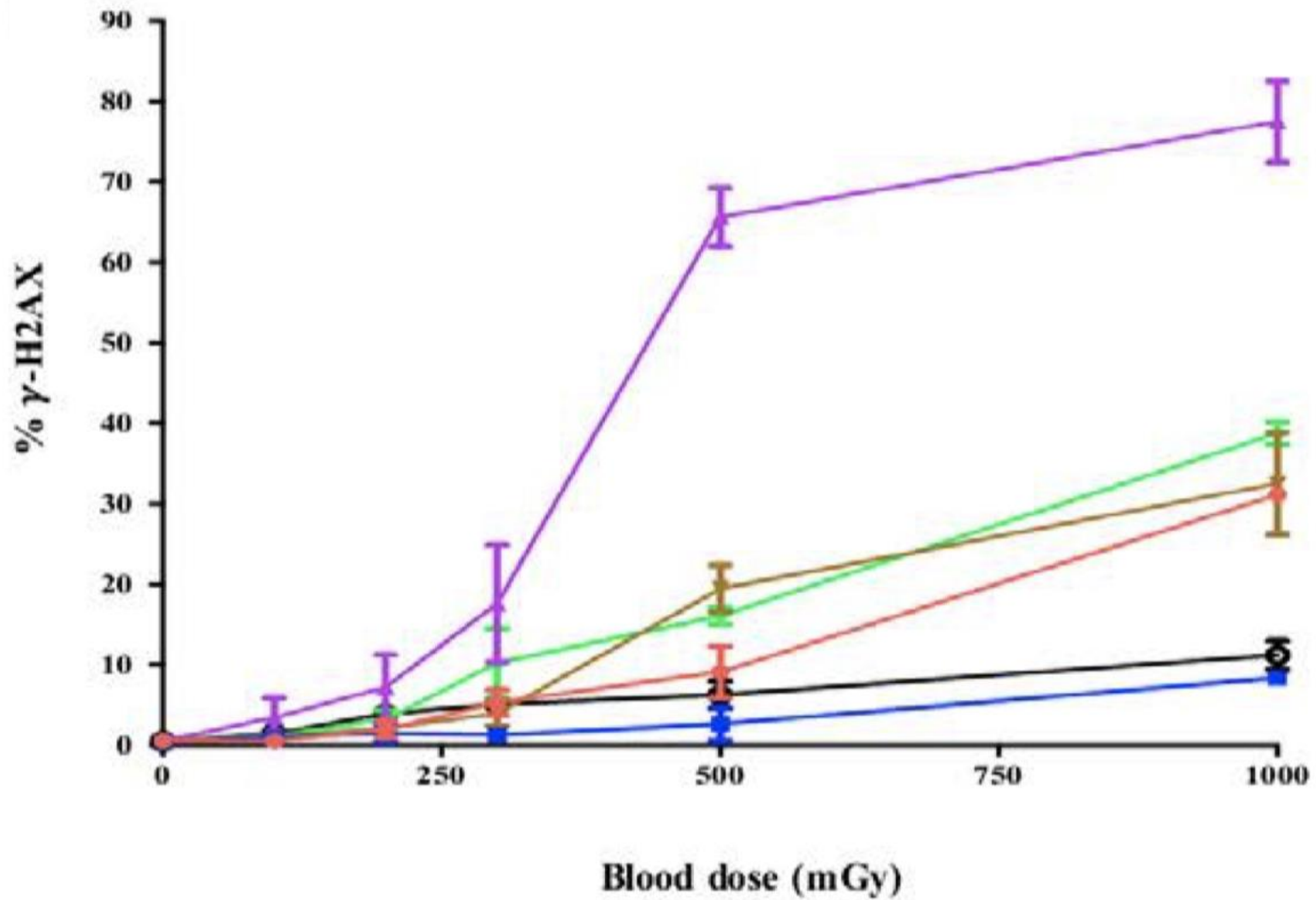
HR 1.14 (CI 1.03-1.27, P=0.02)

All cancers



HR 1.09 (CI 1.02-1.16, P=0.02)

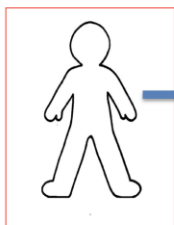




Operator beware!



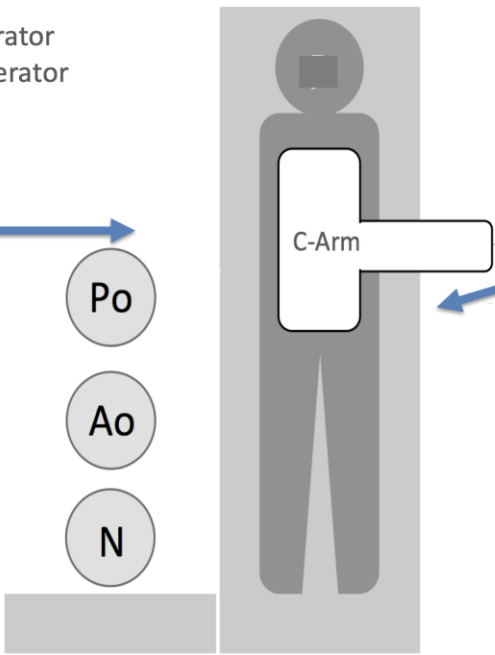
PO Primary Operator
AO Assistant Operator
N Scrub Nurse



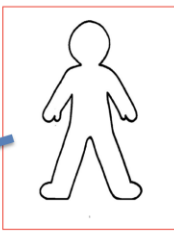
Po

Ao

N

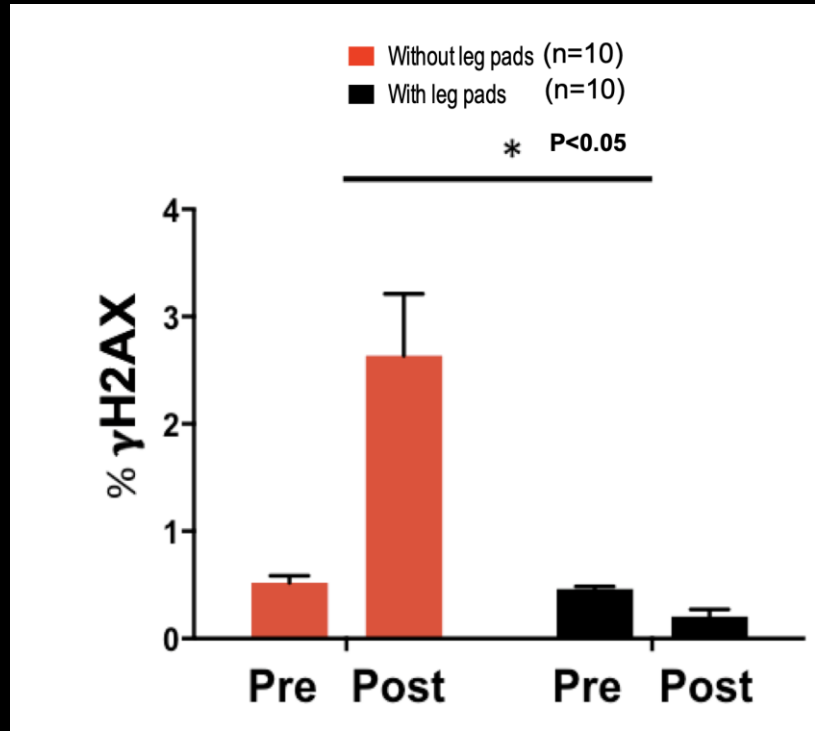


C-Arm









MANUFACTURED DATE: **July 2018**

WARRANTY INVALID IF REMOVED **916953**

IN ACCORDANCE WITH IEC 61331-1:2014
THE CORE MATERIALS IN THIS GARMENT
HAVE BEEN TESTED BETWEEN 50-150 KV

MANUFACTURED BY
WSR MEDICAL SOLUTIONS LTD
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???







ASTR

ORIGINAL ARTICLE

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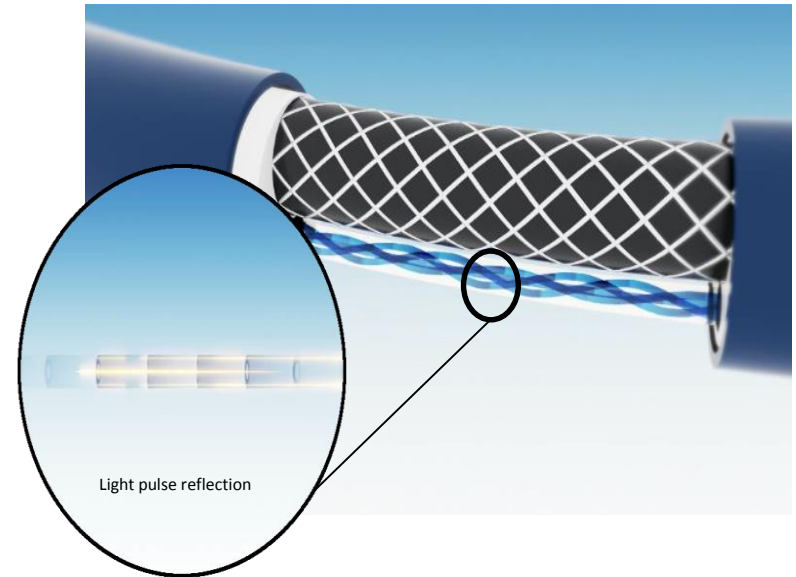
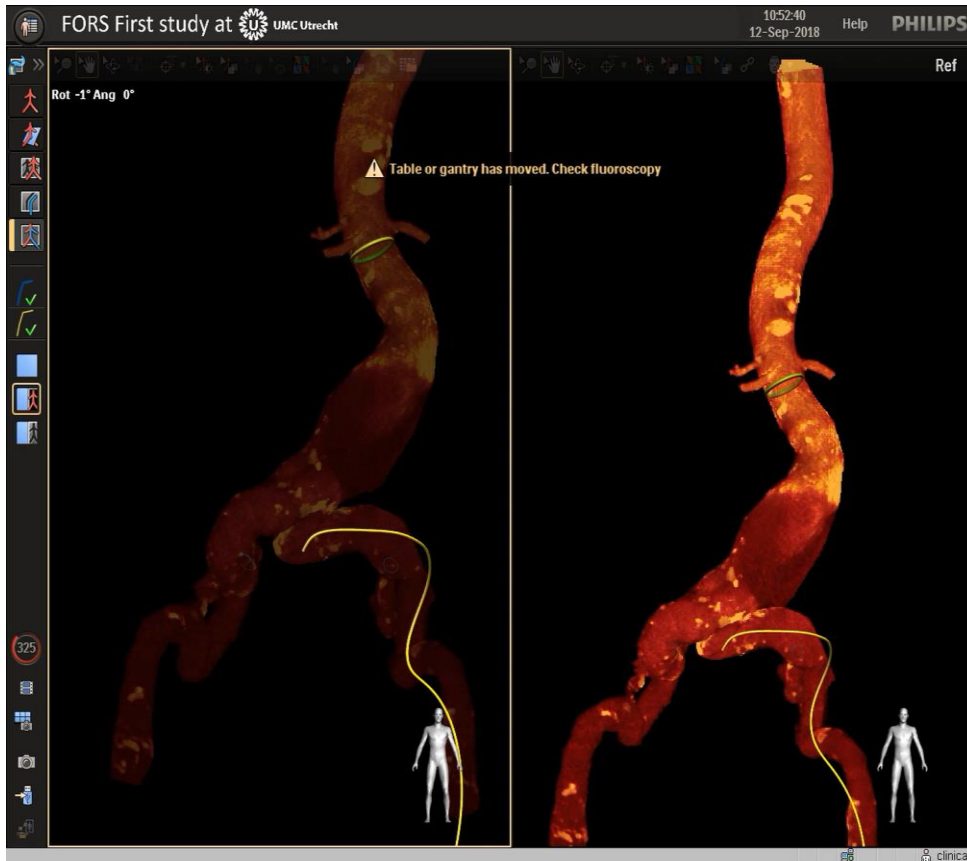
Radiation hazards to vascular surgeon and scrub nurse in mobile fluoroscopy equipped hybrid vascular room

Jong Bin Kim, Jaehoon Lee, Kihyuk Park

Division of Vascular Surgery, Department of Surgery, Catholic University of Daegu School of Medicine, Daegu, Korea

- **6 month effective dose: 3.85mSv**
- **Lead attenuation rate :**
 - Body lead – 75%
 - Thyroid shield 61%
 - Goggles – 70%

Fiber Optic RealShape (FORS) technology



- Real time 3D device visualisation using light
- Multiple unrestricted viewing angles
- Corresponding alignment markers on stent graft?

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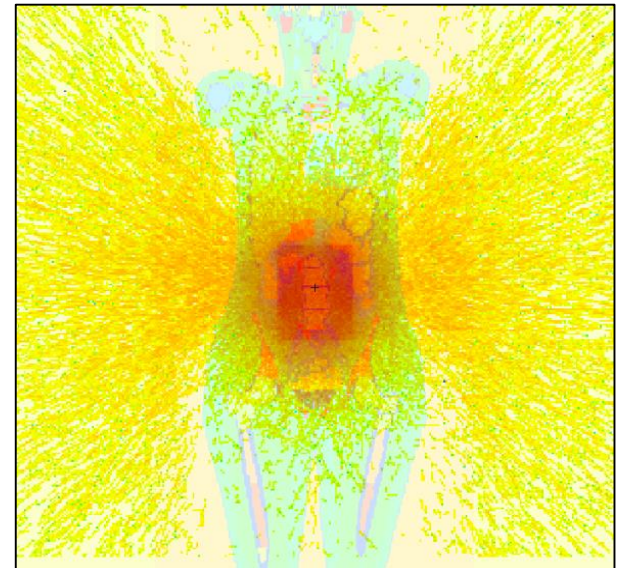
Elizabeth London



Modelling organ specific dose

Cumulative effective dose: 400.85 mSv

Bone marrow dose:	525.08 mGy
Colon dose:	488.2 mGy
Kidney dose:	1755.28 mGy
Liver dose:	576.91 mGy
Lung dose:	311.92 mGy
Stomach dose:	518.94 mGy



Lifetime excess cancer risk (per 100,000)

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