THE HIDDEN RISKS OF RADIATION FOR PATIENTS AND MEDICAL STAFF

THE PROBLEM:

Fluoroscopy Guided Procedures (FGPs) have revolutionized how we treat patients. The radiation associated with these medical procedures, however, comes with inherent, well-documented risks.

During an FGP, some amount of ionizing radiation scatters causing unintended exposure to the patient and medical personnel. Over time, frequent radiation exposure may cause health risks. A single interventional procedure can deliver the effective radiation dose equivalent to 250-3,500 chest X-rays[1] and over a life-time, some physicians may be exposed to the equivalent of 150,000 chest X-rays.[2]

RADIATION RISKS:

Brain Cancer: 2X increased risk of brain cancer compared to other medical staff.[3]

Cancer: 5X increased risk of cancer in patients surgically treated for scoliosis 25 years post-operatively.[4]

Cataracts: 50% significant posterior subcapsular lens changes.[5]

Stroke: 34% increase in stroke risk compared to other medical staff.[6]

Atherosclerosis: Significant increase in early signs of subclinical atherosclerosis.[7]

REFERENCES:

1. https://www.fda.gov/radiation-emitting-products/initiative-r duce-unnecessary-radiation-exposure-medical-imaging/white-paper-initiative-reduce-unnecessary-radiation-exposure-medical-imaging
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4. Simony, A., Hansen, E.J., Christensen, S.B. et al. Eur Spine J (2016) 25: 3366
5. Radiation-associated Lens Opacities in Catheterization Personnel: Results of a Survey and Direct Assessments. Vano, Eliseo et al. Journal of Vascular and Interventional Radiology, Volume 24, Issue 2, 197 - 204
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7. Andreassi et. Al. Subclinical Carotid Atherosclerosis and Early Vascular Aging From Long-Term Low-Dose Ionizing Radiation Exposure. JACC: Cardiovascular Interventions 2015: Vol. 8, 616:27

CONTROLRAD®
Protecting You Saving Others

CONTROL THE RADIATION WITH CONTROLRAD® TRACE

THE SOLUTION:

Reducing life-altering radiation exposure is ControlRad's priority. By combining a proprietary system of hardware and software technologies, ControlRad Trace reduces harmful, unnecessary radiation exposure to the patient and medical personnel by 50% to 89%.[8] ControlRad Trace does not compromise image quality nor negatively impact workflow. Because the system easily retrofits onto existing mobile C-arms, wherever your C-arm goes, so does the benefit.

HOW CONTROLRAD TRACE WORKS:

1. **DRAW THE ROI**

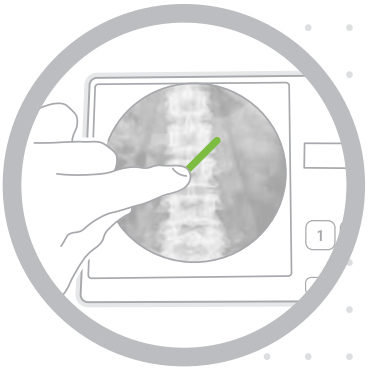
   The physician defines the desired Region of Interest (ROI) by drawing on the ControlRad Trace Tablet's intuitive touch screen.

2. **FILTERS ADJUST**

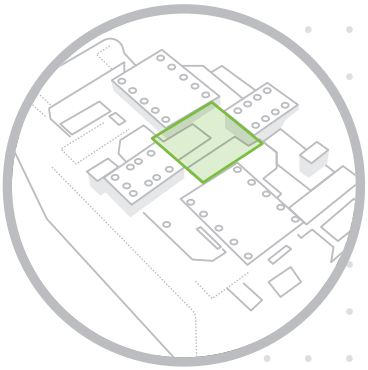
   The system's semi-transparent titanium plates then move in direct response to the tablet interface to create the precise ROI window. The intelligent filters deliver the useful amount of radiation within the ROI, while eliminating a majority of the unnecessary scatter radiation elsewhere. The image is processed through ControlRad Trace's advanced algorithm to deliver a high-quality image of the ROI, while maintaining adequate resolution in the periphery.

3. **REDUCE RADIATION**

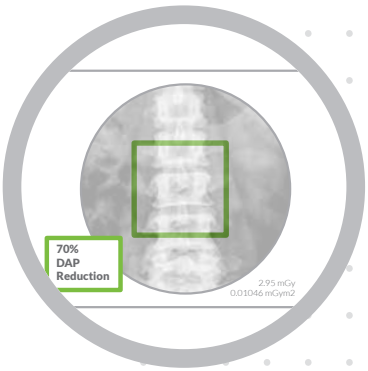
   The result is a reduction in Dose Area Product (DAP) radiation by 50-89% without negatively impacting workflow or image quality within the ROI. This reduction rate is then displayed on the tablet and C-arm monitor.



1. A region of interest (ROI) is simply drawn on the smart tablet



2. The ControlRad Trace filters adjust and manipulate X-ray beam



3. Dose Area Product (DAP) radiation reduction rate is displayed

Control the radiation with ControlRad Trace.
Visit controlrad.com to learn more.

REFERENCES:

8. Data on file

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