Comparison Of Radiation Dosage And Safety Between Mobile C-Arm Fluoroscopes And Fixed Hybrid Units

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Disclosures

• Specific Disclosures
  – None

• General Disclosures
  – None

Modern Image Intensifier based fluoroscopy system

IAEA Training Course on Radiation Protection for Doctors (non-radiologists, non-cardiologists) using Fluoroscopy

L04. Anatomy of Fluoroscopy & CT Fluoroscopy Equipment

Radiation Risk

• All radiation exposure is accompanied by some risk.

• The lower the exposure, the lower the risk.

• Keep exposure to radiation ALARA –
  “As Low As Reasonably Achievable.”
Comparative occupational radiation exposure between fixed and mobile imaging systems

Fig. 2. Staff radiation exposure compared among roles; red line: mobile imaging (MT); blue line: fixed imaging (FI). A, Mean dose for all roles (calculated as Dose X Time). B, Mean dose for all roles (calculated as Dose X Time).
Changing a mobile C-arm for a fixed C-arm in a hybrid operating suite increased the average intraoperative dose during EVAR. Upgrading the Allura fixed C-arm with ClarityIQ technology resulted in a 61% reduction in the radiation per DSA frame.