

Scripps Health Radiation Reduction Program

Goal: reduce unnecessary radiation exposure for patients and staff



Problem

There is no completely safe radiation dose. Over the past 2 decades, radiation exposure has doubled in the U.S. More complex procedures require more radiation exposure.

Results

In a pilot study at Scripps Memorial, La Jolla, a 12 fold reduction in radiation exposure to staff and patients was shown.

Physicians and staff can partner to reduce unnecessary radiation usage.

Remember TPCC:

Table, Protocol, Cone, No Cine



Specific Steps

Prior to Procedure

Use customized protocol (rad tech)

Raise the table (SOD)

Lower the C-arm detector (SID)

Protect patient and staff (lead)

During Procedure

Collimate Field of View (cone down)

Avoid magnification

Minimize duration of x-ray

Use stored fluoro, LIH; avoid cine

Lowest acceptable frame rate (7.5/sec, low setting)

Step 1



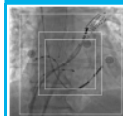
Raise patient to x-ray source
Lower detector to patient

Step 2



Use protocols
Low detail setting
7.5 frames/sec when possible

Step 3



Collimate (cone down)
Even small amounts (not on live fluoro)

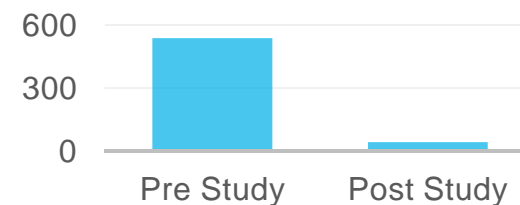
Step 4



Stored Fluoro
Not cine
Use roadmaps
Use non fluoro mapping systems

Results

92% reduction



- Study included biventricular (CRT) device implants or upgrades. Mean pre study dose 538 mGy; post study 42 mGy
- Source: Higgins, et al, Heart Rhythm Society, 2014

Conclusion

- We can reduce unnecessary radiation exposure
- These simple steps can reduce radiation for physicians, staff and our patients.
- We may be preventing radiation related cancers and other risks!

Poster by Dr. Steve Higgins- Data collected during biventricular (CRT) device implants and upgrades