

## AbstractID: 11980 Title: NCRP Report On Radiation Protection in Fluoroscopically Guided Interventions

An NCRP report on Radiation Safety Issues for Fluoroscopically Guided Interventional (FGI) Procedures is currently being developed by SC 2-3. Because of time limitations, this course provides only an outline of the current draft report and focuses on key proposed recommendations.

The full NCRP report will review FGI procedures, technology, radiobiology, and available information on patient and staff doses. It will also discuss managing patient irradiation and staff radiation protection in the interventional environment.

FGI procedures are intended to deliver a specific therapeutic result to a patient. An individual patient's benefit from a successful procedure must be balanced against the radiation risk and numerous other risks associated with the procedure. The performing physician is expected to continually reevaluate benefit and risk as the procedure progresses.

Some individual FGI procedures will affect the patient's skin and hair. Inadequate radiation management on the part of the operator or poor calibration of imaging equipment may result in additional deterministic injuries in the patient. Forcing lower patient doses to eliminate these reactions might result in procedural failures that are not in the patient's best interest. The NCRP report will include a significantly updated review of skin reactions. This review is also being published separately and is in press.

At present, FGI usually result in unavoidable irradiation of physicians and staff. While staff dose should be appropriately limited, common personnel monitoring practices greatly overestimate staff radiation risk. An exaggerated focus on radiation risk diverts attention from other risk factors and may decrease overall staff safety. Patient safety can also be compromised when administrative pressures attempt to drive staff doses to zero.

Increased procedure complexity has resulted in increased total patient dose despite technological reductions in dose rate. The amount of radiation used in FGI procedures is greatly dependent on the technical knowledge and clinical experience of the performing physician. In many patients, tissue reactions are the result of substandard performance. Appropriate clinical privileging and clinical QA feedback processes are essential for safety.

Recommendations are grouped into the following categories:

- Justification, Optimization, Limitation for FGI
- Patient Risk Estimation & Assessment
- Equipment & Facilities
- Protection of Patients During Procedures
- Pregnant Patients
- Patient Dose Documentation
- Patient Discharge & Follow-up
- Protection of Workers & Worker Risk Evaluation
- Administrative

This course embodies current opinions of the writing committee. When completed, the draft report will be submitted for NCRP review and public comment. The final contents of the report are likely to be modified by the committee and/or the review process.

Educational objectives

- 1) Understand issues related to patient and staff safety in the FGI environment
- 2) Be able to develop policies for both patient and staff safety.
- 3) Know the essential elements and features of fluoroscopic equipment and procedure room design for FGI procedures.