Operator Requirements and Reducing Exposures

- Only a properly credentialed individual may operate an x-ray machine for human use. Studies must be on the order of a physician or authorized provider.
- Operators of x-ray equipment must either stand behind a lead barrier, or wear a lead apron during x-ray exposures. Maximize the distance from the x-ray tube and patient during x-ray exposures. Never direct the x-ray tube toward the operator or the control booth during exposures.
- Pay attention to postings and lighted signs and heed warnings.

Dose Reduction

- Perform a visual check of any lead aprons or other shields worn before every use.
- Holding patients should be rare. When necessary, wear lead gloves in addition to a lead apron.
- Always strive to reduce patient doses while optimizing image quality. See reverse for more info.
- Avoid unnecessary scans and use the lowest optimal radiation dose for necessary studies
  - www.imagegently.org

Dosimetry

- Wear your badge whenever using x-ray equipment. Wear badge at the collar outside of any lead apron.
- Store badge on site and away from radiation when not being used.
- Never share badges or intentionally expose badges to radiation.
- Return badges in a timely manner at the end of the wear period.

Security

- Turn off x-ray equipment when not in use. Always secure keys when x-ray unit is not in use.
- Do not post passwords near x-ray control panels and do not leave keys with equipment.
- Only trained and authorized users should have access to the unit keys.

Unit Malfunction

- If the x-ray unit appears to malfunction, remove it from service immediately.
- Contact your supervisor and the service representative as soon as possible.
- Make certain other users are aware that the unit is out of service and notify Radiation Safety at the EHS main line 203-785-3550.

New Use or Termination of Use

- Contact EHS prior to purchase, relocation, transfer, donation or disposal of an x-ray unit to ensure all work is handled correctly and in accordance with Connecticut Department of Energy and Environmental Protection regulations. Ionel Hau is the EHS contact for X-ray Safety matters - Ionel.Hau@Yale.edu

Emergency Procedures

- Contact the Yale Health Radiologist for any x-ray equipment related emergencies.
- Call the EHS emergency line at (203)785-3555 for assistance with any x-ray related emergency.

Questions or concerns? Contact Radiation Safety at 203-785-3550.
Digital Radiography Flowchart

- Patient selected from worklist
- Set-up room
- Patient properly identified
- Appropriateness of request checked
- Is the exam appropriate for the patient?
- Explained the exam to the patient/parent
- Is there a chance the patient is pregnant?
- Beam, body part, image receptor, anteroposterior, SID, collimator, use of grid determined
- Body part measured and immobilized
- Patient positioned correctly
- Beam collimated properly
- Image quality reviewed
- Exposure index checked, deviation index compared to target exposure index
- Repeat image
- Post-processing performed only if necessary
- Exam verified and images sent to PACS/NS for reporting
- Image processed
- Images displayed, identification confirmed
- Exposure taken
- Breathing instructions given
- Adjustments made
- Shielding and markers placed
- Technical factors selected
- Is patient ready for the exposure?
- No
- Yes

www.imagegently.org