



Fact Sheet Regarding Gonadal Shielding for Diagnostic Radiology Applications

Overview

The Bureau of Radiological Health has recently amended rules specific to requirements related to technique chart content and shielding of the reproductive organs (gonads) during diagnostic abdominal imaging. These rule changes have resulted in many questions related to overall shielding requirements, and this fact sheet provides information to help guide facilities in reviewing their current radiation protection and shielding practices.

Gonadal shielding was introduced in the 1950's with the intent to minimize potential harmful effects from medical x-ray exposures. Improvements in technology have resulted in reduced absorbed dose to pelvic organs from radiography, and the risk of heritable genetic effects are less than previously estimated.

IDPH Rule Change

The Bureau of Radiological Health has amended Iowa Administrative Code (IAC) Chapter 41 in numbered paragraph 41.1(3)"a"(3)"5" and subparagraph 41.1(3)"a"(6) to align with national consensus that demonstrates a need to change how gonadal shielding is applied due to new understanding of dose weighting factors for tissue and organs, as well as advances in radiation-emitting equipment and detector technologies.

These amendments remove a specific reference to the type and place of gonadal shielding to be used and replace it with more general radiation protection and shielding requirement based on diagnostic and clinical needs.

- The requirements of **IAC 641-41.1(3)"a"(3)** have been in place for many years, so facilities should already have technique charts as currently required. The revision in this rule replaced outdated wording to allow facilities to better align their current technique charts with newer units and the types of exposure settings the operators may need to use.
- The rule revision to **IAC 641-41.1(3)"a"(6)** removes the specific requirement for gonadal shielding when the gonads are in the primary beam area.

The remainder of the radiation protection rules throughout IAC Chapter 38-42 remain in place and facilities are encouraged to continually review their policies and procedures to ensure continued compliance with all rules. The chapters that relate to radiological health can be reviewed on the website. <https://idph.iowa.gov/radiological-health>

Clinical Application Guidelines

The IDPH rule change has removed the requirement for gonadal shielding during radiographic procedures in which the gonads are in the useful beam. We recommend you review your facility

procedures to ensure your radiation protection requirements are protecting your patients in alignment with As Low As Reasonably Achievable (ALARA) practices.

Methods to limit occupational radiation exposure are not impacted by the AAPM and NCRP recommendations to reduce gonadal shielding of patients. For occupational exposure management, medical professionals and assisting personnel should continue to wear lead aprons as appropriate when present while x-ray exposures are made. Protective aprons should continue to be provided for personnel to wear while operating mobile x-ray equipment.

Questions

Please direct questions to Debra Wolff at debra.wolff@idph.iowa.gov or 515-201-5110.

Bureau of Radiological Health
<http://www.idph.iowa.gov/radiological-health>

