

Situation:

Multiple radiological and medical physics societies are now recommending the discontinuation of routine lead shield placement over a patient's pelvis during diagnostic x-rays to "protect" the gonads.

Background:

Gonadal shielding is a practice that started nearly 70 years ago to offer theoretical protection to the gonadal organs during routine x-rays. No scientific evidence exists that these shields provide value or that radiation exposure to the gonads during routine radiological x-rays performed today causes increased risk of heritable defects to the gonads. Data actually shows that radiation dose to the gonads may be INCREASED when a lead shield is used as it can increase the radiation emitted by the x-ray machine. Additionally, if the shield is not properly placed it can result in having to repeat a radiograph, thereby doubling patient radiation exposure. Yale New Haven Radiology ceased routine use of pelvis/gonadal shields during the COVID pandemic to reduce fomite risks associated with shields.

Assessment: Several radiology and medical physics societies (both in the US and globally) have issued formal policies that recommend abandoning the routine use of gonadal shielding for radiographs taken in a radiology department using proper technique. Many large health networks across the US have already transitioned away from routine use of lead shields over the pelvis. Radiation safety experts at Yale New Haven Health have also agreed that this transition makes sense and is worthwhile. Other lead shields for different body parts (breast, thyroid) used for select radiology procedures are NOT affected by this policy change. Gonadal shield use during fluoroscopic exams (when needed) is also not affected by this change.

Recommendation: Routine use of gonadal shields during diagnostic radiographs is no longer recommended. Radiology staff will continue to adhere to the As Low As Reasonably Achievable (ALARA) policy of radiation safety by using imaging techniques that impart the lowest possible amount of radiation to create diagnostic quality images. A patient informational sheet explaining this change has been created and will be available to patients at all Yale New Haven Radiology sites soon. Adoption of this policy at other YNHHS delivery network sites will occur over the next 6-12 months. Any patient or parent that still feels strongly in having a shield provided for their exam can ask the x-ray technologist for one. We won't refuse shielding a patient who requests it.

Web-site references and some article links are provided below.

-<https://www.acr.org/Advocacy-and-Economics/Advocacy-News/Advocacy-News-Issues/In-the-June-8-2019-Issue/ACR-Endorses-AAPM-Position-on-Patient-Gonadal-and-Fetal-Shielding>

-https://www.aapm.org/org/policies/documents/CARES_FAQs_Patient_Shielding.pdf

-<https://www.nytimes.com/2020/01/14/well/live/radiation-exposure-x-rays-scans-lead-apron.html>

-<https://www.radiologyinfo.org/en/info.cfm?pg=safety-patient-shielding>