



IRPA Refresher Webinar

Friday, September 25, 2026

12:00h – 13:30h UCT/GMT (including welcome, presentation and Q&A)

Radiation shielding in interventional radiology: wearable lead, devices and barriers

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Moderator: Shelan Mahmood

Short abstract

For decades, heavy lead aprons have been the standard for radiation protection in interventional labs, contributing significantly to a high incidence of orthopaedic injuries among medical staff. This webinar explores the suite of radiation protection options, driven by innovations that prioritize operator safety and ergonomics. We will examine the efficacy of modern, non-wearable solutions, including ceiling-suspended shielding systems, radiation protection cabins, and robotic-assisted platforms that remove the operator from the radiation field entirely. Additionally, we will discuss the role of lightweight, lead-alternative composite materials and radiation protection culture. The session will conclude by comparing these technologies, highlighting how combining various types of protection is creating a safer, more sustainable career path for interventional specialists.

Learning Objectives

After following this webinar, participants will be able to

- **Describe the Occupational Risks:** Articulate the primary ergonomic and health hazards, specifically orthopaedic injuries, associated with the long-term use of traditional lead aprons in interventional labs.
- **Identify Key Technologies:** Identify and differentiate between the major categories of modern radiation protection technologies, including lead-alternative composite materials, structural shielding systems (suspended and cabin-based), and robotic-assisted platforms.
- **Explain Protective Mechanisms:** Explain the mechanism of action for non-wearable shielding systems and how they effectively reduce operator radiation dose without imposing physical strain.
- **Compare and Contrast Solutions:** Compare the advantages and disadvantages of various "lead-free" solutions, considering factors such as radiation protection efficacy, operator mobility, capital cost, and impact on procedural workflow.
- **Evaluate for Implementation:** Evaluate the critical factors a clinical department should consider when developing a strategy to improve radiation protection, ensuring a comprehensive approach to radiation safety.