

## Personal Protective Equipment (PPE)

### What is PPE?

“Equipment designed and manufactured to be worn or held by a person for protection against one or more risks to that person’s health or safety” [1]. In this case, protection from diagnostic X-rays by wearing ‘lead aprons’ and other items of clothing.

The radiation protection provided by a particular garment is usually defined in terms of its response compared to lead or ‘lead equivalent’, in mm Pb. For a given design, the higher the lead equivalent, the better the protection but the heavier the PPE.

### What are the issues?

Wearing PPE is a balance between the comfort and weight-bearing abilities of the member of staff performing a particular task and their radiation safety. In this case, the risks of prolonged weight-bearing must be compared to the risk of radiation cancer induction from staff doses measured under PPE.

### Selecting PPE

To ensure that it is *adequate and suitable*, follow these simple steps:

- **Start light.** “Adequate” refers to the ability to protect the wearer. Consider the lightest first and then examine potential reasons for increasing the lead equivalent thickness. This might include radiation workload and measured staff doses under PPE.
- **Put the PERSONAL in PPE.** “Suitable” refers to correct matching of PPE to the job and person. So selection of PPE should take into account the individual needs and abilities of staff, particularly those required to wear PPE for any significant length of time.
- **Risk assess choice.** Review the evidence to arrive at a selection, take into account ALL risks involved, not just those related to radiation safety.
- **RPA.** Contact your local radiation protection adviser for advice.

### Further Information

The BIR has put together a collection of resources on PPE for staff working with radiation, to help develop radiation protection knowledge both within and beyond the radiology department. These include a guidance document, handy posters and free-to-view videos.

<http://www.birpublications.org/page/ppe>

[1] REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC