

Detecting radioactivity / contamination

Equipment

Training Monitor incl. alcohol spray and spare AA batteries

Optional: Box of disposable latex gloves , Disposable overshoes , Disposable aprons

Optional: Radiopharmacy gown or even a fully blown contamination suit which does attract attention!

Safety / Risk assessment notes

Main danger is the equipment falling off the table and causing injury. It is very unlikely though. Ensure everyone is well briefed that this does NOT include any radioactive material

Background

In this demonstration, we want to show visitors how we monitor ourselves for radioactive contamination with unsealed sources. A training monitor that detects a special alcohol spray is used to simulate contamination monitoring.

Aims

- To teach visitors radioactive monitoring techniques using a teaching monitor.
- To get visitors thinking about what steps to take if personal contamination has occurred.

Details

Have one demonstrator (or student) wearing the radiopharmacy gown and spray a bit of the alcohol spray in key places, e.g. fingertips, arm, on the sole of a shoe, etc.

Get visitors to put on gloves, overshoes and aprons to get into the part. They are going to be your helpers in monitoring for radioactive contamination.

NB. Although unlikely, be aware of anyone who may have a latex allergy!

Put to them a scenario where our friendly radiation worker has been working with some liquid radioactive sources and now needs to check if they are contaminated. If you want, you could fill a syringe with some saline to simulate this work. If you are feeling cheeky and bold, you could spray some in the air to keep the kids awake.

With the detector cap off, the window should be held parallel and close to (never touching) the surface being monitored. Sweeps should be slow and systematic to ensure all potentially contaminated areas have been checked. Ask the visitors which areas are likely to get contaminated and then get them searching for “contamination”.

Ask them what they would advise you do once contamination is found, i.e. Remove contaminated clothing, wash skin with soap. Contaminated items can be stored to decay to background, or disposed of.