Contamination Screening Station Executive Summary

Description:

Contamination Screening staff determine whether people are contaminated with radioactive material. A partial-body contamination screening focuses on the hands, face, shoulders, and head can identify most contaminated people. If contamination is found during the partial-body screening, the contaminated person should be escorted to the Wash Station for decontamination. If not, he or she proceeds to the full-body contamination screening. A full-body contamination screening should be conducted by trained staff using either handheld radiation detection instruments or portal monitors. If contamination is detected during the full-body screening, the contaminated person should be escorted to the Wash Station for decontamination. People who are not contaminated will proceed to Registration.

If resources are available, community reception center (CRC) managers may elect to establish an express lane for people who have showered or have been decontaminated before arriving at the CRC. The express lane allows these individuals to bypass the partial-body contamination screening and proceed directly to the full-body contamination screening. Planners should consult the radiation control authorities in their jurisdictions to determine screening protocol and release criteria for both types of contamination screenings.

Location:

The Contamination Screening Station should be located near the Initial Sorting Station, the Wash Station, and Registration. The CRC layout should accommodate the seamless transfer of people from one station to the next while minimizing the potential for cross-contamination. Everybody without an urgent medical need will receive a contamination screening prior to registration and discharge.

Staffing:

Staff size will vary according to the size of the CRC, the desired throughput, and the availability of professionals and trained volunteers. Qualified and trained radiation protection professionals, public health staff, emergency services personnel, and volunteers may be needed.

Personal Protective Equipment:

The CRC Safety Officer will determine the appropriate PPE for staff in each area. The Safety Officer will also evaluate the need for—and issue as appropriate—personal dosimetry devices among CRC staff.

Typically, community reception centers will not be located in contaminated areas. Nevertheless, many people reporting to the CRC could be contaminated with radioactive material on their clothes or bodies, presenting a possibility of cross-contamination and a potential inhalation hazard to CRC staff. Universal medical precautions, including gown, gloves, facemask, eye shield, and appropriate respiratory protection (as determined by the CRC Safety Officer) provide adequate protection from cross-contamination.

Staff should try to minimize physical contact with people, and gloves should be changed or checked for contamination frequently. Contamination screenings and PPE exchange will be necessary for all staff leaving the area for breaks or at shift change. No food or drink should be consumed in this area.

Public health officials should consult their state or local radiation control authorities to determine the appropriate PPE for this station.

Radiation Detection Equipment:

For beta/gamma emitters, a combination of handheld instruments (e.g., Geiger counters) and portal monitors will maximize detection capabilities. For alpha emitters, handheld instruments with alpha scintillation probes provide the highest detection capability. Handheld instruments will also be necessary to control contamination and to perform other essential radiation control functions.

Using headphones in conjunction with handheld detection instrumentation can help to reduce anxiety among people being screened and can improve the operator's ability to recognize elevated radiation levels.

The type of radiation detection equipment used must be appropriate to the type of radioactive material present, as determined by radiation control authorities.

Contamination Screening Station Job Action Sheet

This station is in the Contamination Control Zone. Workers must wear PPE assigned to them.

Before Shift

- Report to the Staff Sign-In Area
- Collect assigned personal protective equipment (PPE), dosimetry devices, and radiation detection instruments
- Attend pre-shift briefing
- Report to the Contamination Screening Station Manager to receive and review your station assignment
    - After receiving your station assignment, review the appropriate Job Aid

Station Assignment	Screening Assignment Job Aid
Initial Sorting	*High Contamination Screening*
Contamination Screening	*G-M Detector Job Aid* *Portal Monitor Job Aid*
Wash Station	*G-M Detector Job Aid* *Portal Monitor Job Aid*

During Shift

- Report any emergencies or injuries to your station manager IMMEDIATELY
- Wear assigned PPE and dosimetry devices at all times
- As possible, avoid physical contact with arrivals to limit cross-contamination
    - If you touch someone, change your gloves or have them checked for contamination
- Screen people for external contamination
    - Follow screening protocol established by Contamination Screening Station Manager
- As necessary, escort people to the appropriate station

During Shift (Continued)

- Direct people as follows:

Decision		Action
Contaminated	→	**Escort to Wash Station**
Not Contaminated	→	**Direct to Registration**

- Conduct contamination screenings for workers (including other Contamination Screening Staff)
    1. Direct them on how to remove their PPE
    2. Screen them for contamination

After Shift

- Report to the Contamination Screening Station to begin demobilization
    - Contamination Screening Staff will:
        1. Direct you on how to remove your PPE
        2. Screen you for contamination
- After entering the Clean Zone:
    1. Turn in your dosimetry devices and radiation detection instruments at the Sign-Out Area.
    2. Attend the post-shift briefing

PORTAL MONITOR JOB AID

About Portal Monitors:

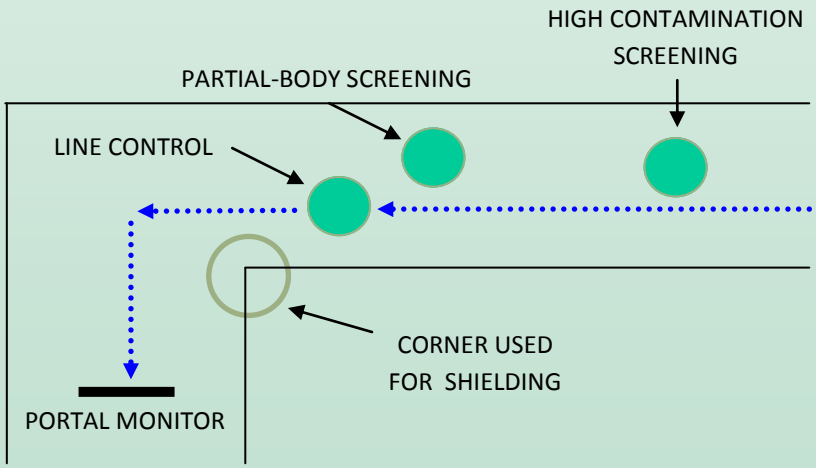
Portal monitors provide an efficient means of screening people for external contamination. These monitors can detect gamma and beta radiation, but not alpha radiation. Similar to metal detectors at airports, the portal monitor scans people as they walk through the device. An occupancy sensor (laser sensor) detects when a person is passing through the monitor. If the portal monitor detects radiation above screening levels, an alarm will sound and a red light will come on.

Positioning the Portal Monitor:

Because portal monitors are highly sensitive to gamma radiation, you need to be careful where you place them in the community reception center (CRC). If not positioned properly, a highly contaminated person further back in line could set off the alarm when someone else is walking through the detector.

To avoid false alarms:

1. Provide additional layers of radiation detection before people get to the portal monitor (e.g. high contamination screenings, partial-body contamination screenings).
2. Position portal monitor to take advantage of shielding within the CRC (e.g. corners, pillars, doors).



Setting up the Portal Monitor:

1. Review the manufacturer's instructions for assembly
2. Assemble the unit where you intend to use it
3. Check cable connections and power source
4. Turn on monitor and allow it to perform its start-up check
5. Conduct an operational check using a check source (e.g. button source)

Operating the Portal Monitor:

1. Signal line control to send a person toward the portal monitor
2. Ask the person to walk directly to the center of the portal
3. When the person enters the portal, ask her to pause for 1-2 seconds
4. Ensure the occupancy sensor has detected the person
5. If the alarm sounds or if the red light comes on, ask the person to turn around and have a staff member escort her to the Wash Station
6. If the green light comes on, the person is not contaminated and can proceed to the Registration Station
7. When the path is clear, signal line control to send the next person.

Image 1: Full-Body Contamination Screening with a Portal Monitor