

## INTERNAL CONTAMINATION SCREENING JOB AID

### About Internal Contamination Screening

Internal contamination screening using radiation detection instruments (e.g. thyroid uptake scanners, Geiger counters) can help prioritize patients for further analysis and possibly treatment. Internal contamination screening can be conducted in the Community Reception Center (CRC) as part of the Radiation Dose Assessment Station, or patients can be referred to a separate medical facility for this screening. Clinicians will need to work closely with radiation health professionals to interpret the results of internal contamination screening and triage patients accordingly. This procedure assumes that

- The contaminant radionuclide is known.
- The radionuclide is a gamma emitter.
- The person is free of external contamination.

### Internal Contamination Screening Technique (Thyroid Uptake Scanner)

1. Ensure the equipment is on and operational. If applicable, place the instrument in emergency response mode for this screening.
2. Seat the patient in front of scanner, and position detector arm over the region of interest (e.g. lung, upper chest, thyroid, umbilicus).
3. Run the test and use the results to estimate committed effective dose.
4. Share the results with clinical staff for evaluation.

### Internal Contamination Screening Technique (Handheld Instrument)

1. Select the proper meter setting for the probe and perform an operational check.
2. If the meter has an audible alarm, use headphones or an earpiece to hear the counts; audible alarms can create anxiety among the patients.
3. Seat the patient in a convenient location and position the probe over the region of interest (e.g. lung, upper chest, thyroid, umbilicus).
4. Run the test and record the results. To estimate committed effective dose, refer to the handbooks posted at <http://emergency.cdc.gov/radiation/clinicians/evaluation/index.asp>.
5. Share the results with clinical staff for evaluation.

### Screening Criteria

CPM  
milliR/hr  
microR/hr  
milliSv



Image 1: Internal contamination screening with a thyroid uptake scanner



Image 2: Handheld instruments used for internal contamination screening