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Title:	RCT Continuing Training: Radiological Emergency Response
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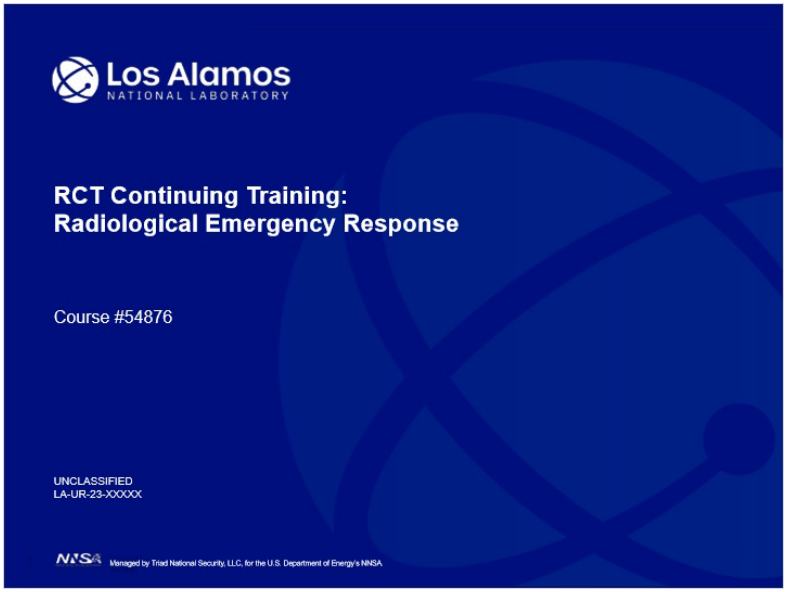
RCT Continuing Training:

Radiological Emergency Response

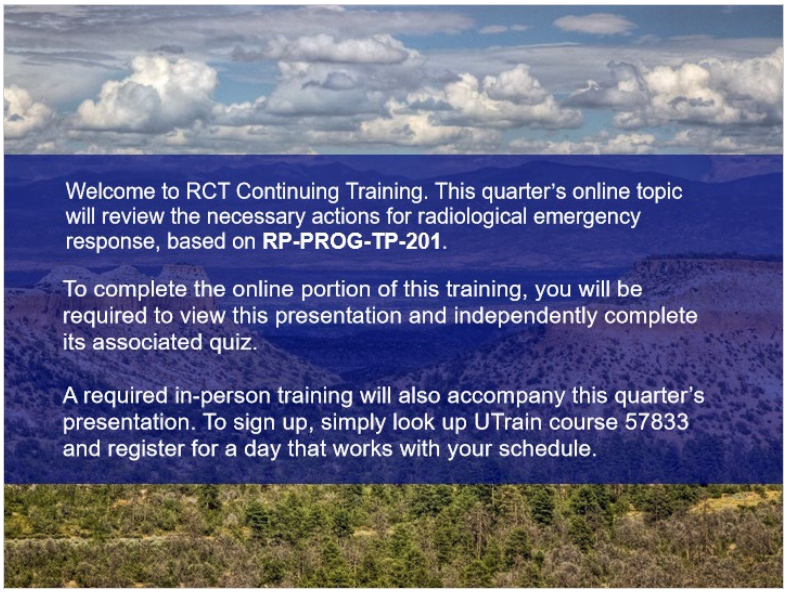
1. RCT Continuing Training - Radiological Emergency Response

1.1 Radiological Emergency Response Training



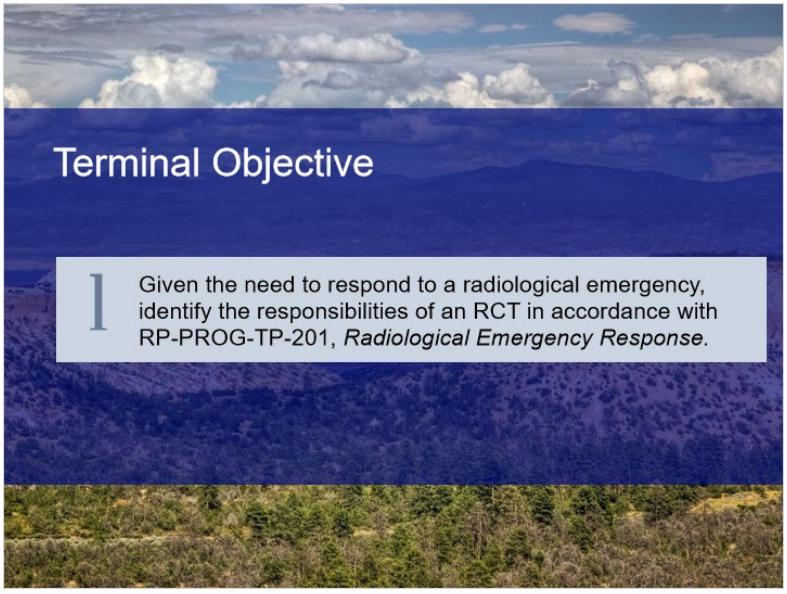
Notes:

1.2 Introduction

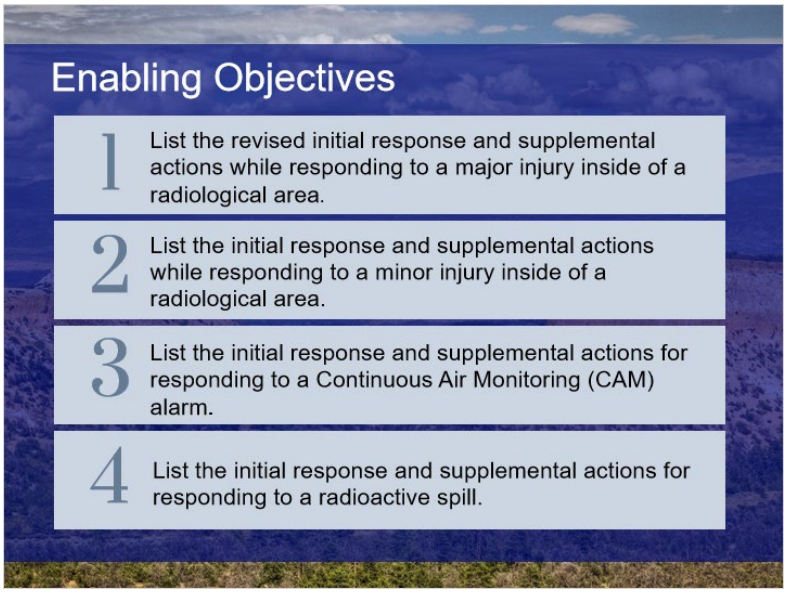


Notes:

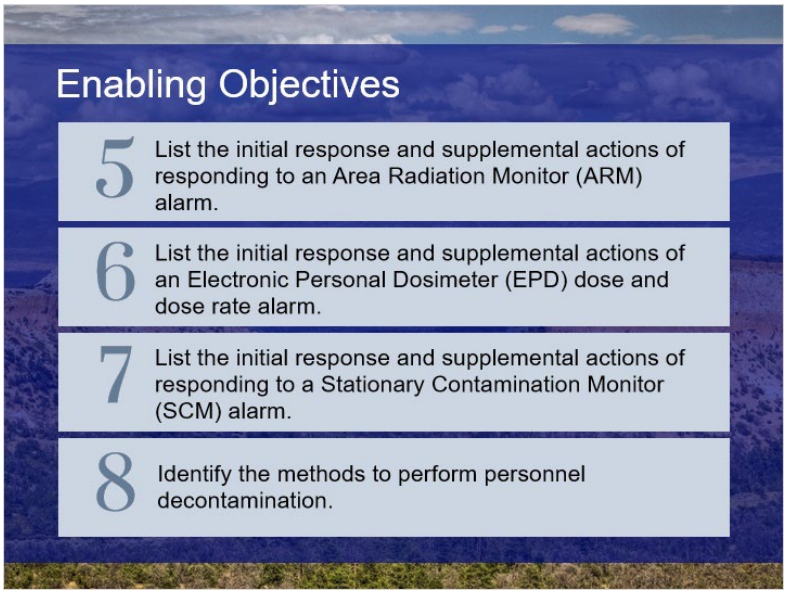
1.3 Terminal Objectives



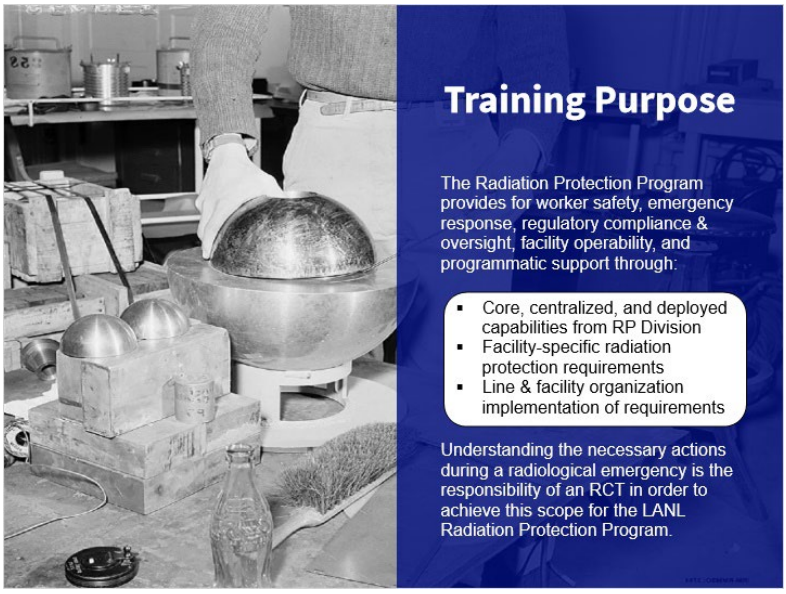
1.4 Enabling Objectives



1.5 Enabling Objectives Cont.

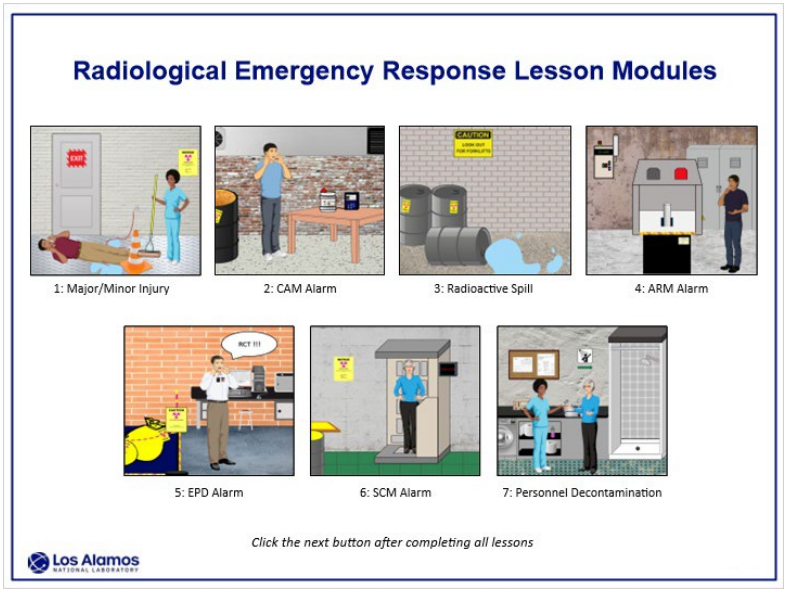


1.6 Training Purpose

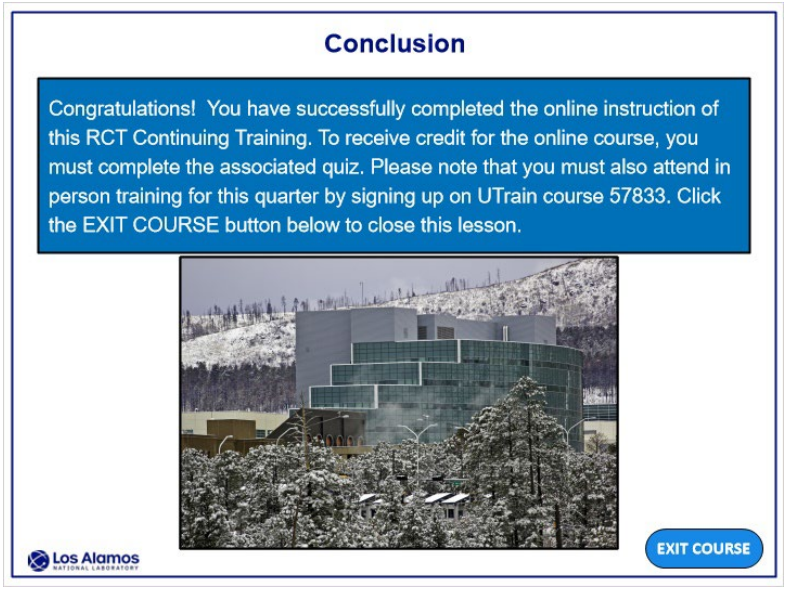


Notes:

1.7 Lesson Modules



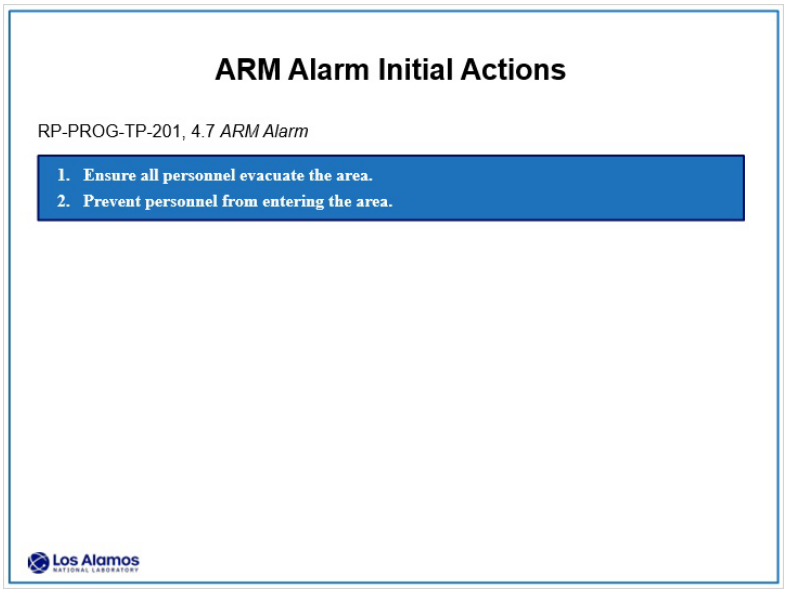
1.8 Conclusion



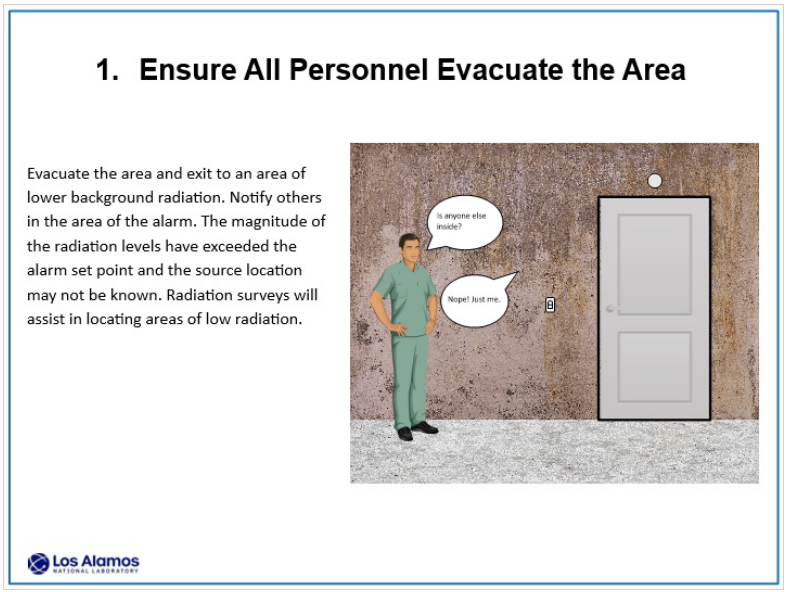
2. ARM Alarm

2.1 ARM Alarm

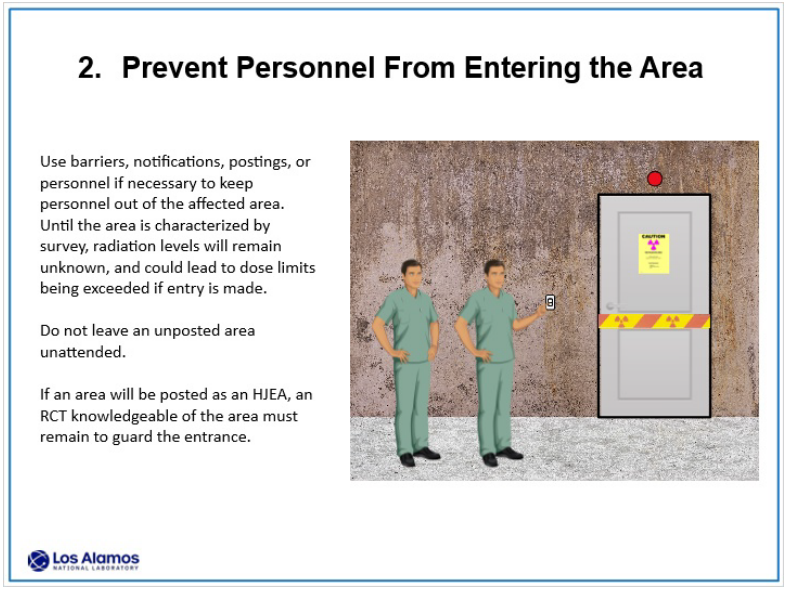
2.2 ARM Alarm Initial Actions



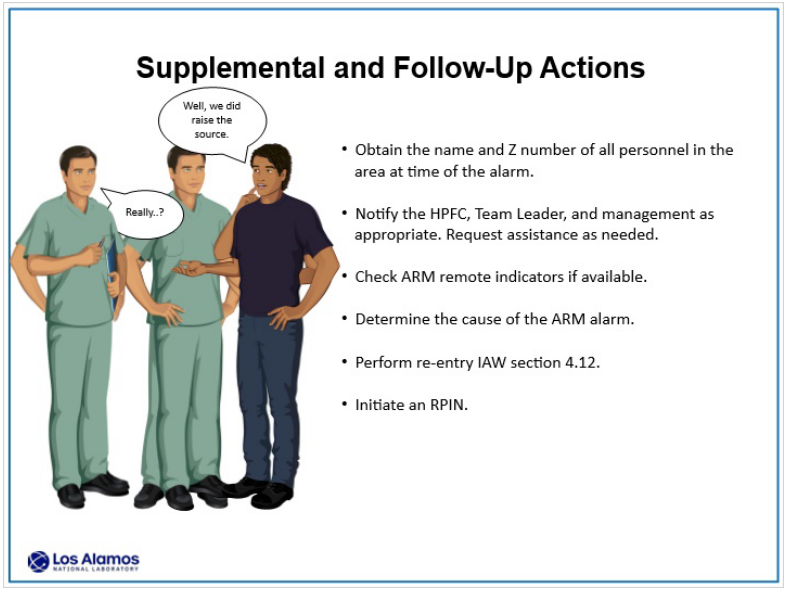
2.3 Evacuate



2.4 Prevent Entry

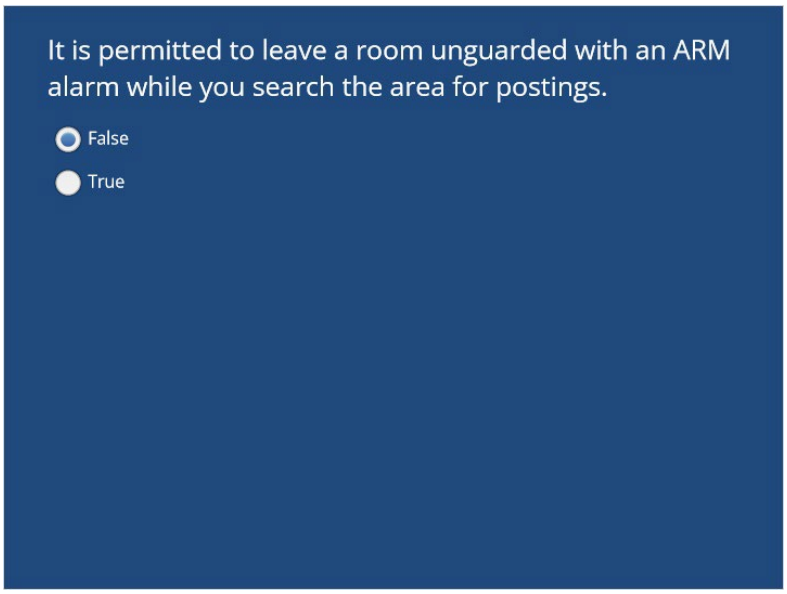


2.5 Supplemental and Follow-Up Actions



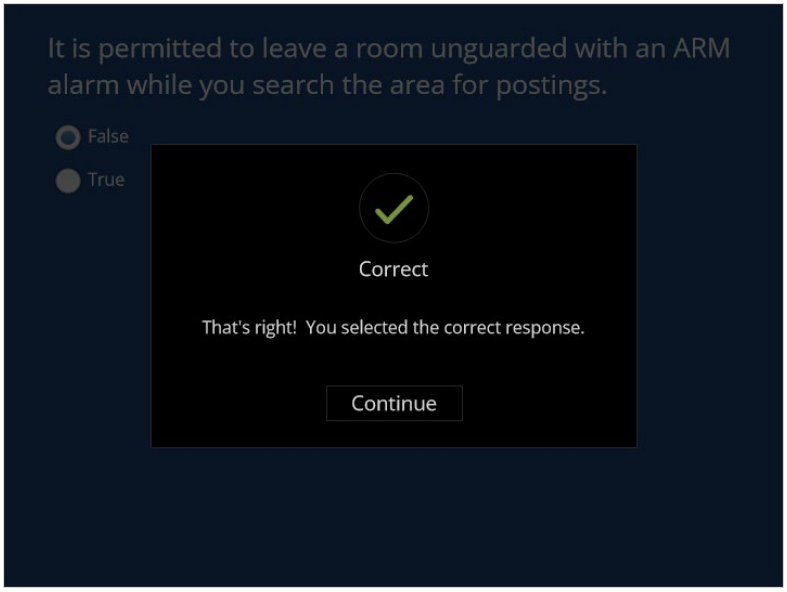
2.6 ARM Alarm Knowledge Check

(True/False, 10 points, 1 attempt permitted)

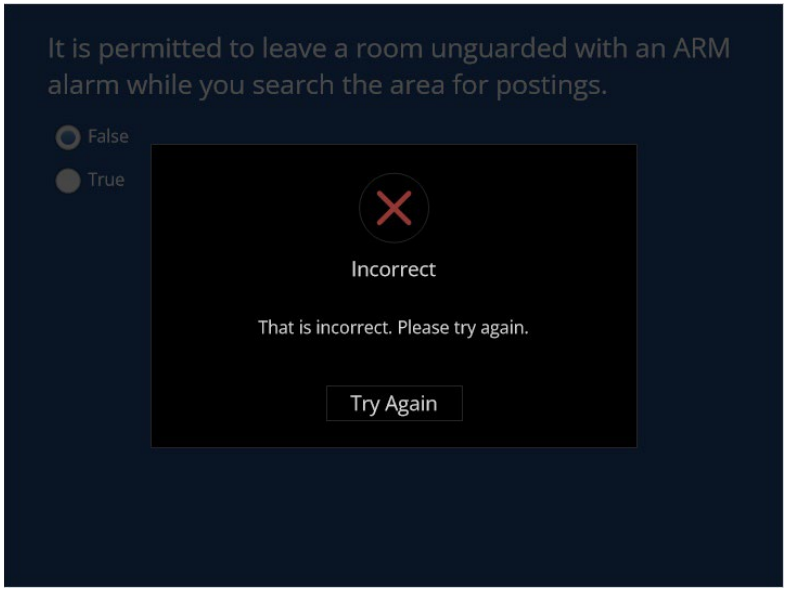


Correct	Choice
X	False
	True

Correct (Slide Layer)



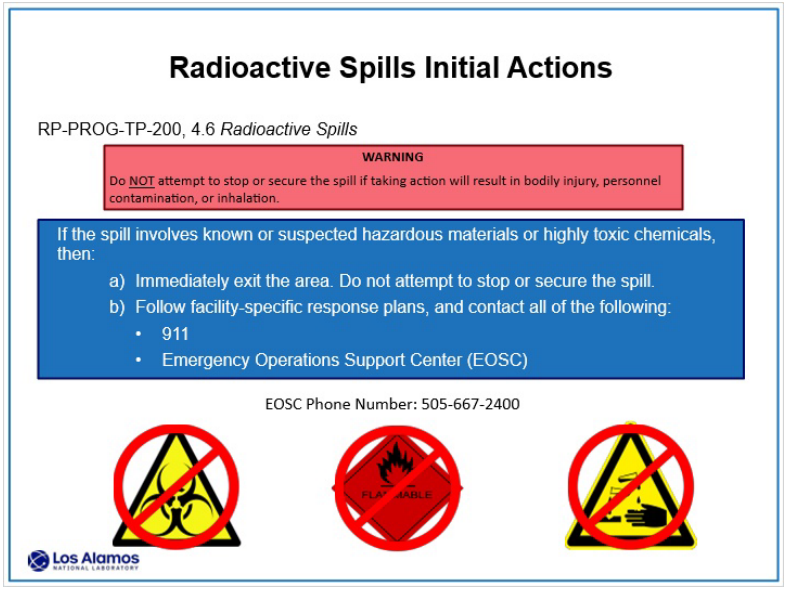
Try Again (Slide Layer)



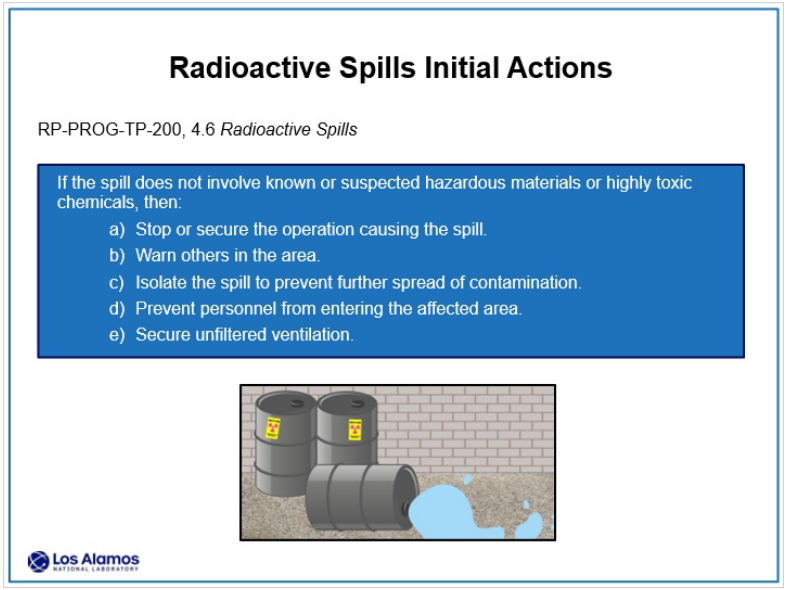
3. Radiological Spill

3.1 Radioactive Spill

3.2 Hazardous Material Exception

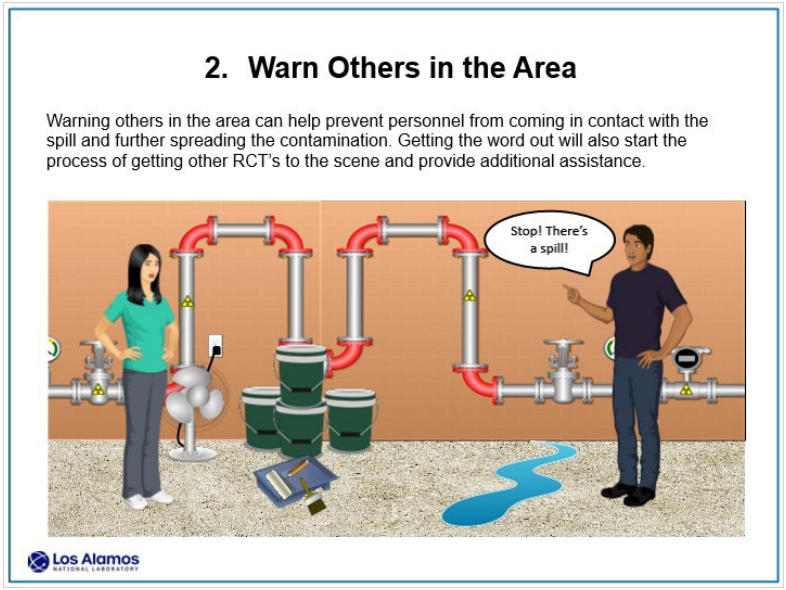


3.3 Initial Response Overview

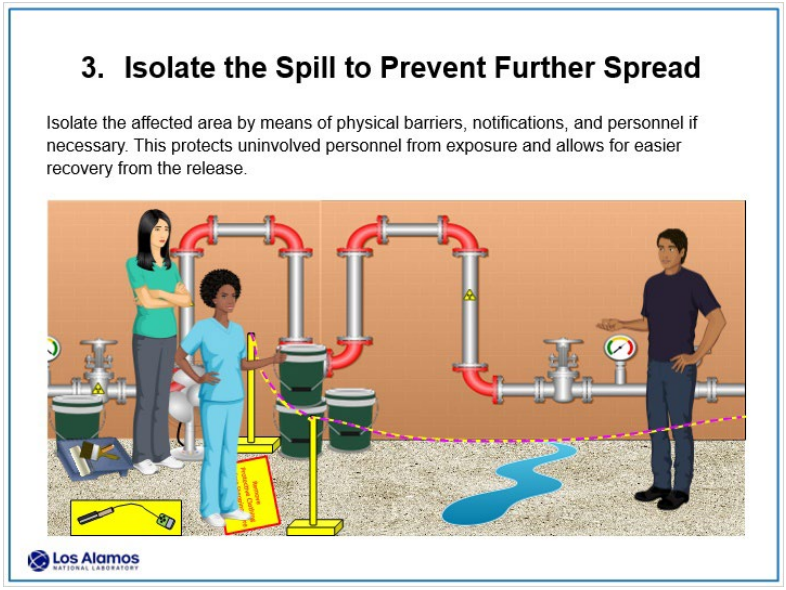


3.4 Stop the Spill

3.5 Warn Others

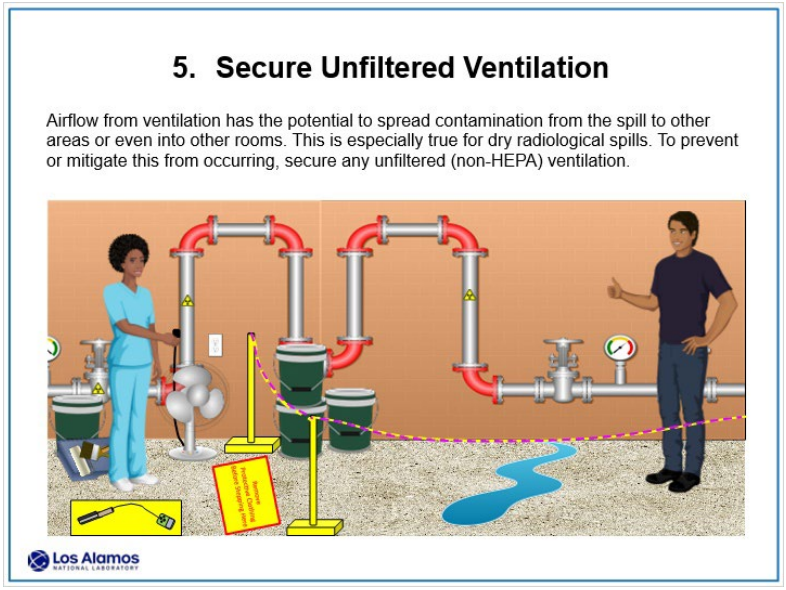


3.6 Isolate the Area

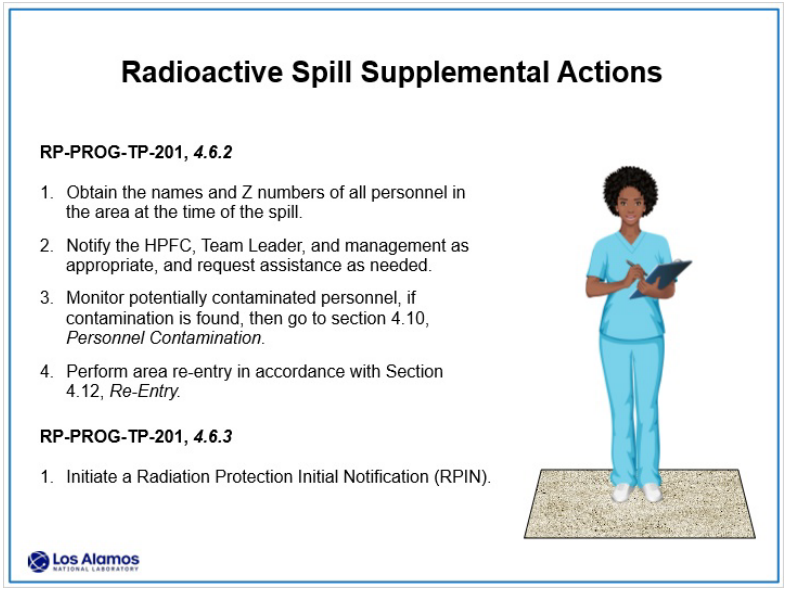


3.7 Prevent Personnel Entry

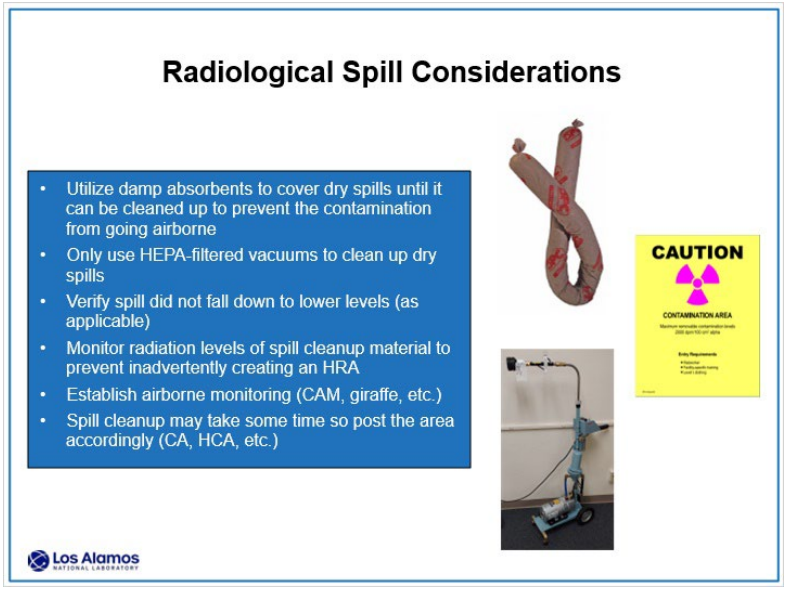
3.8 Secure Unfiltered Ventilation



3.9 Supplemental Actions

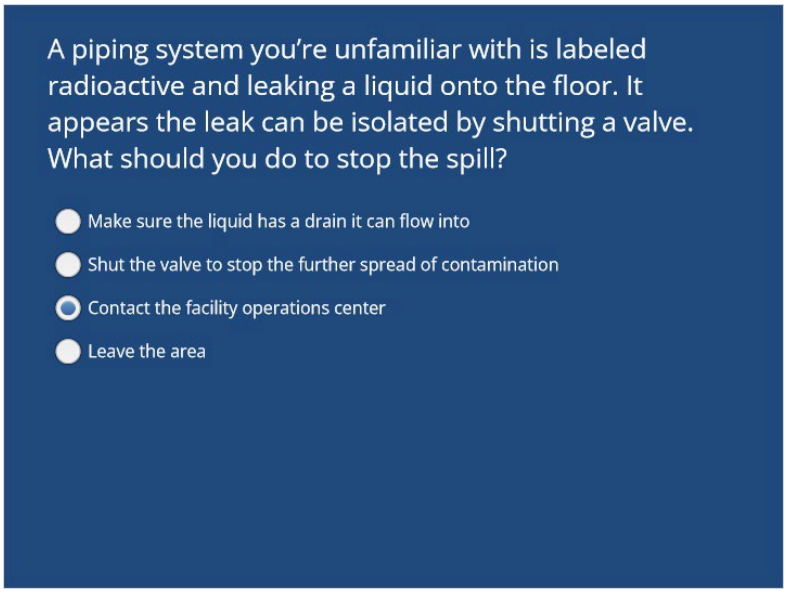


3.10 Additional Spill Considerations



3.11 Radioactive Spill Knowledge Check

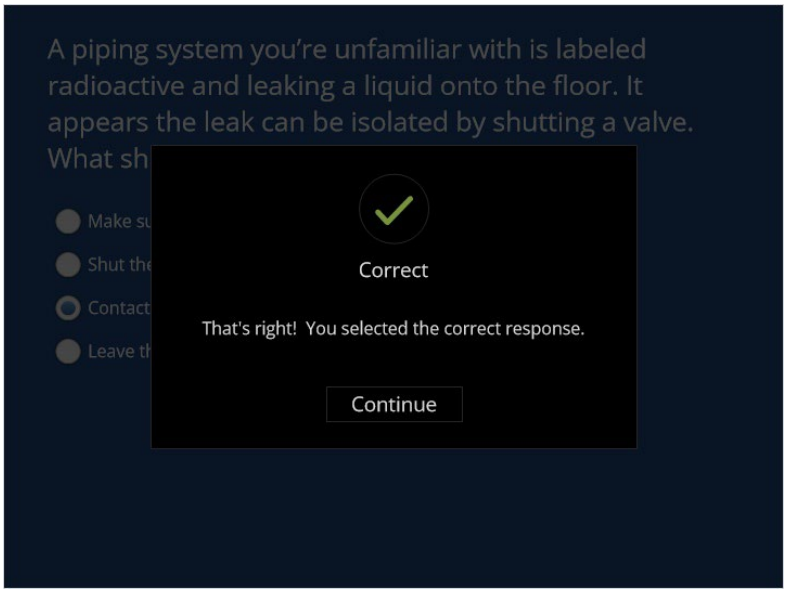
(Multiple Choice, 10 points, unlimited attempts permitted)



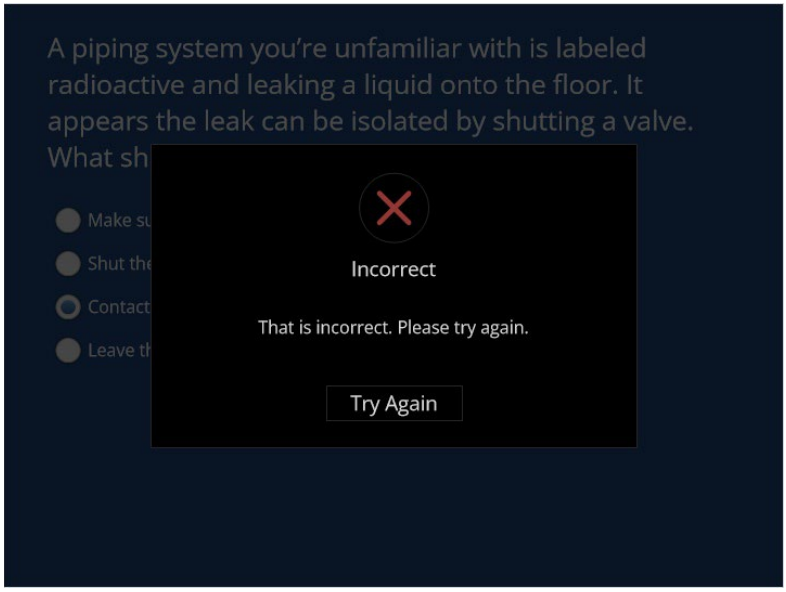
Correct	Choice
	Make sure the liquid has a drain it can flow into

	Shut the valve to stop the further spread of contamination
X	Contact the facility operations center
	Leave the area

Correct (Slide Layer)

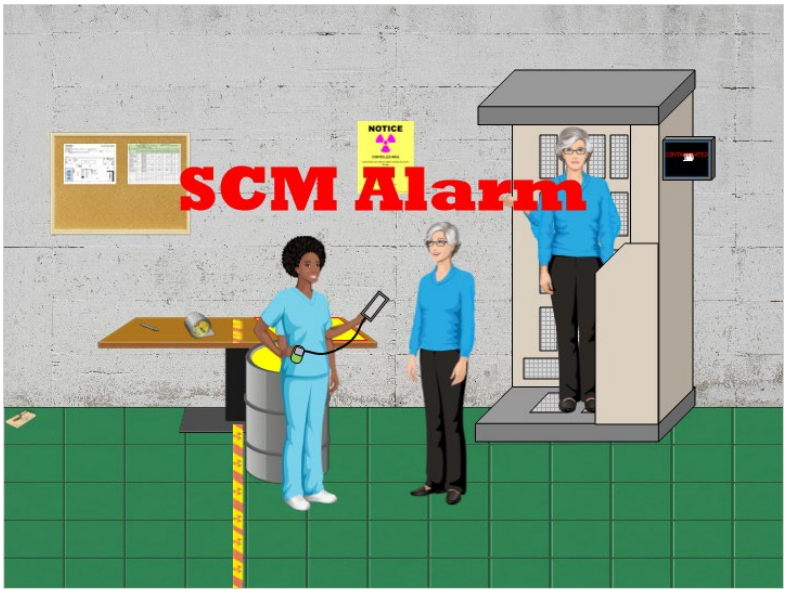


Try Again (Slide Layer)

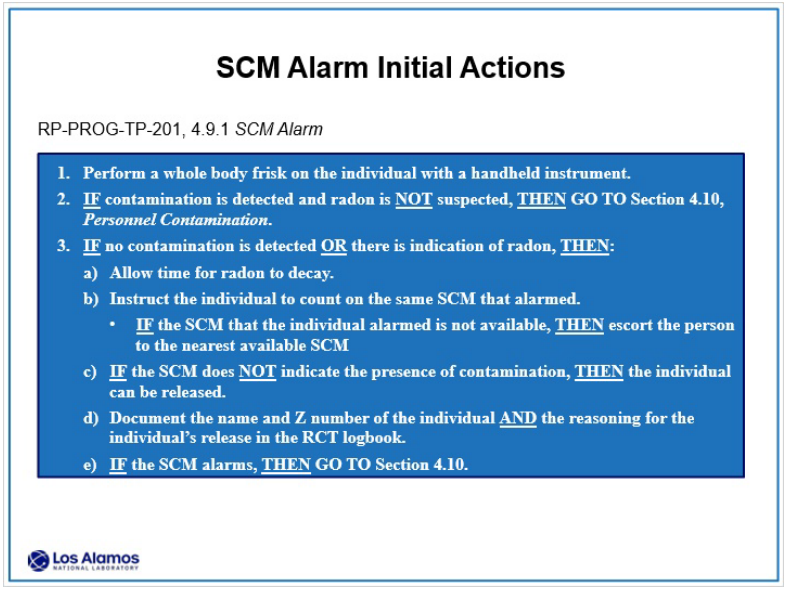


4. SCM Alarm

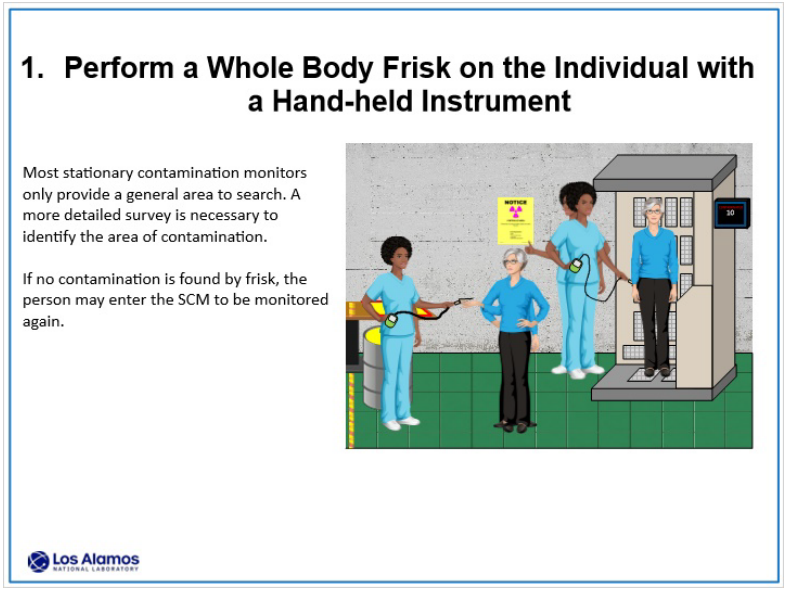
4.1 SCM Alarm



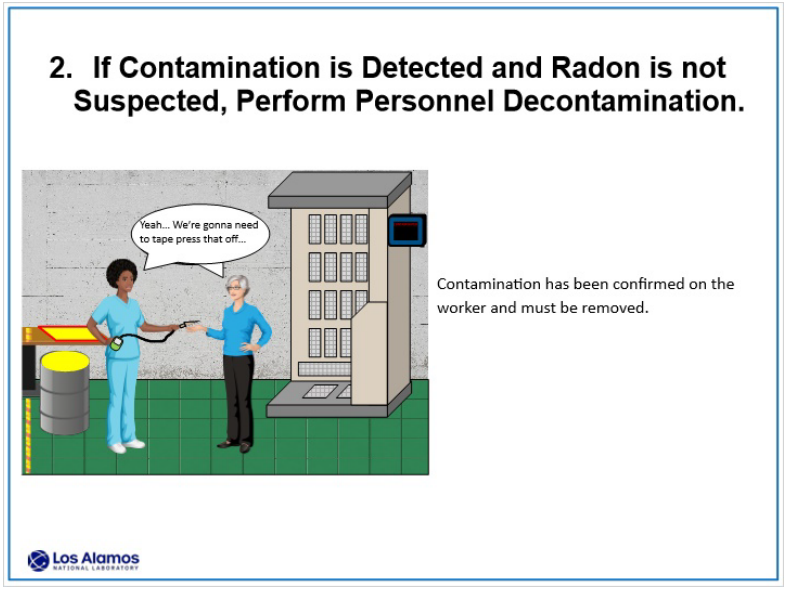
4.2 SCM Alarm Initial Actions



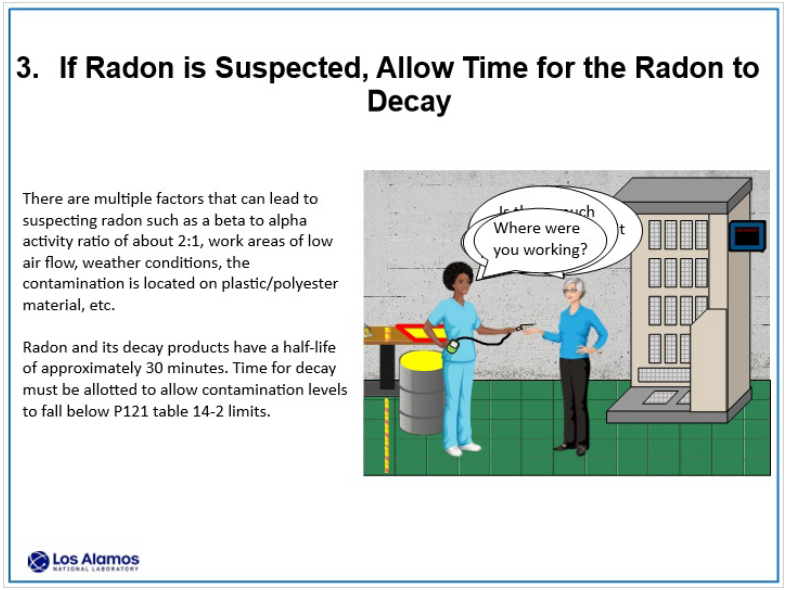
4.3 WBF



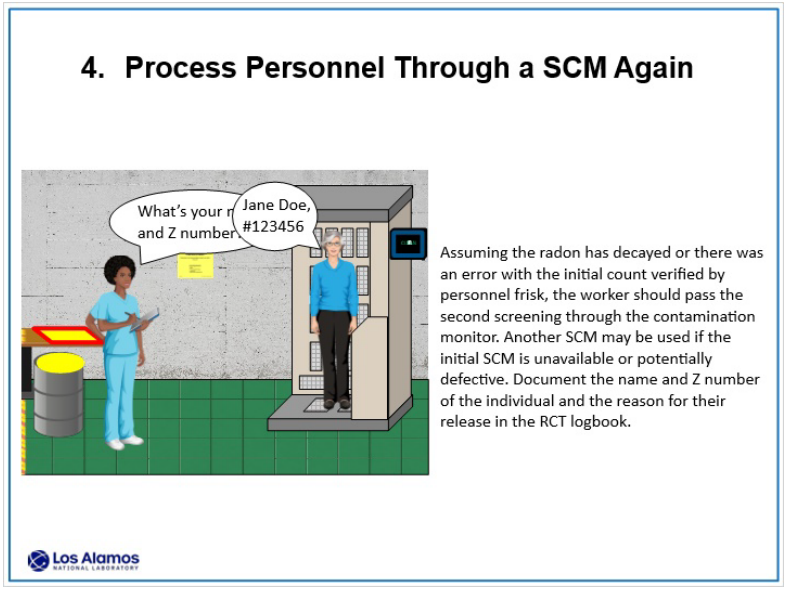
4.4 Finding Contamination



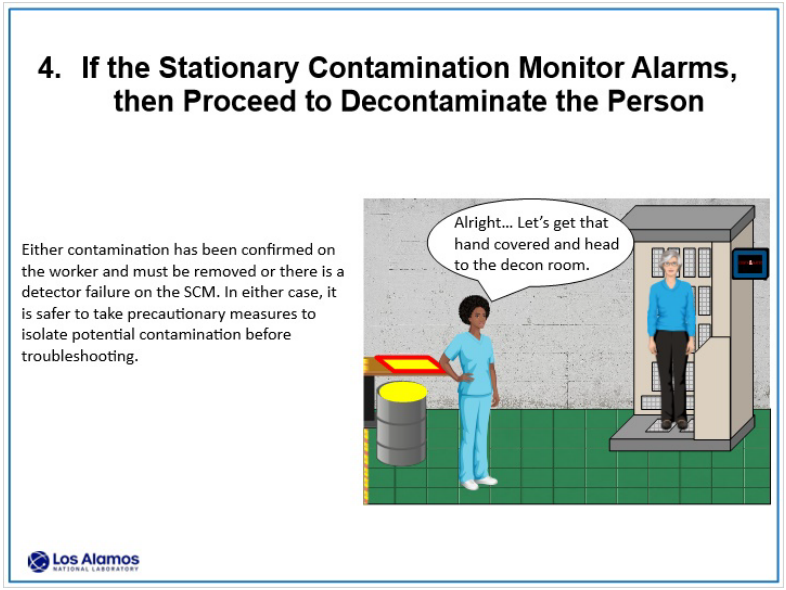
4.5 Radon



4.6 2nd SCM Processing

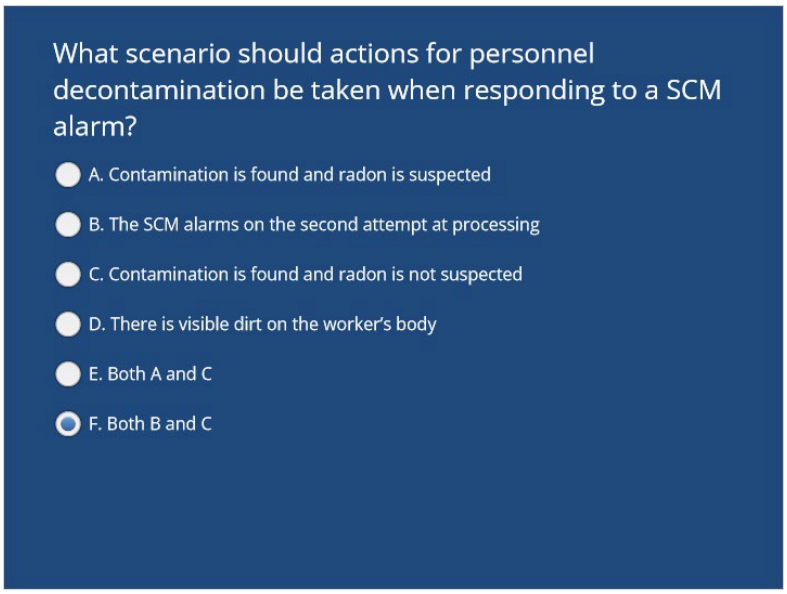


4.7 2nd SCM Alarm



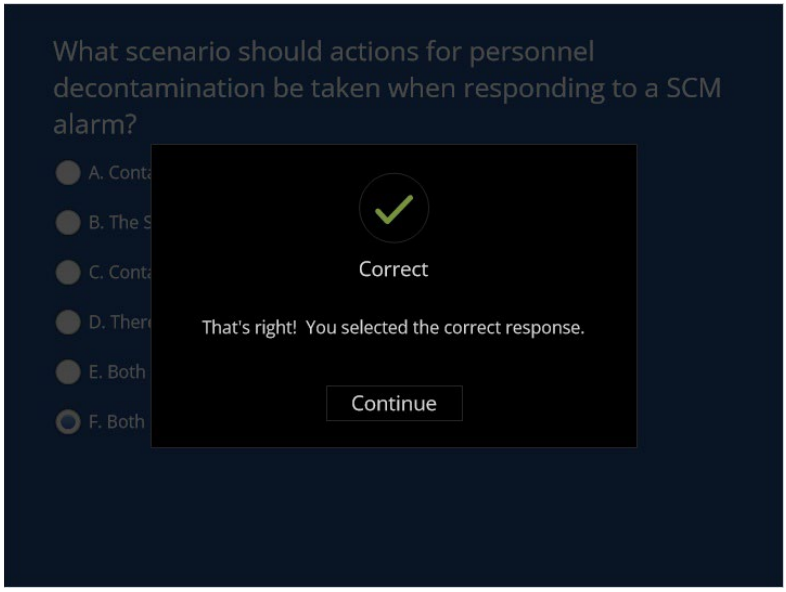
4.8 SCM Alarm Knowledge Check

(Multiple Choice, 10 points, unlimited attempts permitted)

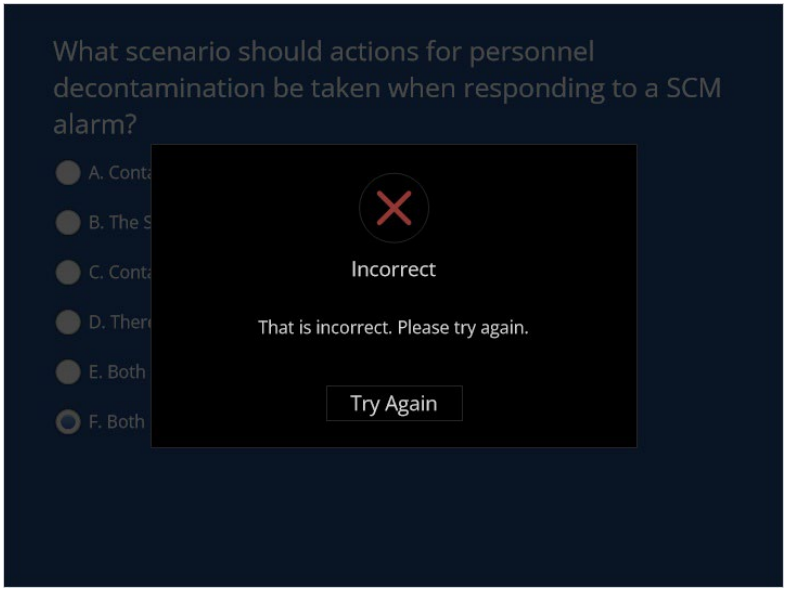


Correct	Choice
	A. Contamination is found and radon is suspected
	B. The SCM alarms on the second attempt at processing
	C. Contamination is found and radon is not suspected
	D. There is visible dirt on the worker's body
	E. Both A and C
X	F. Both B and C

Correct (Slide Layer)



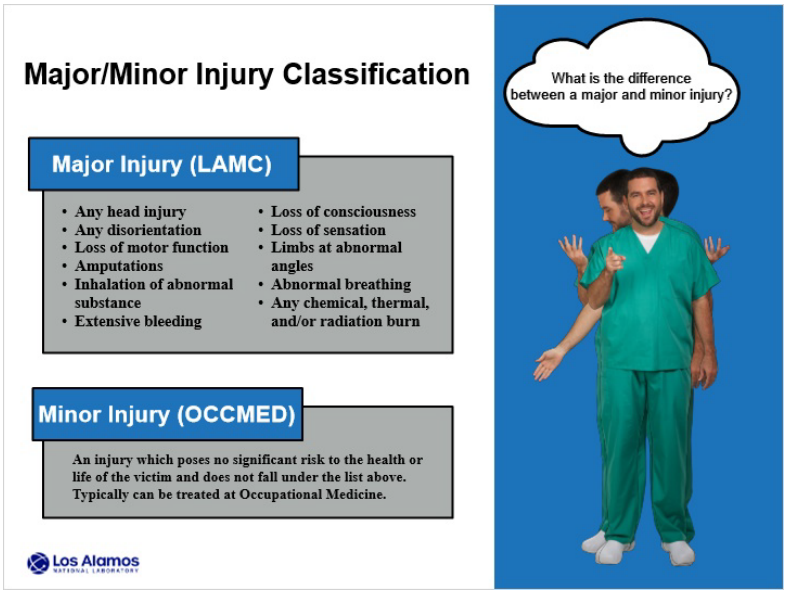
Try Again (Slide Layer)



5. Major/Minor Injury

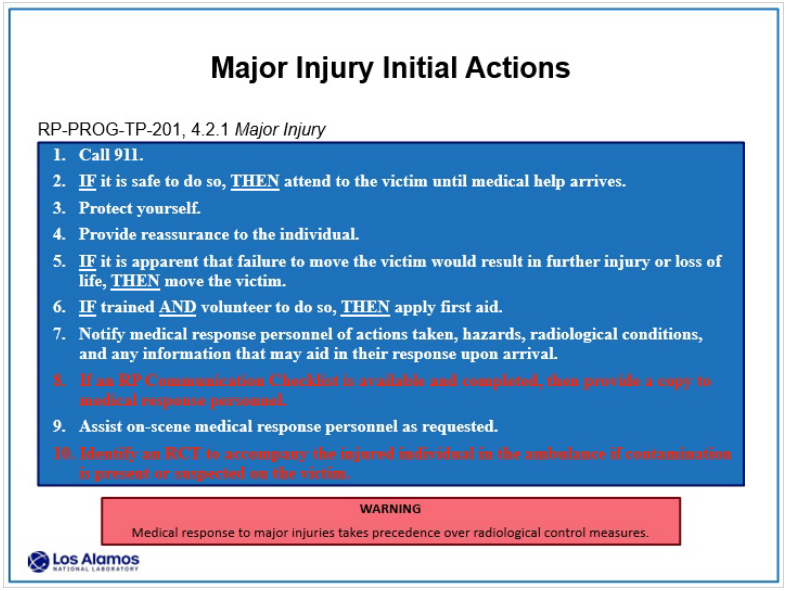
5.1 Major/Minor Injury

5.2 Injury Classification

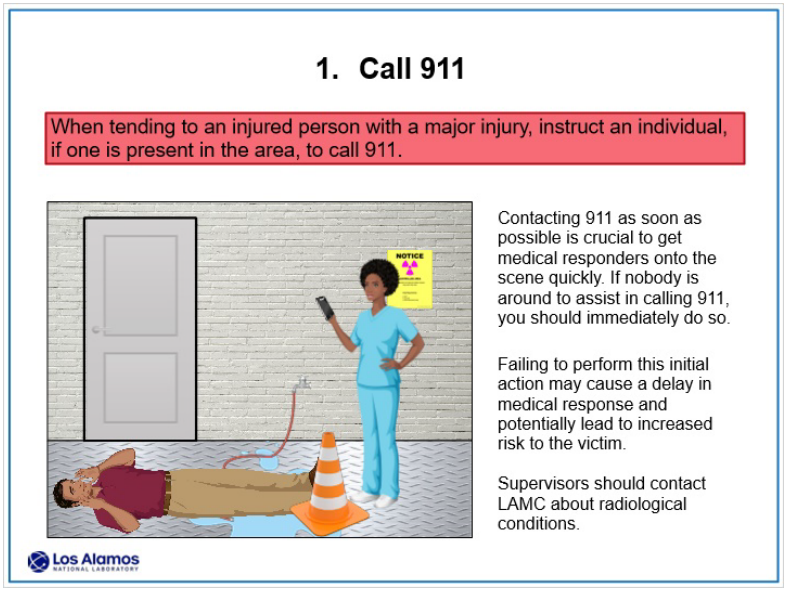


Notes:

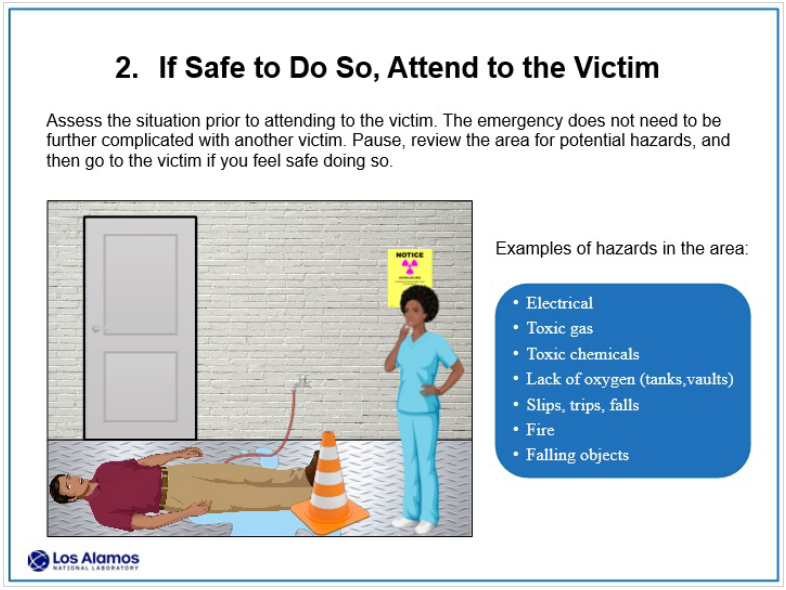
5.3 Major Injury Initial Response



5.4 Call 911

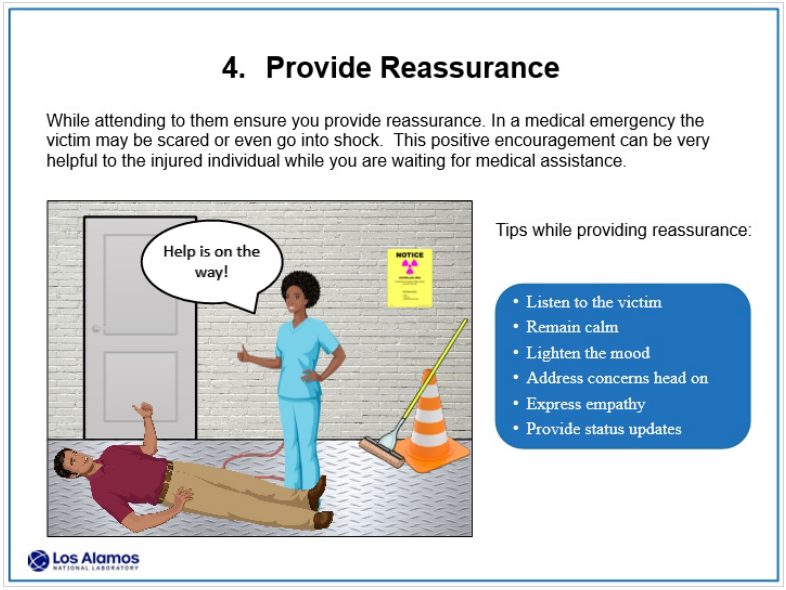


5.5 Attend to the Victim

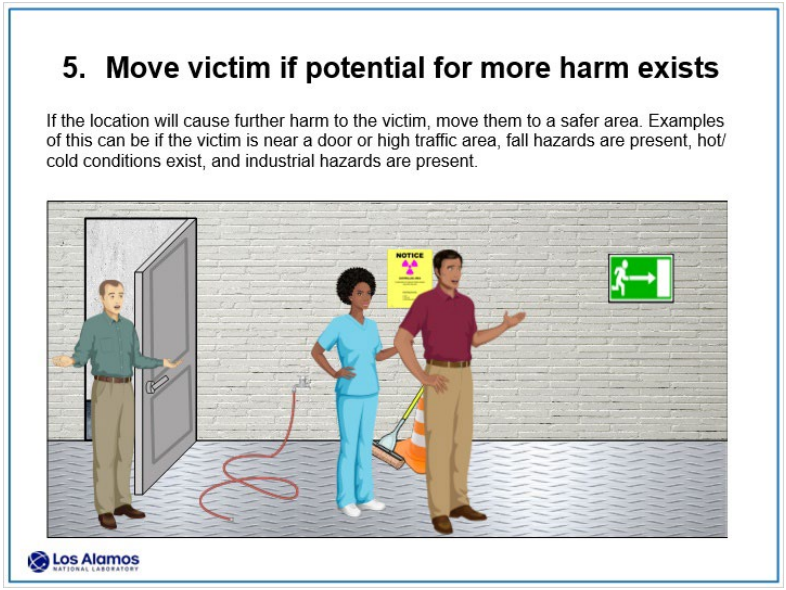


5.6 Protect Yourself

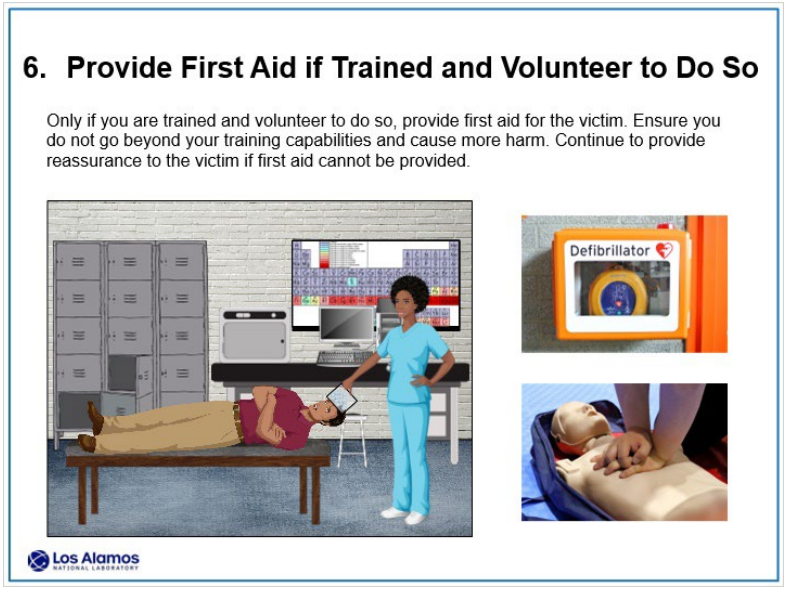
5.7 Provide Reassurance



5.8 Move Victim

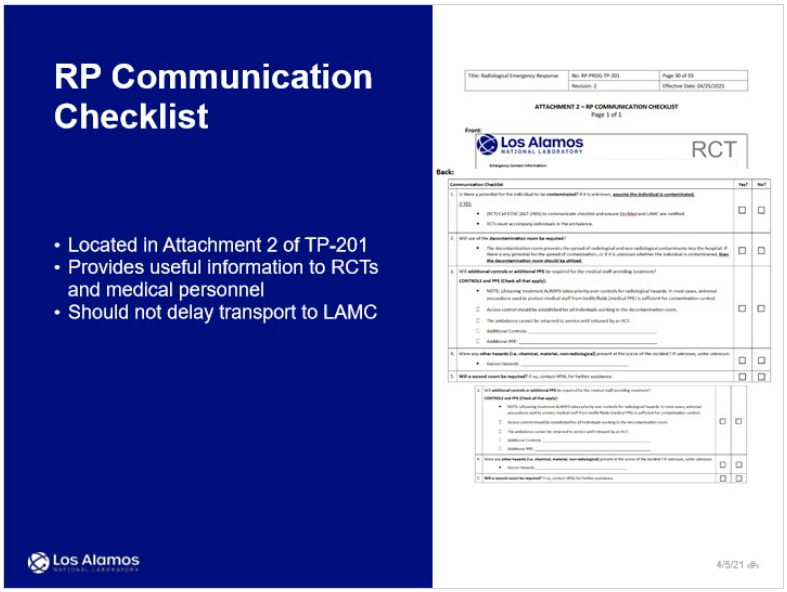


5.9 Provide First Aid



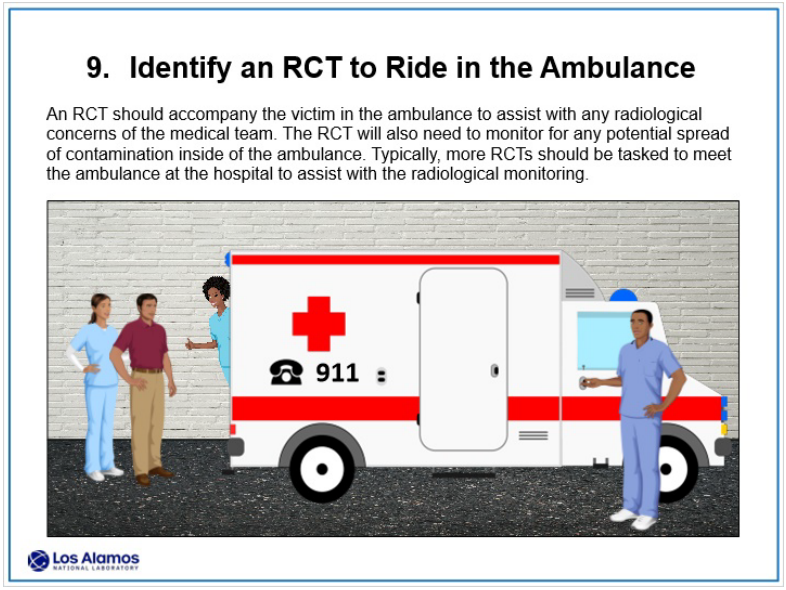
5.10 Brief Medics

5.11 RP Communications Checklist



5.12 Assist Medics

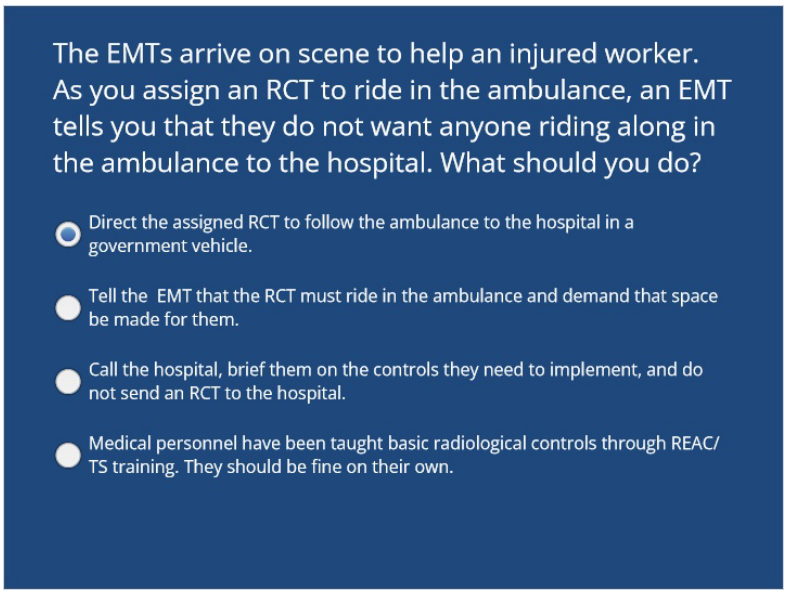
5.13 Ride in Ambulance



5.14 Medical Staff Training for Response to a Major Injury

5.15 Knowledge Check 1

(Multiple Choice, 10 points, unlimited attempts permitted)

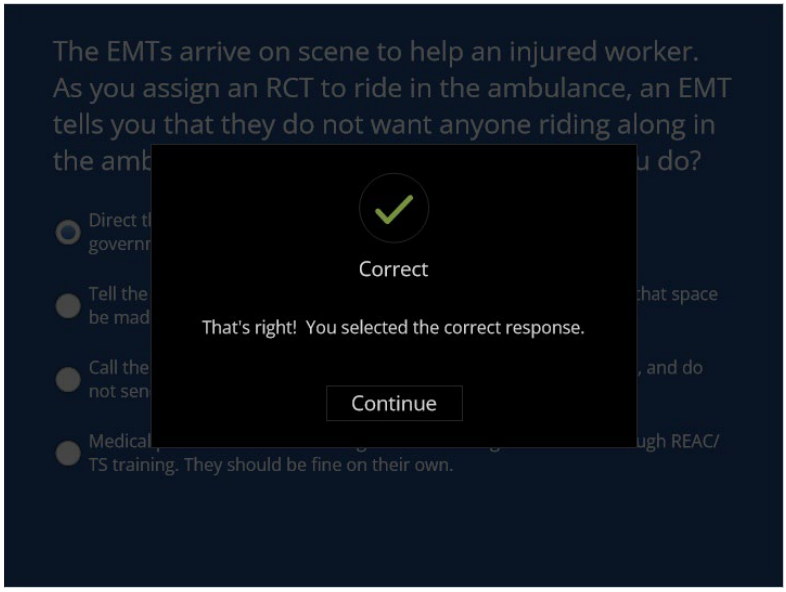


Correct	Choice
X	Direct the assigned RCT to follow the ambulance to the hospital in a government vehicle.
	Tell the EMT that the RCT must ride in the ambulance and demand that space be made for them.
	Call the hospital, brief them on the controls they need to implement, and do not send an RCT to the hospital.
	Medical personnel have been taught basic radiological controls through REAC/TS training. They should be fine on their own.

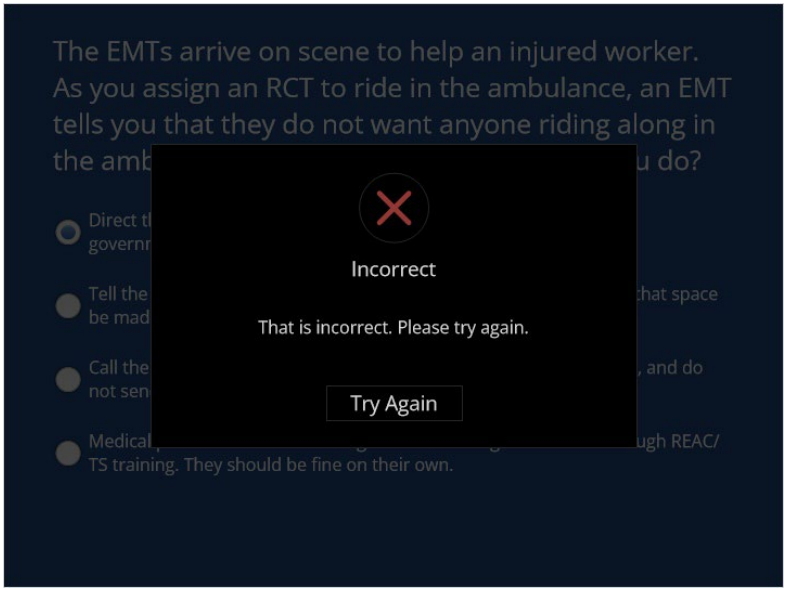
Feedback when correct:

That's right! You selected the correct response.

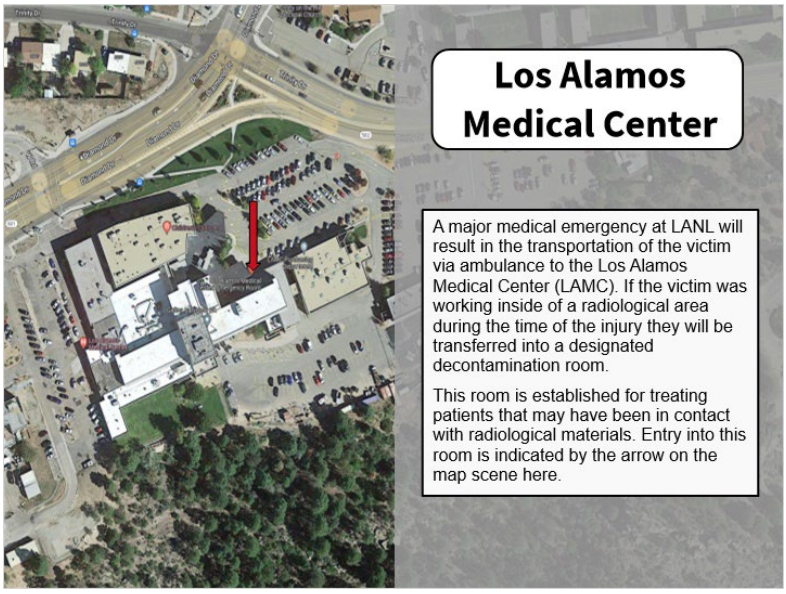
Correct (Slide Layer)



Try Again (Slide Layer)

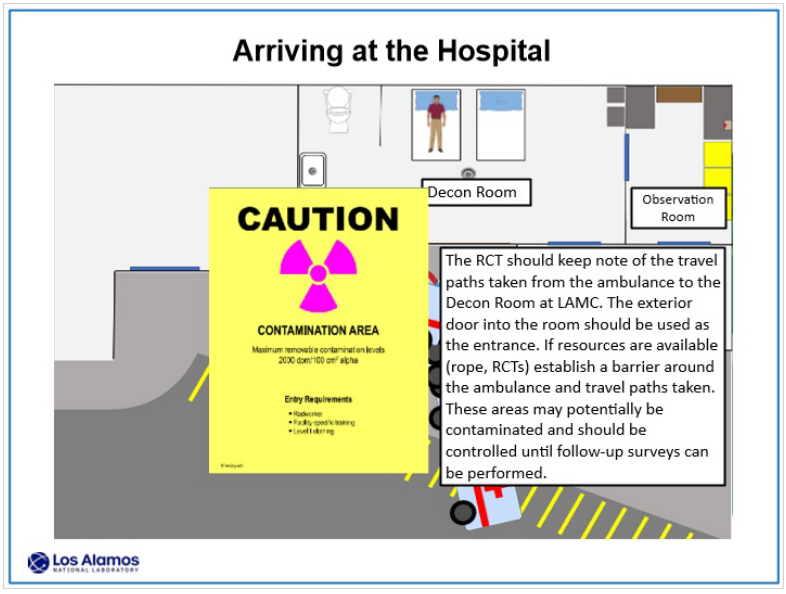


5.16 LAMC Arrival

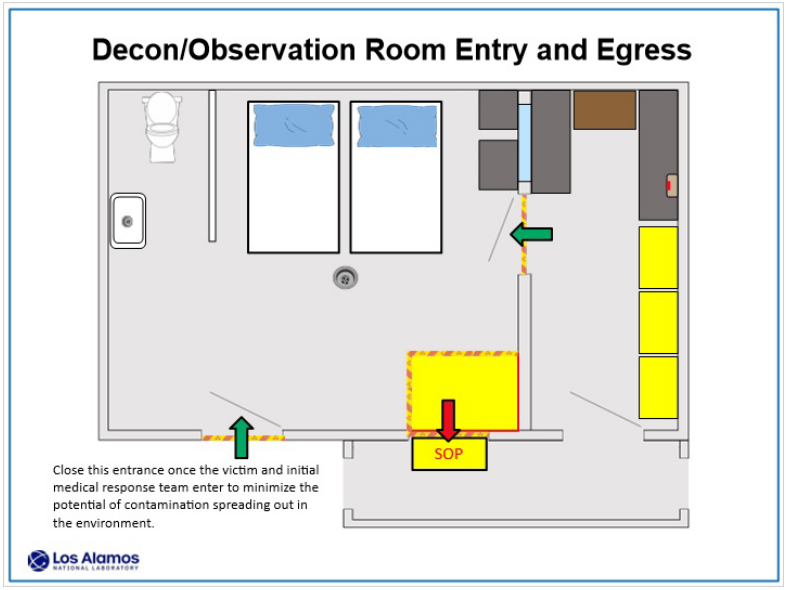


Notes:

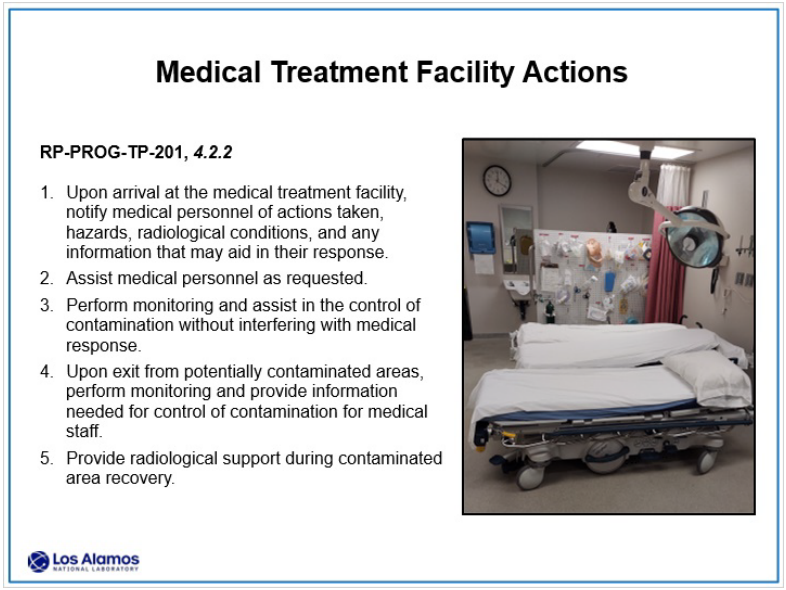
5.17 LAMC Arrival Cont.



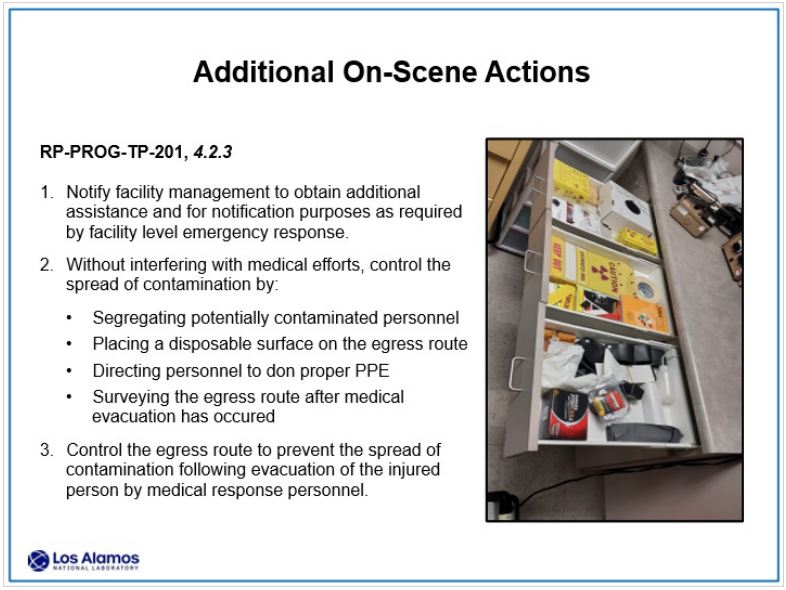
5.18 Decon/Observation Room Entry and Egress



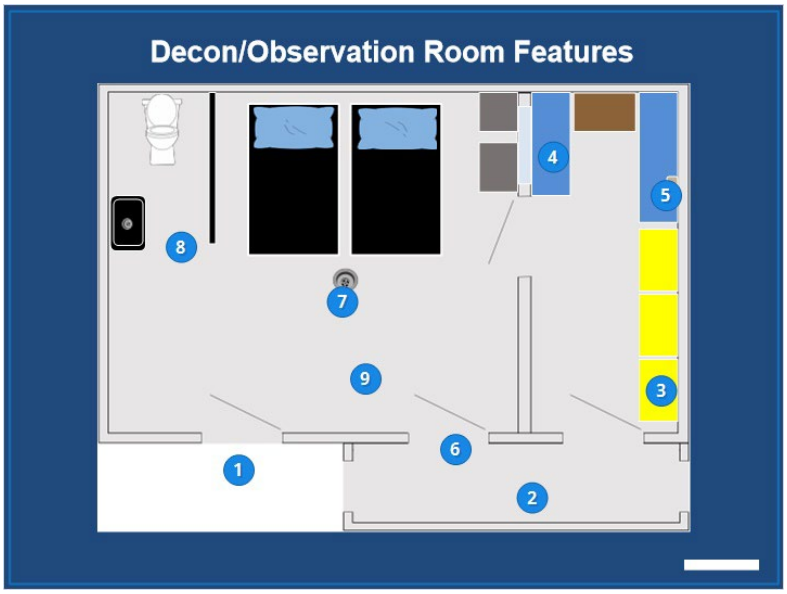
5.19 LAMC Coverage



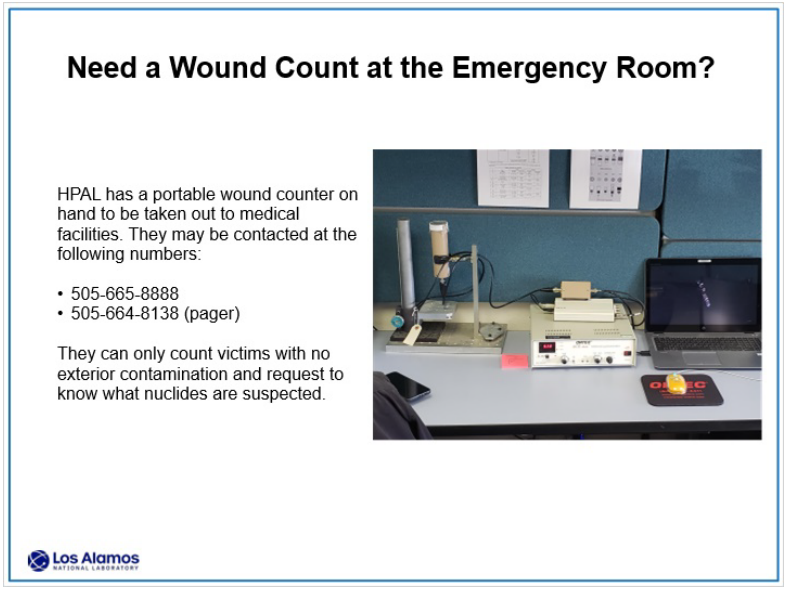
5.20 Additional On Scene Actions



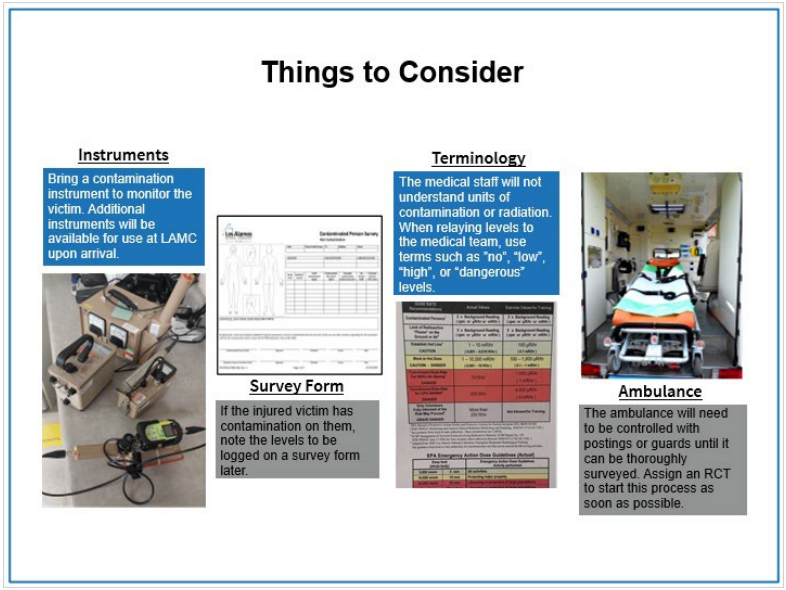
5.21 Decon/Observation Room Features



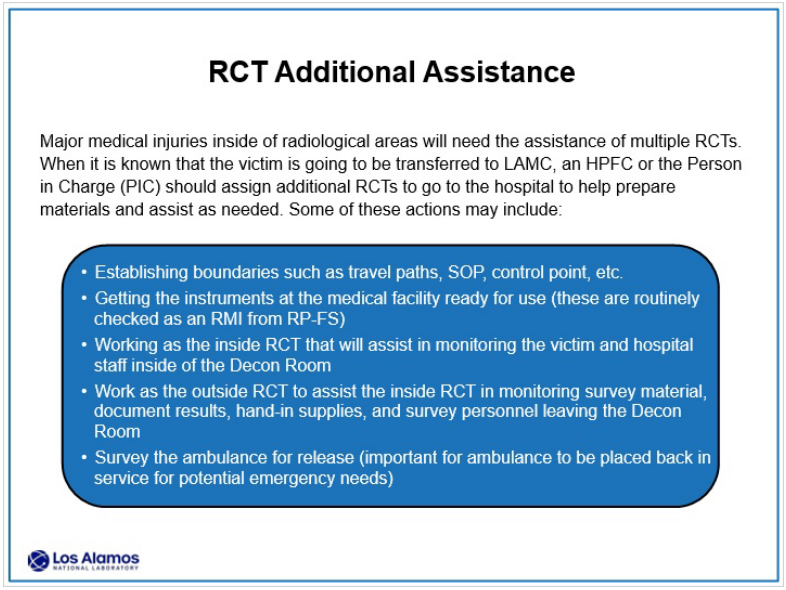
5.22 LAMC Wound Count



5.23 Additional LAMC Tips

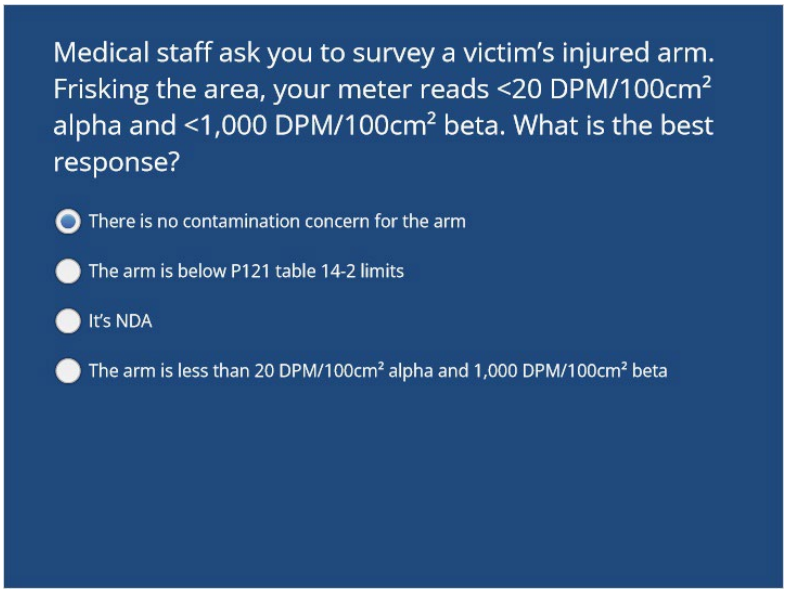


5.24 Additional RCT Assistance



5.25 Major Injury Knowledge Check 2

(Multiple Choice, 10 points, unlimited attempts permitted)



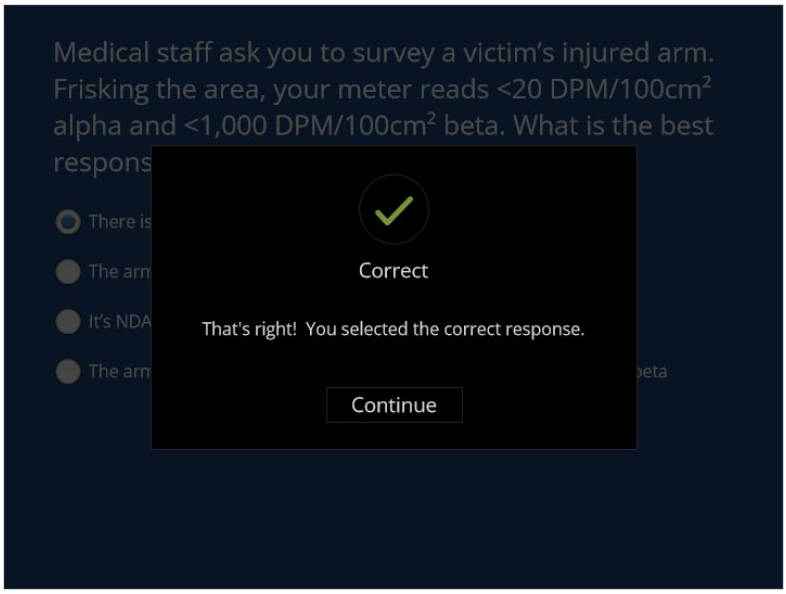
Correct	Choice
X	There is no contamination concern for the arm

	The arm is below P121 table 14-2 limits
	It’s NDA
	The arm is less than 20 DPM/100cm² alpha and 1,000 DPM/100cm² beta

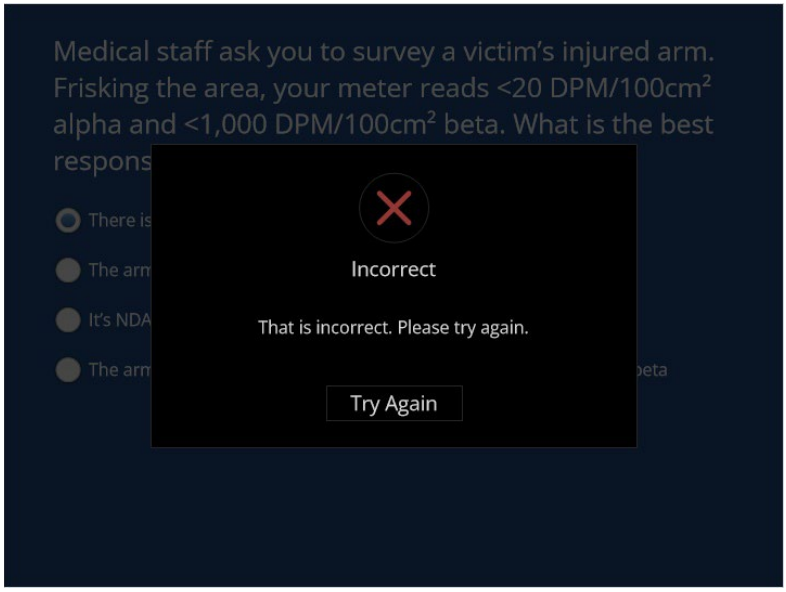
Feedback when correct:

That's right! You selected the correct response.

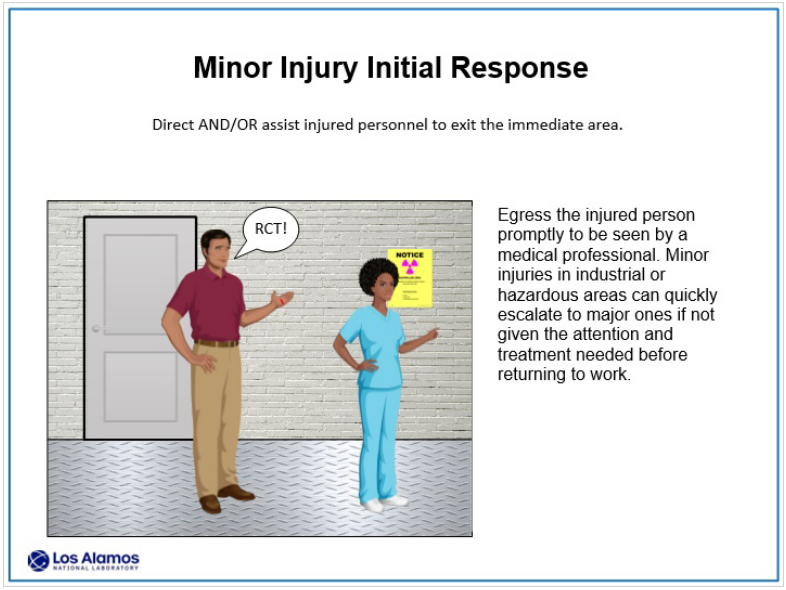
Correct (Slide Layer)



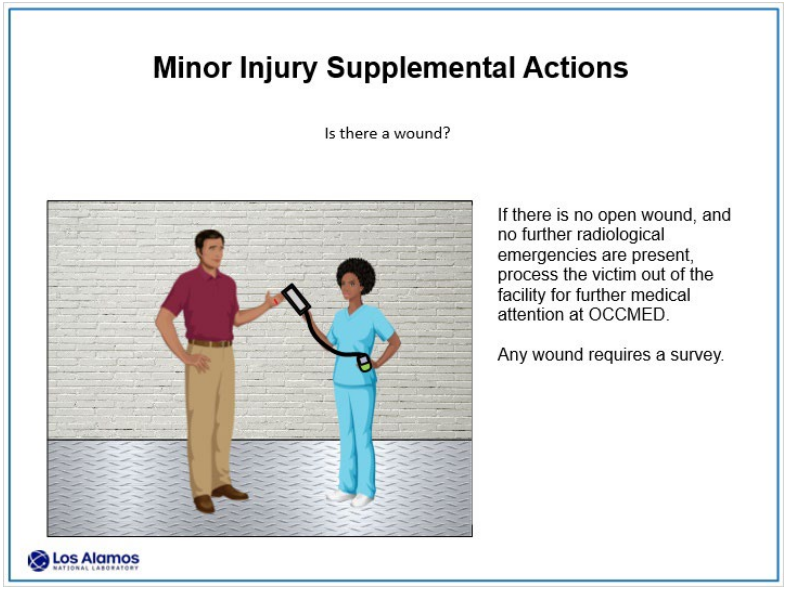
Try Again (Slide Layer)



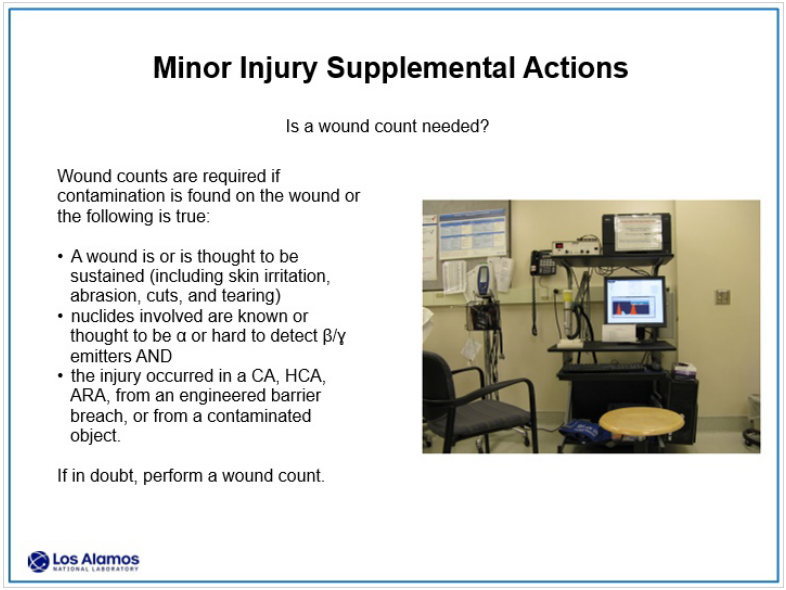
5.26 Minor Injury



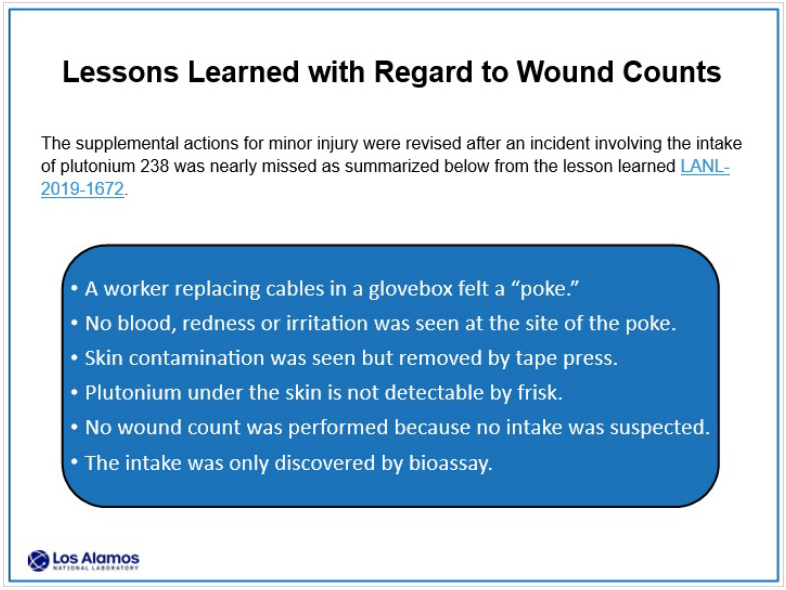
5.27 Wound Actions



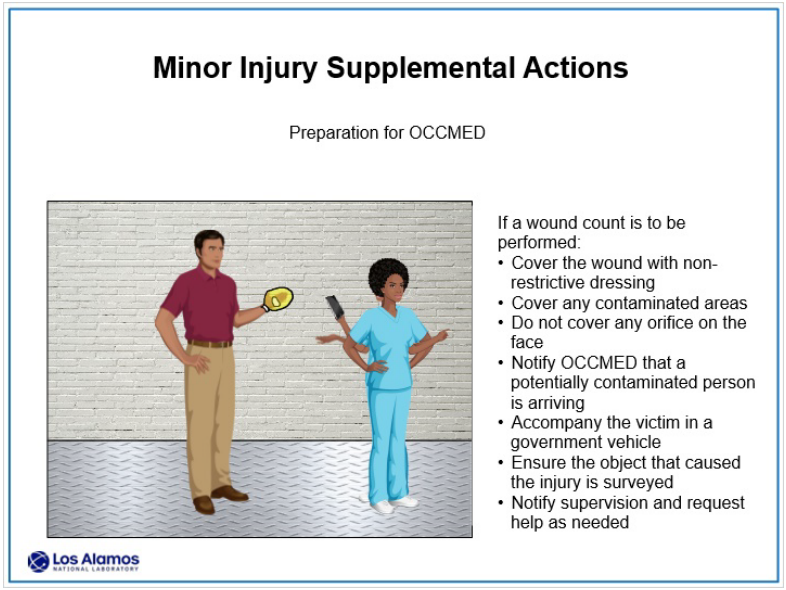
5.28 Wound Count



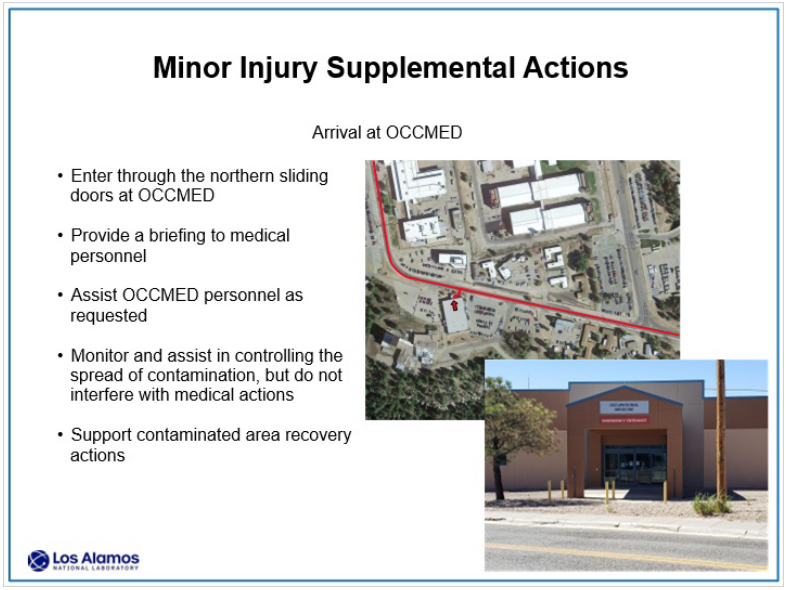
5.29 Lessons Learned



5.30 Prep for OCCMED

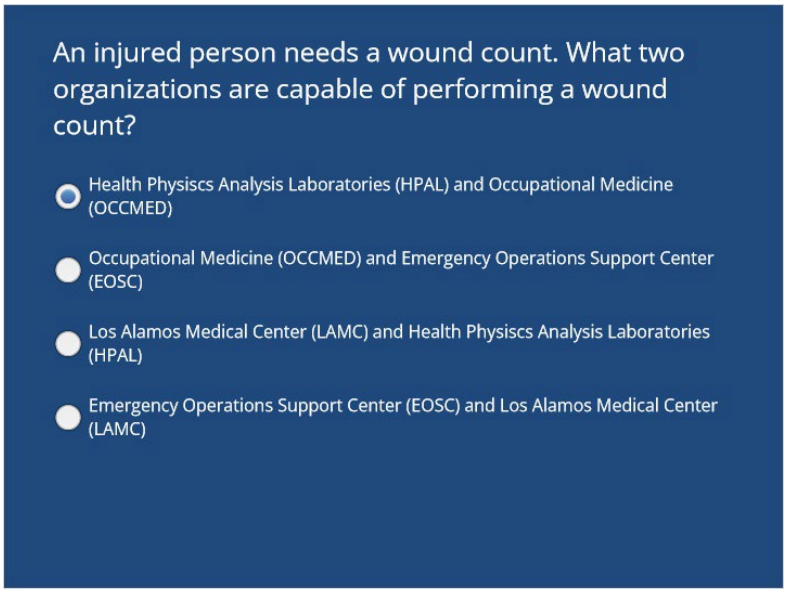


5.31 OCCMED Arrival



5.32 Minor Injury Knowledge Check

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
X	Health Physiscs Analysis Laboratories (HPAL) and Occupational Medicine

	(OCCMED)
	Occupational Medicine (OCCMED) and Emergency Operations Support Center (EOSC)
	Los Alamos Medical Center (LAMC) and Health Physiscs Analysis Laboratories (HPAL)
	Emergency Operations Support Center (EOSC) and Los Alamos Medical Center (LAMC)

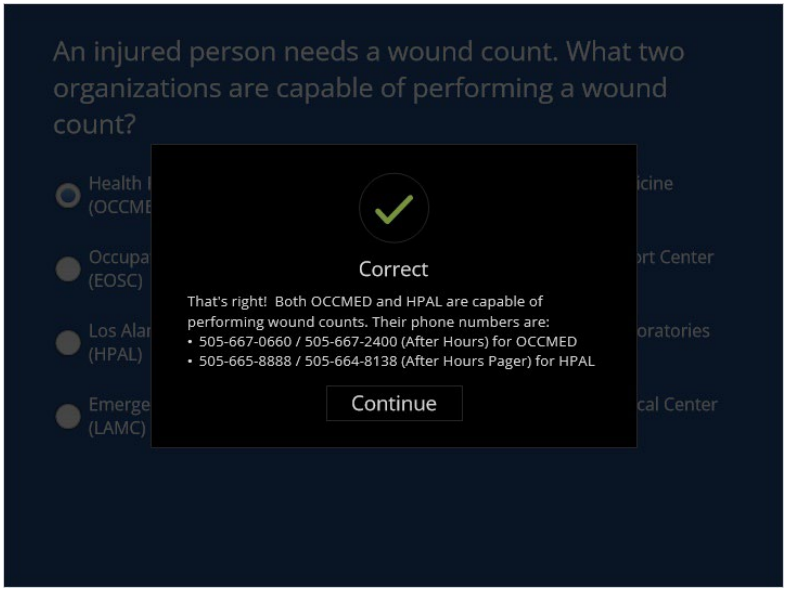
Feedback when correct:

That's right! Both OCCMED and HPAL are capable of performing wound counts. Their phone numbers are:

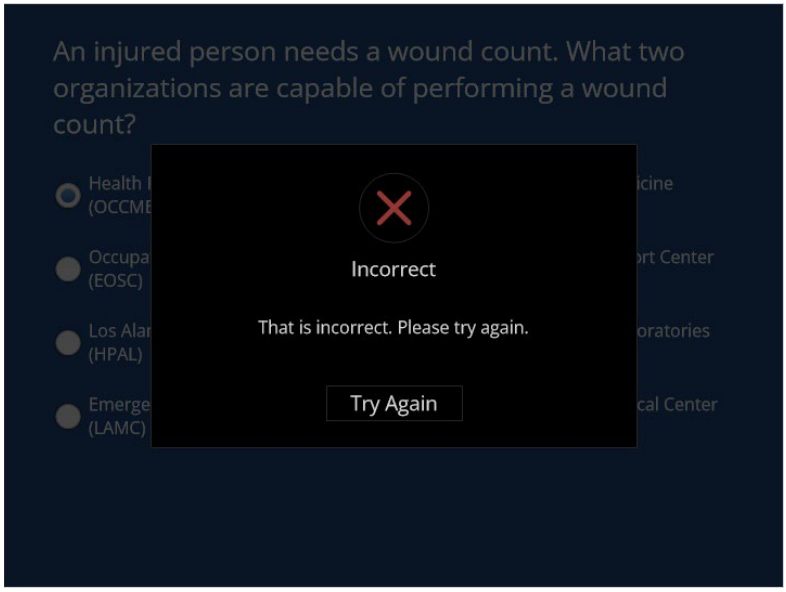
505-667-0660 / 505-667-2400 (After Hours) for OCCMED

505-665-8888 / 505-664-8138 (After Hours Pager) for HPAL

Correct (Slide Layer)

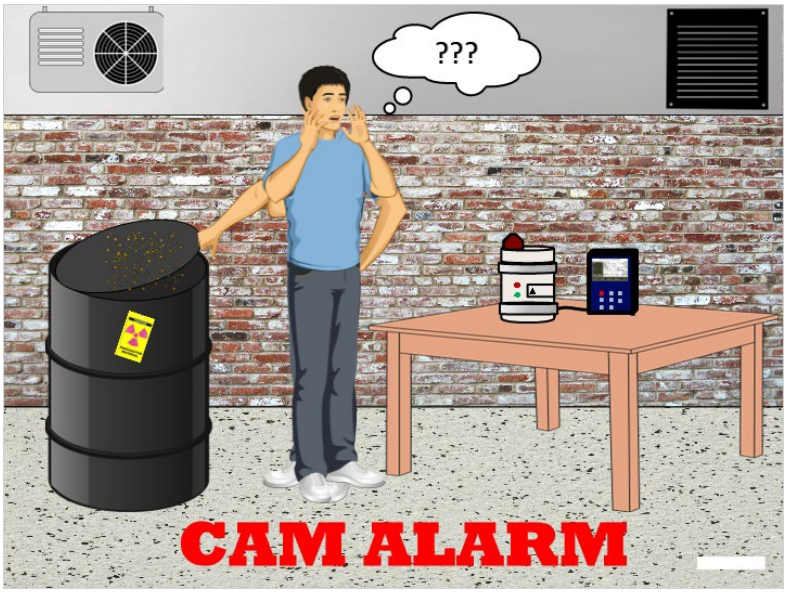


Try Again (Slide Layer)

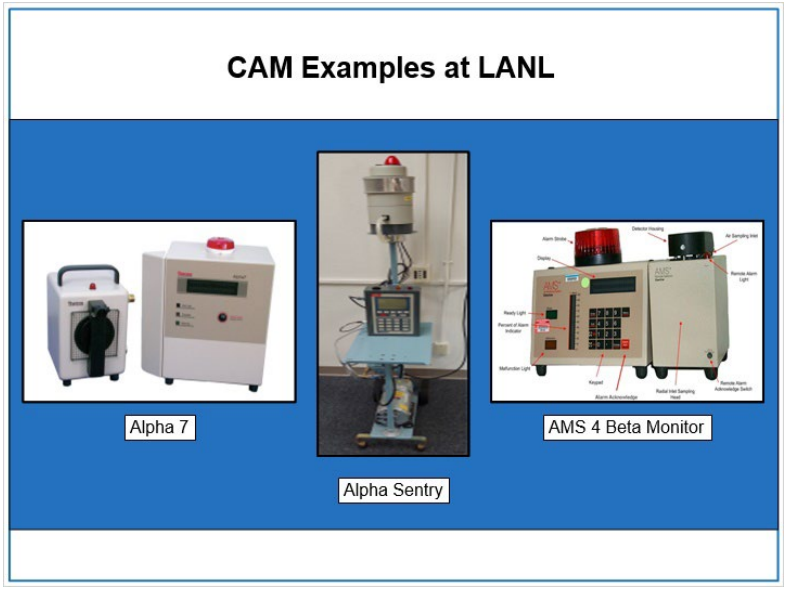


6. CAM Alarm

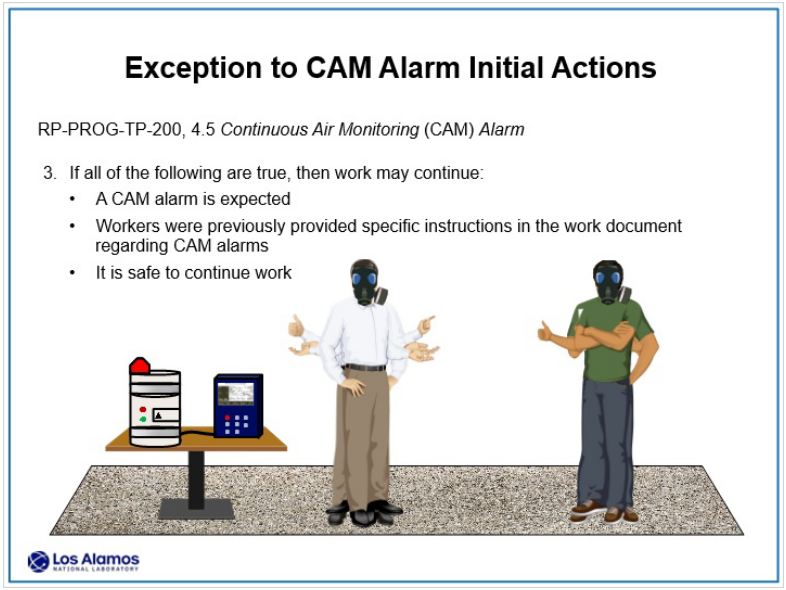
6.1 CAM Alarm



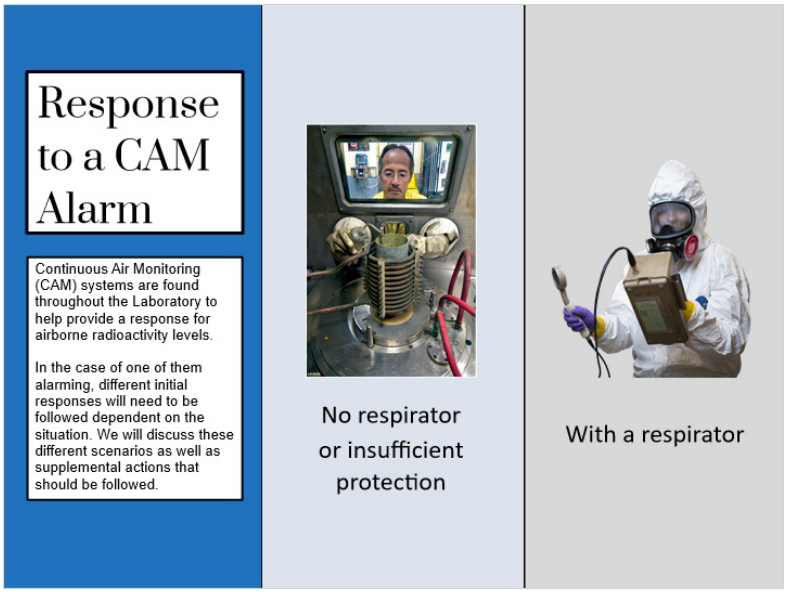
6.2 Different Types of CAMs



6.3 Exception to CAM Alarms

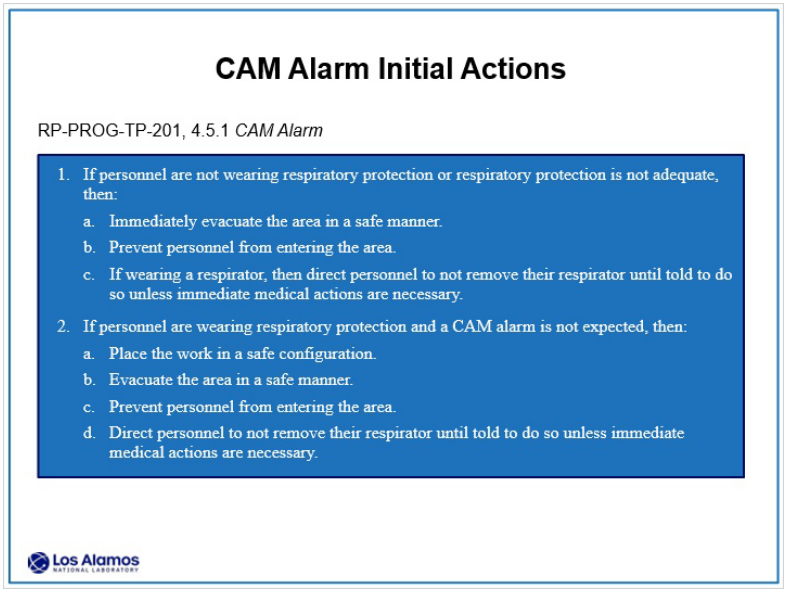


6.4 The Two Types of CAM Alarm Response



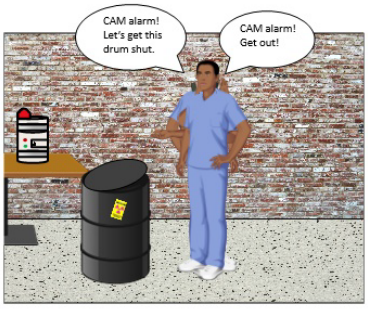
Notes:

6.5 Initial Response Overview



6.6 Evacuation

Evacuation



Without sufficient respiratory protection, all personnel must evacuate the area immediately, minimizing exposure to airborne radioactivity.

When there is sufficient protection, there is less risk to personnel and they may take time to place work in a safe condition prior to evacuation, which may isolate the source of airborne radioactivity and prevent its spread.

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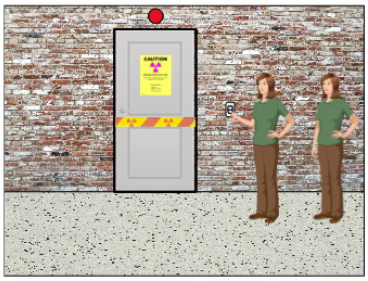
6.7 Prevent Entry

Preventing Entry

Use barriers, notifications, postings, or personnel if necessary to keep personnel out of the affected area. No one should re-enter the area until a plan has been made by supervision to recover the area from the source of the CAM alarm.

Do not leave an unposted area unattended.

If an area will be posted as an HJEA, an RCT knowledgeable of the area must remain to guard the entrance.



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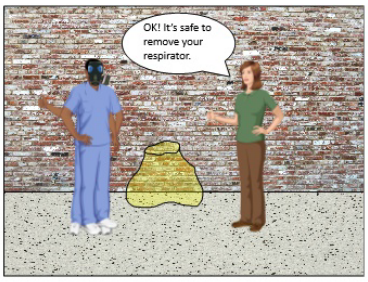
6.8 Respirator Removal

Respirator Considerations



Wait until personnel are in a clean area to direct removal of respirators.

Medical emergencies take precedence over radiological ones. Therefore, if a person is having difficulty breathing, immediate removal of the respirator is permitted.

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6.9 Supplemental Actions

CAM Alarm Supplemental Actions

1. Obtain the names and Z numbers of all personnel in the area at the time of the alarm.
2. Notify the HPFC, Team Leader, and management as appropriate, an request assistance as needed.
3. Perform a whole body frisk, including respirator (if applicable), for all personnel involved.
   - If contamination is found, then go to section 4.10, *Personnel Contamination*.
   - If contamination is not found, then continue to step 4.
4. Doff PPE and respirator (if applicable).
5. Segregate PPE and respirators (if applicable) for each individual.

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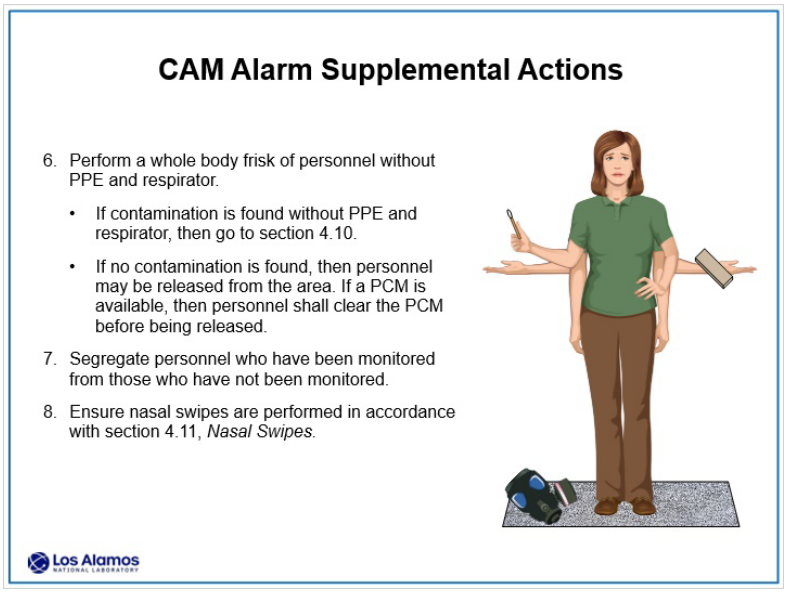
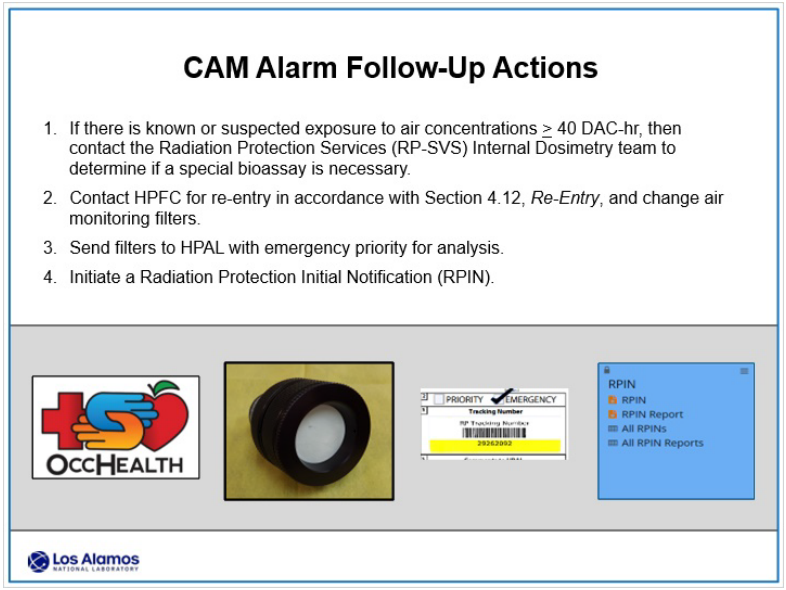
6.10 Supplemental Actions Cont.

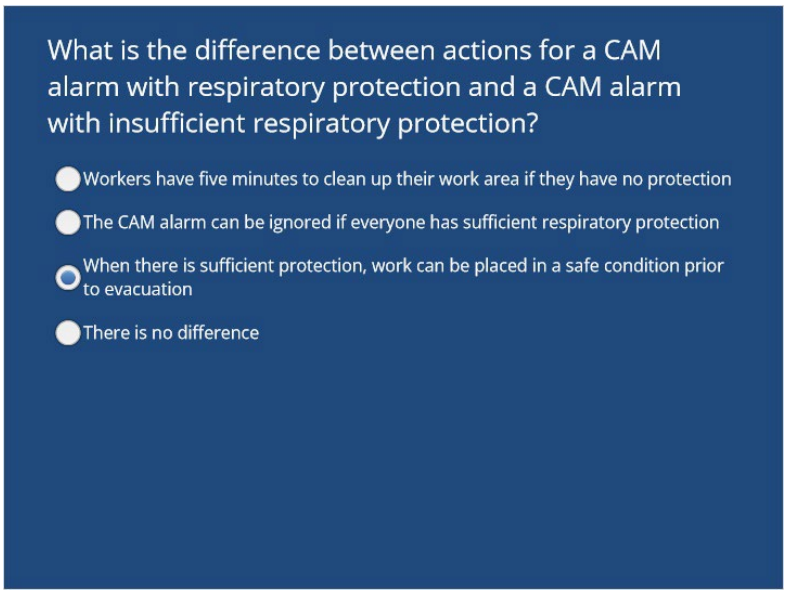


6.11 Follow-up Actions



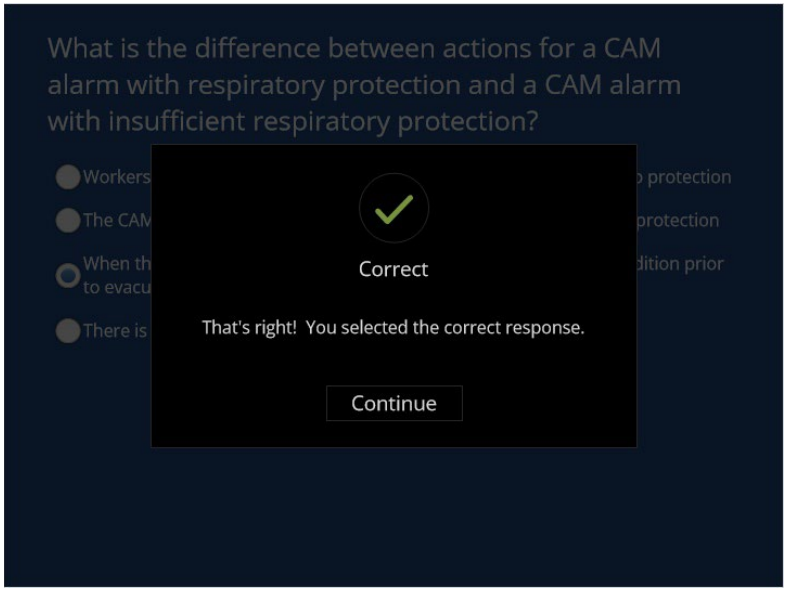
6.12 CAM Alarm Knowledge Check

(Multiple Choice, 10 points, unlimited attempts permitted)

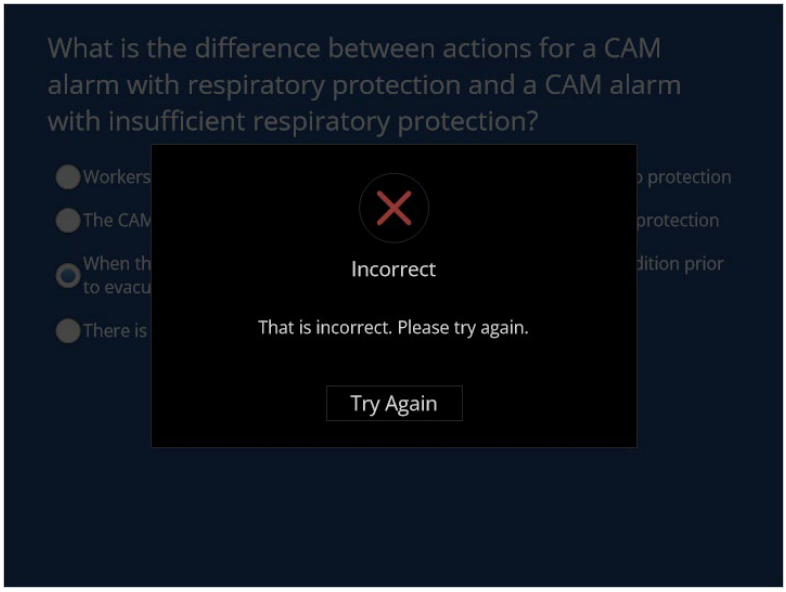


Correct	Choice
	Workers have five minutes to clean up their work area if they have no protection
	The CAM alarm can be ignored if everyone has sufficient respiratory protection
X	When there is sufficient protection, work can be placed in a safe condition prior to evacuation
	There is no difference

Correct (Slide Layer)



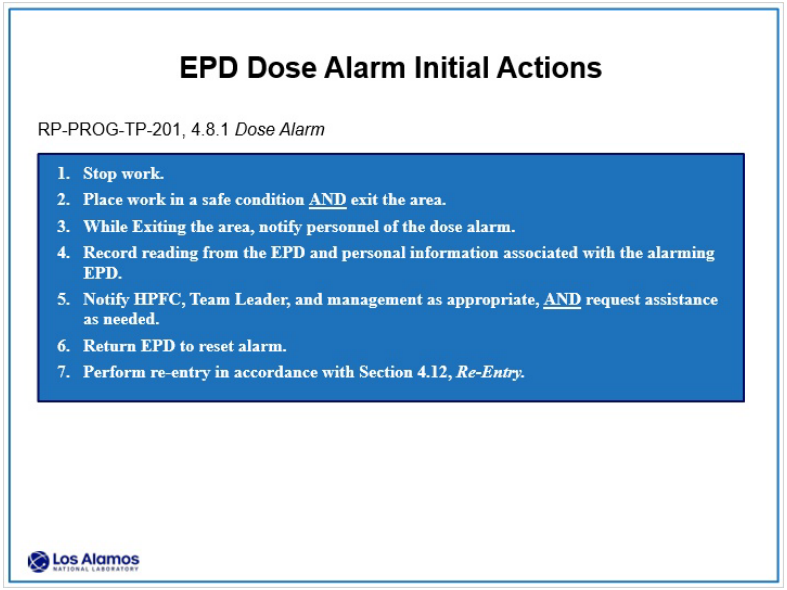
Try Again (Slide Layer)



7. EPD Alarm

7.1 EPD Alarm

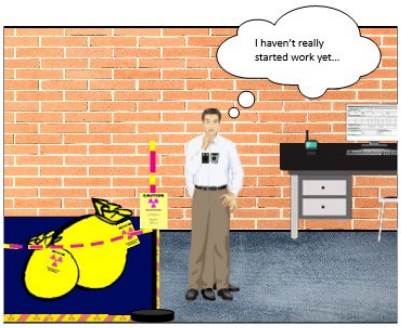
7.2 Dose Alarm Inital Response



7.3 Stop Work and Exit

1. **Stop work**
2. **Place work in a safe condition and exit the area**

Work in a quick manner to secure the work area, preventing the spread of contamination and minimizing the possibility of hazards.



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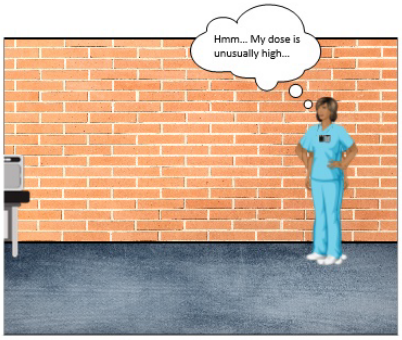
7.4 While Exiting, Notify Others

3. **While exiting, notify personnel of dose alarm**



If others are unaware of the abnormally high dose rates, they may be close to alarming their EPDs as well. Other workers in the area should check their EPDs for high readings.

Evacuate to an area of low radiation levels verified by survey at the earliest opportunity.

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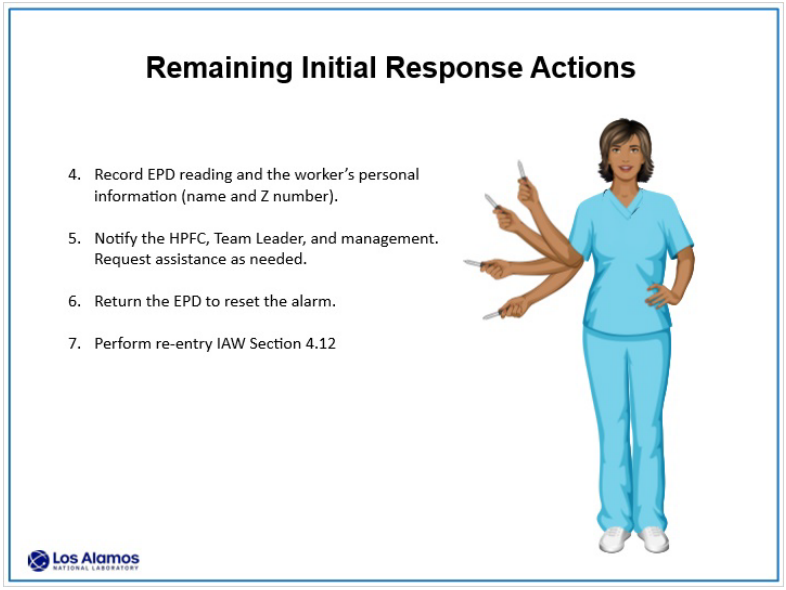
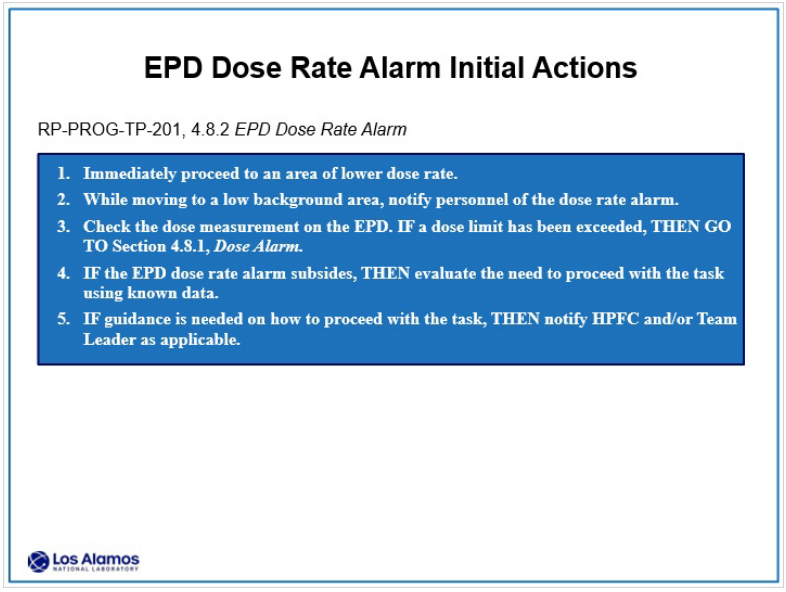
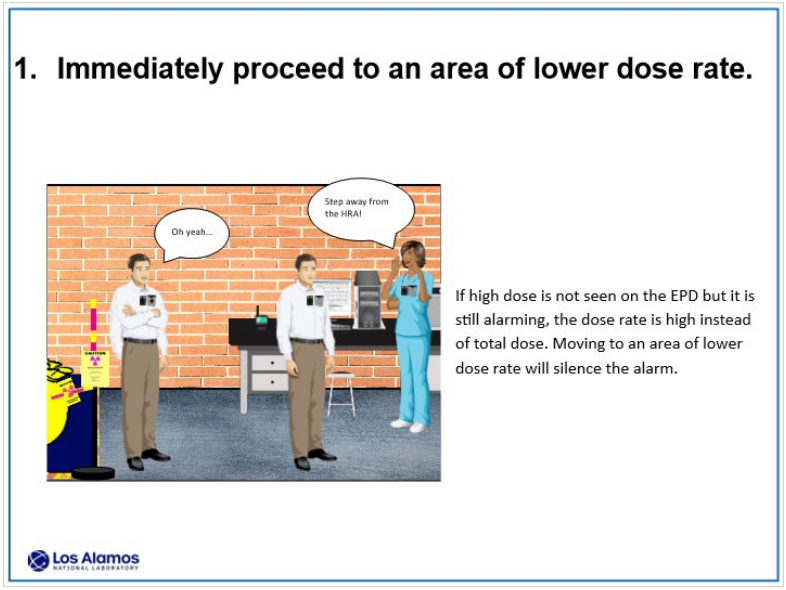
7.5 Remaining Initial Response Actions



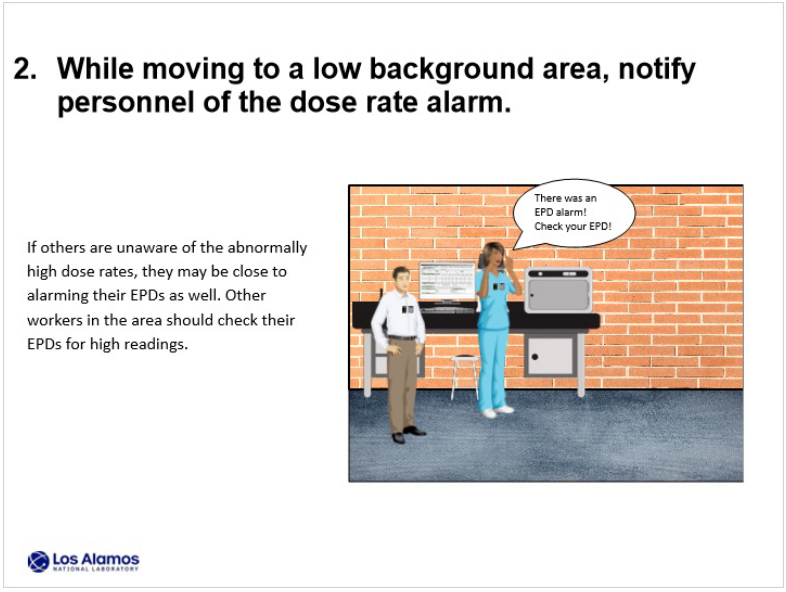
7.6 Dose Rate Initial Actions



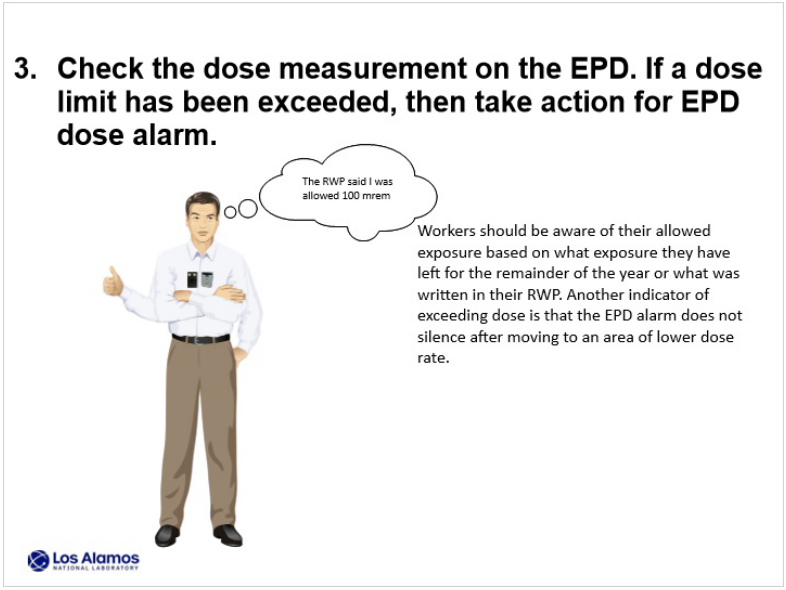
7.7 Leave to Area of Lower Dose



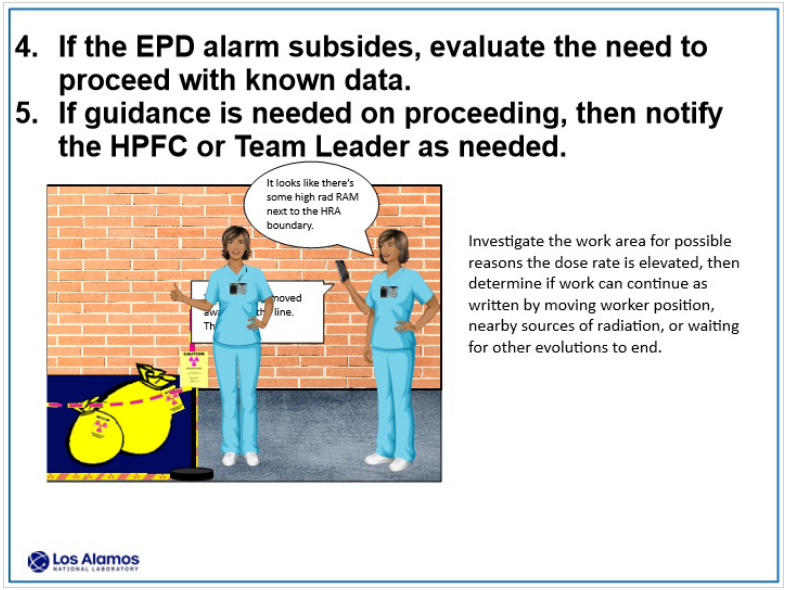
7.8 Notify Others While Exiting



7.9 Check EPD

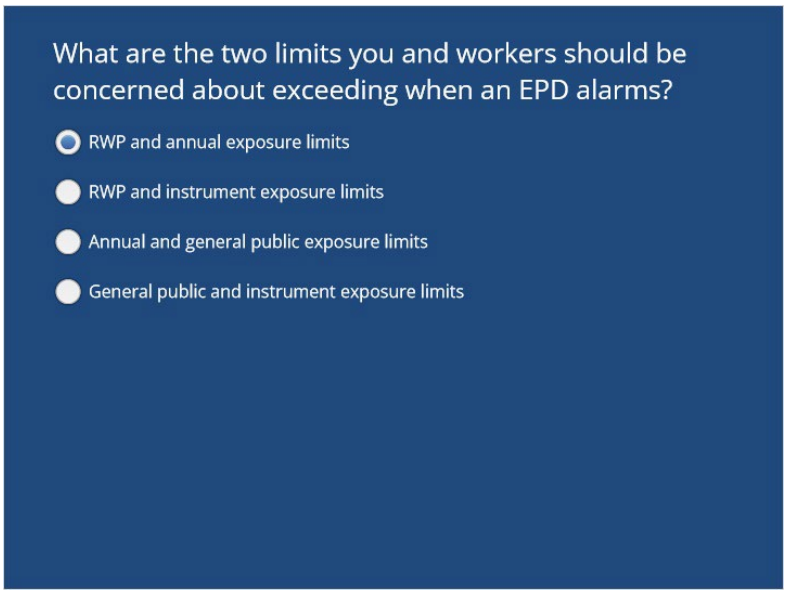


7.10 Seek Guidance



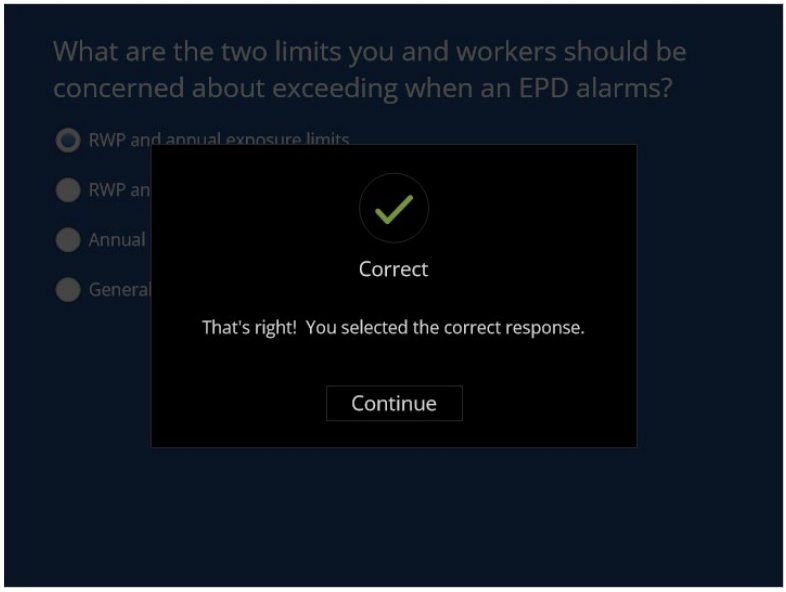
7.11 EPD Alarm Knowledge Check

(Multiple Choice, 10 points, unlimited attempts permitted)

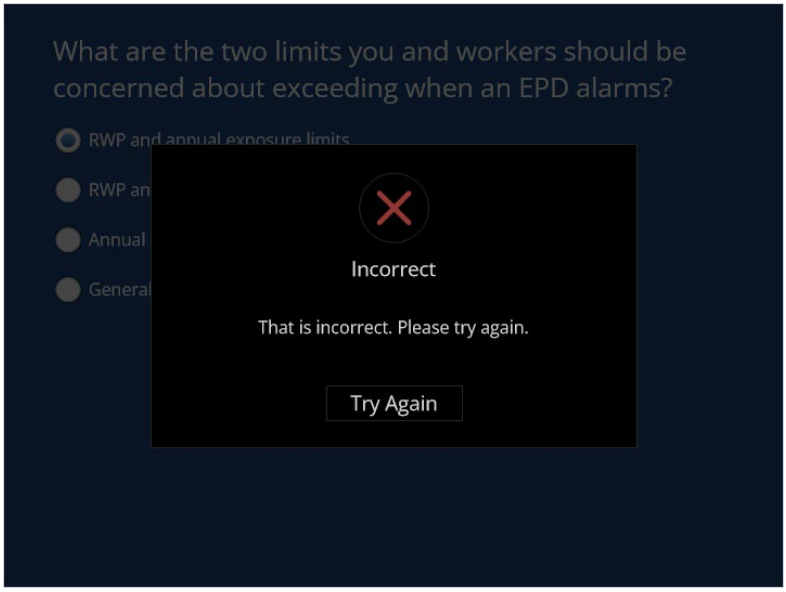


Correct	Choice
X	RWP and annual exposure limits
	RWP and instrument exposure limits
	Annual and general public exposure limits
	General public and instrument exposure limits

Correct (Slide Layer)



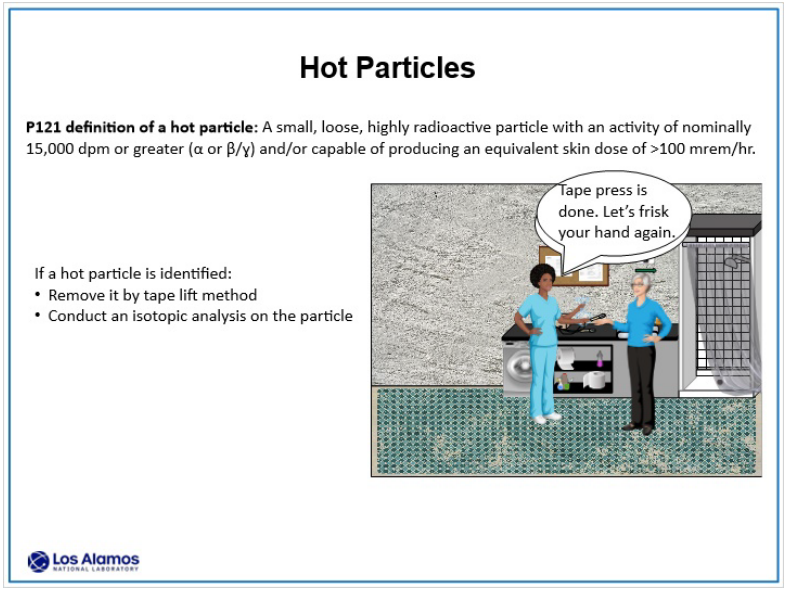
Try Again (Slide Layer)



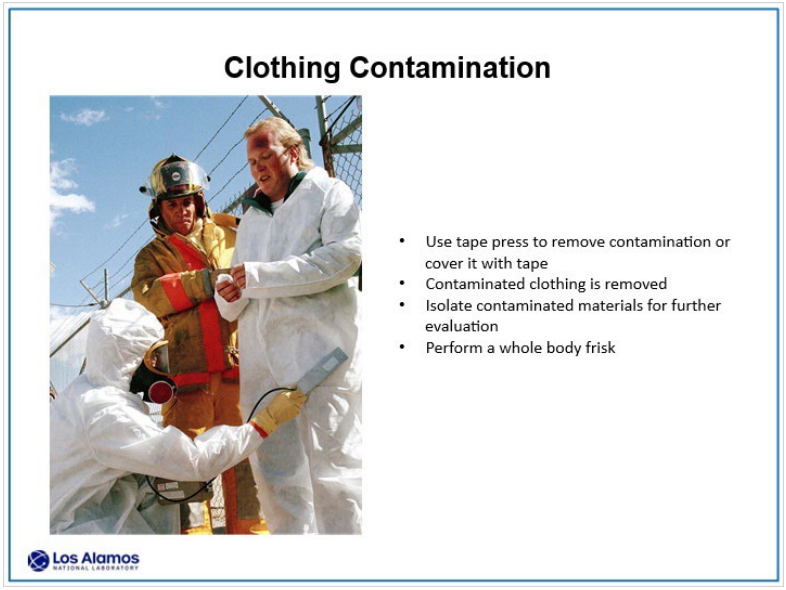
8. Personnel Decontamination

8.1 Personnel Decontamination

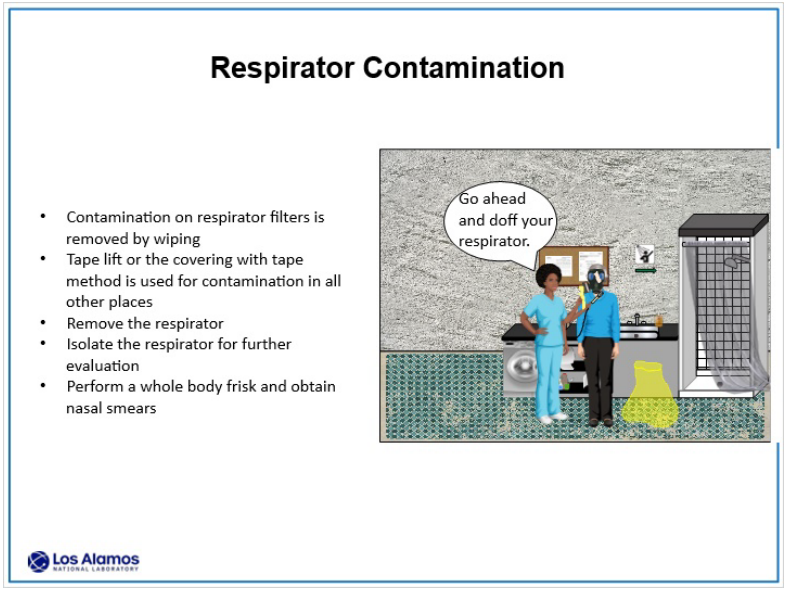
8.2 Hot Particles



8.3 Clothing Contamination

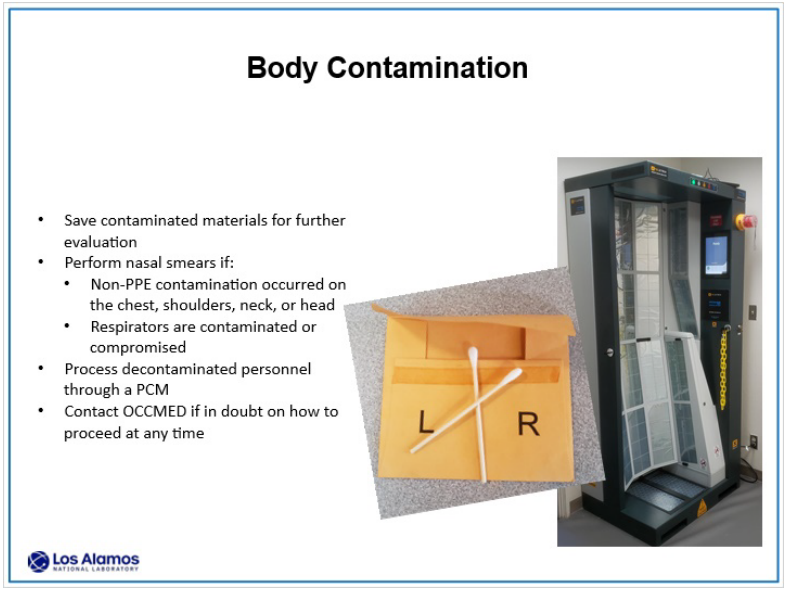


8.4 Respirator Contamination

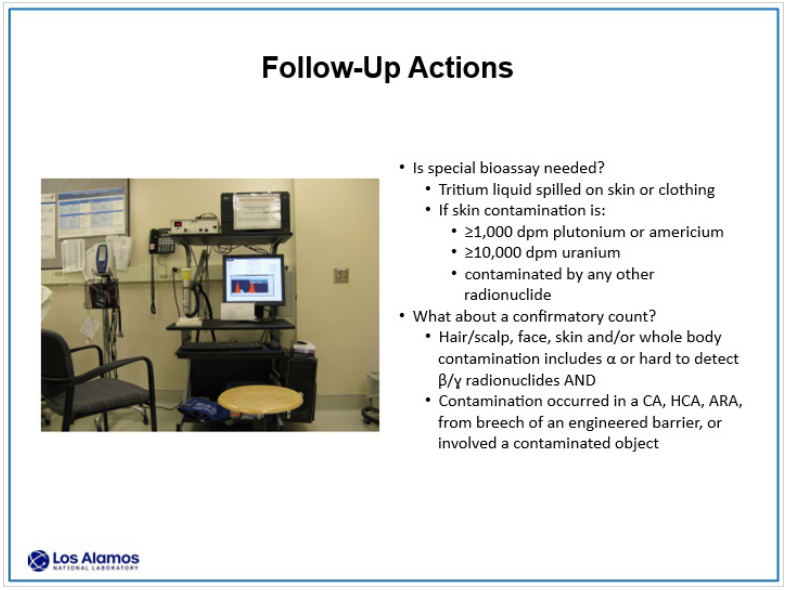


8.5 Body Contamination

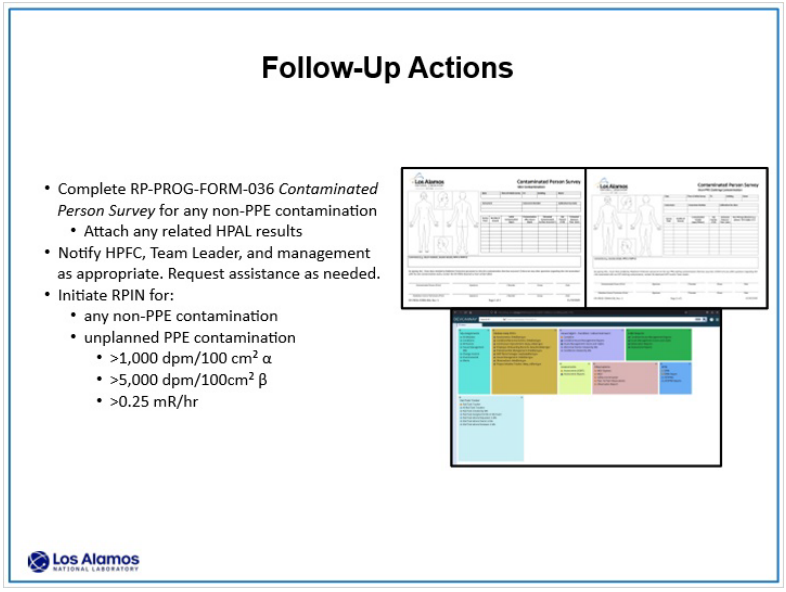
8.6 Body Contamination Cont.



8.7 Follow-up Actions

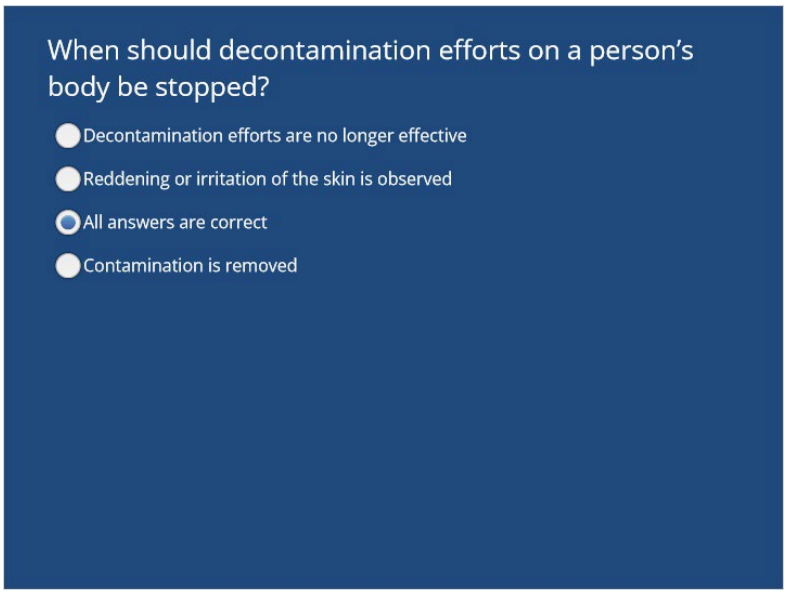


8.8 Follow-up Actions Cont.



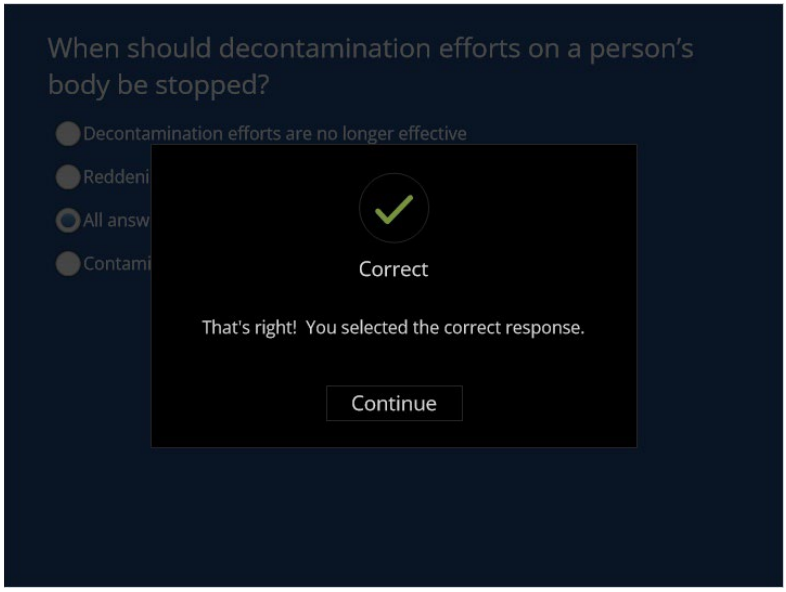
8.9 Personnel Decontamination Knowledge Check 1

(Multiple Choice, 10 points, unlimited attempts permitted)

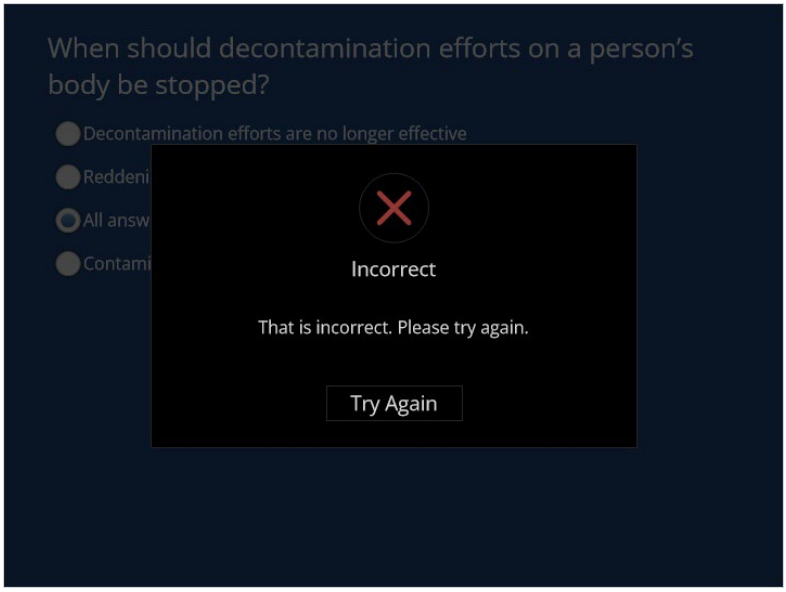


Correct	Choice
	Decontamination efforts are no longer effective
	Reddening or irritation of the skin is observed
X	All answers are correct
	Contamination is removed

Correct (Slide Layer)

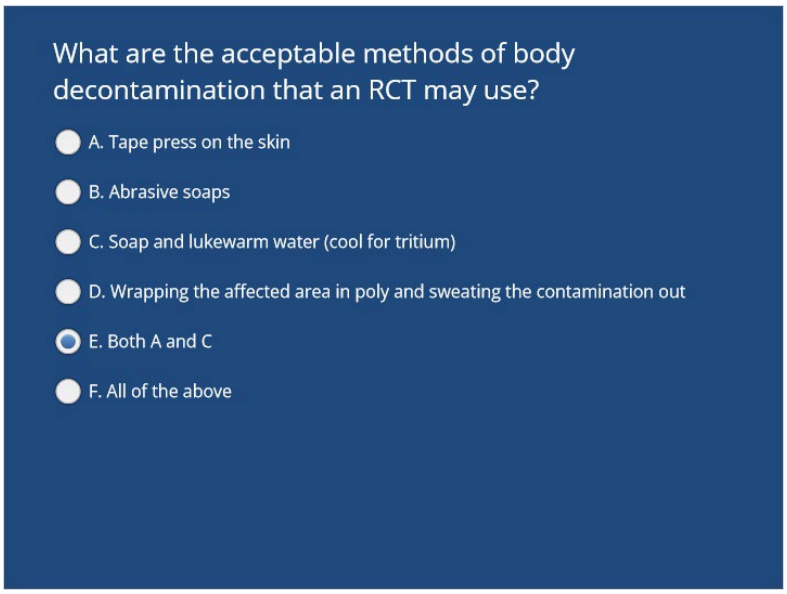


Try Again (Slide Layer)



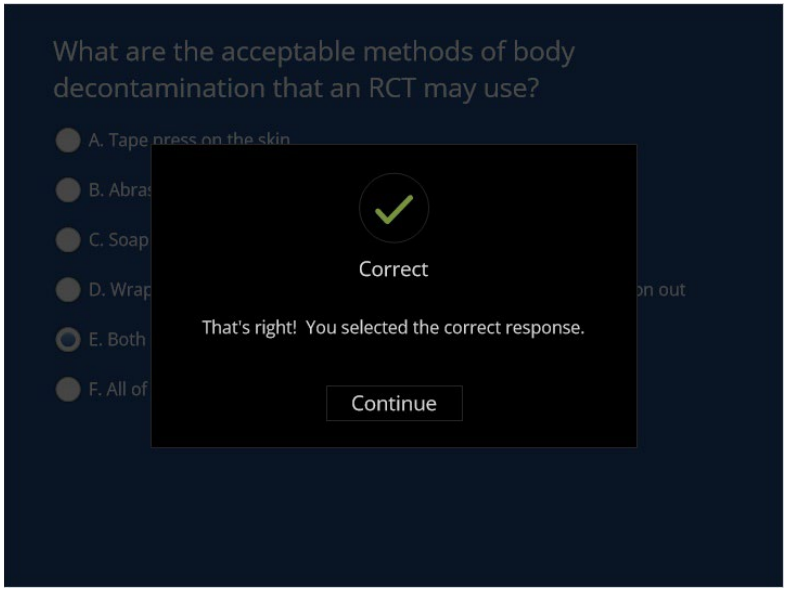
8.10 Personnel Decontamination Knowledge Check 2

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
	A. Tape press on the skin
	B. Abrasive soaps
	C. Soap and lukewarm water (cool for tritium)
	D. Wrapping the affected area in poly and sweating the contamination out
X	E. Both A and C
	F. All of the above

Correct (Slide Layer)



Try Again (Slide Layer)