

GOOD PRACTICES

1. The technician is wearing a laboratory coat.
2. The laboratory coat was buttoned.
3. The technician is wearing a personal dosimeter.
4. The technician used a tissue to wipe off the tip of a contaminated pipette.
5. A repeater pipette was used to minimize the amount of transfers to the "hot" (radioactive) material.
6. A pipette with a tip ejector was used.
7. A filter was used in line between the vacuum flask and the vacuum pump. This practice prevents contamination of the pump.
8. The technician used the correct glove removal technique.
9. At the end of the procedure, the employee checked her hands with a contamination survey meter.
10. On detecting contamination, she washed her hands in the laboratory sink.
11. The work area on the bench was well defined by the use of warning tape.
12. Most of the equipment in the work area was labeled.
13. The equipment had been set up in the work area prior to the start of the procedure.
14. A specific easily identified radioactive waste can was located near the work area.
15. The laboratory bench was protected by use of bench paper.
16. An appropriate contamination survey meter was adjacent to the work area.

The above are just some of the good practices that will be observed. Students may identify a number of other good work practices.

POOR PRACTICES

1. The technician fails to put on gloves before starting the radioactive procedures.
2. The lead castle is handled with bare hands when being removed from the refrigerator. (The tech should have put on gloves before starting radioactive procedures.)
3. The radioactive stock solution was removed from the lead container before it was required. (This increases the technician's exposure time.)
4. The radioactive stock solution was placed on the bench paper. (Liquids should be placed in trays which would contain an accidental spill.)
5. The radioactive stock solution bottle was opened with the bare hands. (Possible finger contamination and a higher dose rate.)
6. Delaying gloving. (The technician did not inspect or test gloves for tears or imperfections before gloving.)
7. The technician's hand holds a stock solution vial during pipetting procedure. (The hands receive an unnecessary dose.)
8. The sleeves of the lab coat are rolled up. (The rolled sleeves expose the technician's forearms to the possibility of contamination.)
9. The radioactive stock solution is placed on the bench. (The radioactive vial should have been capped and returned to the lead container.)

10. The cap on the vial was not placed on the vial after the contents were removed. (The vial could be accidentally tipped over allowing the contents to spill out.)
11. The contaminated pipette was removed with the gloved hand. (A tissue should have been used to wipe the tip and disposed of as radioactive waste. A second tissue should have been used to hold the tip while it was being removed.)
12. The writing pad and pen was in the active work area. (The pen should have been moved to a remote area of the bench. This would reduce the possibility of contamination.)
13. The pipette used is not labeled as radioactive. (Labeling reduces the chance of equipment being inadvertently removed from an active area.)
14. The technician's gloves are contaminated when the solution drops onto one of the fingers. (The technician should have stopped, checked gloves for contamination and then re-gloved.)
15. A contaminated pipette tip is inadvertently placed into a non-radioactive waste container. (The radioactive and non-radioactive containers should be separated to reduce the chance of error.)
16. The technician answers the telephone and takes a message. (The technician should have removed her gloves before answering the telephone and taking the message. The telephone and area should be monitored at the end of the procedure.)
17. Thirsty! Time for a drink. (A way to receive internal contamination – no eating, drinking, smoking or application of cosmetics in a radioactive work area.)
18. The shaker controls are turned on. (A quick contamination check of the gloves would ensure that contamination is not spread to these controls.)
19. Pipetting into moving vials. Vials and shaker are contaminated. (The equipment should not have been started until the pipetting procedure was completed.)
20. During the disposal of the pipette tip, the technician places her hand well into the disposal container.
21. The pipette is placed on the bench so the tip is allowed to protrude over the edge. (A source of clothing contamination or the possibility of the pipette being knocked onto the floor.)
22. A common practice of adjusting one's glasses.
23. A common practice of touching one's face or hair.
24. After removing her gloves, the technician stuffs them into the waste container.
25. Technician handles her wristwatch before leaving the work area.
26. Technician does not conduct a personal contamination survey. Whenever leaving a radioactive work area, the technician should check herself for contamination.
27. Did she wash her hands after leaving?

SOMETIME LATER

1. The technician returns to the work area and makes several notes before leaving.
2. Thirsty again.
3. Time check.
4. The vacuum pump is turned on. (The switch should have a plastic sleeve over it. This would prevent possible contamination.)
5. The repipetter and bottle were placed on the bench paper. (A clean paper towel should have been placed down to prevent contamination of the container bottom.)

6. Forceps are not labeled.
7. One of the filters is accidentally dropped on the floor. (The area should have been checked immediately for contamination.)
8. Sandals are not to be worn in laboratories. (This practice could lead to a foot injury as well as personal contamination.)
9. Scintillation vial caps are used to push down the repipetter handle. (The inside of the cap could become contaminated, thereby negating the results of the experiment.)
10. Technician did not remove her gloves before leaving the work area.
11. Gloves were on while the technician opened the door.
12. Gloves were on while the technician was preparing the liquid scintillation counter.
13. Technician used improper procedures in removing gloves for disposal.
14. Contaminated waste can lid.
15. Technician contaminated the non-radioactive waste container by inadvertently disposing of radioactive wastes which had been previously disposed of by error in the clean waste container.
16. Technician contaminated the switch and probe of the rate meter. (The instrument should have been turned on prior to beginning work with radioactive materials.)
17. Technician contaminated the sinks taps with the hands. (The sink could be equipped with remote foot or elbow controls or the technician could have monitored the taps after use.)

These are the majority of the poor practices shown in the video; however, student discussion may bring forth other situations that should be discussed.