

<p style="text-align: center;">University of Texas Southwestern Medical Center At Dallas Radiation Safety</p>	<p style="text-align: center;">Title: Procedures for Handling Radioactive Specimens</p>	<p style="text-align: center;">Procedure No. 27 Date: 21 March 2007 Revised: Page 1 of 2</p>
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I. Purpose

- A. To describe handling procedures for tissue specimens used in pathology laboratories in order to keep radiation exposure to laboratory and other hospital workers as low as reasonably achievable.

II. Scope

- A. Recommendation for handling radioactive specimens in pathology laboratories. Doses of 0.4 to 1.0 mCi ^{99m}Tc-Technetium-sulfur colloid are typically used in sentinel lymphadenectomy for melanoma and breast cancer.
- B. The half-life of ^{99m}Tc-Technetium is 6 hours. Radiation levels decrease to background levels after 10 half lives (60 hours).
- C. All personnel handling these specimens, including couriers should be aware that the specimens contain low levels of radioactivity.

III. Procedure

- A. The laboratory will fully inform the workers that they are handling or transporting radioactive specimens, even though the risk of exposure is low.
Note: The exposure levels for Laboratory personnel are well below the maximum exposure levels for radiation workers.
- B. Procedures for handling these specimens should follow universal precautions established for all specimen types. Because of the low risk of radiation exposure to pathology staff, universal precaution adequately covers most aspect of sentinel lymphadenectomy specimen handling.
- C. Labeling is not required for containers holding specimens with less than 1 mCi ^{99m}Tc-Technetium. Labeling is also exempted if only authorized individual's access the container provided that a readily available written record identify the contents. Note that most containers will contain much less than 1 mCi.
- D. The requisition slip that accompanies the tissue must indicate the nature of the specimen (for example, sentinel lymph node after technetium injection) and include the date and time of surgery.
Caution: If labels indicating radioactive material have been attached to the container, they must be removed or rendered entirely illegible before disposal.
- E. Transportation
1. Specimens containing radioactive material should be promptly transported from the operating room to the laboratory in sealed, properly labeled specimen containers.
NOTE: Under no circumstances should these specimens be left unattended in an unsecured area before transporting to the laboratory or frozen section room.

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F. Storage and Processing

1. The tissue sample sections required to perform pathology laboratory analysis should be removed from the specimen and stored in specifically identified containers.
2. Sectioning or extracting tissue from a specimen will further reduce the amount of radioactive material handled by regular laboratory methods. The rest of the specimen in the container should be placed in a designated radioactive storage area, such as a labeled fume hood or other labeled container away from laboratory or other personnel.
3. Due to the extremely low radioactivity present in sample sections, Universal Precautions are sufficient for handling, storage and disposal of radioactive specimens. However, areas where specimens are handled or stored must be posted with Radioactive Materials warning signs.

G. Disposal

1. Radiation levels of ^{99m}Tc will have decreased to background levels after 60 hours. Specimens and other related surgical materials can be disposed of through ordinary medical waste disposal methods 60 hours after the time of surgery.
2. If specimen containers have been labeled, "Radioactive Materials", regulations require that these labels be removed or rendered entirely illegible before disposal with regular medical waste.
NOTE: Laboratory personnel should check the area used to examine sections of specimens. Use guidelines in the Radiation Safety Procedures Manual, Section # 6 for residual contamination.