

# U.S. Radiologic Technologists Study Fourth Survey

*A collaborative effort between the University of Minnesota School of Public Health, National Cancer Institute,  
and American Registry of Radiologic Technologists*

## RADIOISOTOPE PROCEDURES MODULE

### Instructions:

- Use blue or black ink
- Print legible numbers: 

1	2	3
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- Mark check boxes:    Right    Wrong
- Do not make any stray marks on this form.  
If you have comments, please write them  
on a separate piece of paper.

**Please fill out this module if you have ever performed or assisted with radioisotope procedures to diagnose or treat diseases REGULARLY, that is, at least once a month for a year or more.**

**Just do your best. Even if not exact, your best estimates are valuable to the study.**

### PRIVACY ACT NOTIFICATION STATEMENT

Collection of this information is authorized by The Public Health Service Act, Section 411 (42 USC 285a). Rights of study participants are protected by The Privacy Act of 1974. Please be assured that all information you provide will be kept private under the Privacy Act and will not be disclosed to anyone but the researchers conducting this study, except as otherwise required by law. Any published results from this survey will be reported in statistical summaries only and will never include a participant's name. Your participation in this study is completely voluntary and failure to answer any particular question or the information collection as a whole will not affect your future contacts with the University of Minnesota, the American Registry of Radiologic Technologists, or the National Institutes of Health.

**1. What year did you FIRST perform or assist with radioisotope procedures REGULARLY?**

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 FIRST YEAR

**2. What year did you LAST perform or assist with radioisotope procedures REGULARLY?**

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 LAST YEAR

Enter current year if still doing procedures.

**3. During each time period, how many YEARS did you perform or assist with DIAGNOSTIC RADIOISOTOPE procedures at least once a month?**

Number of Years				
1945-1964	1965-1979	1980-1989	1990-1999	2000-2009

### NOTIFICATION TO RESPONDENT OF ESTIMATED BURDEN

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.** Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-0405). Do not return the completed form to this address.

**CONTINUE**



## DIAGNOSTIC RADIOISOTOPE PROCEDURES

4. For the following **DIAGNOSTIC** radioisotope procedures, please provide your best estimate of how many times per week you performed or assisted with these procedures during each time period. If you used more than one radionuclide for a given procedure, please answer separately for each radionuclide.

NOTE: If you mark "never done," leave the rest of the columns blank for that procedure and radionuclide.

DIAGNOSTIC PROCEDURE	RADIONUCLIDE	NEVER DONE	How many TIMES per WEEK did you perform these procedures in each time period?				
			1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>All Thyroid scans</b> .....		<input type="checkbox"/>					
Thyroid scan	<sup>131</sup> I .....	<input type="checkbox"/>					
	<sup>123</sup> I .....	<input type="checkbox"/>					
	<sup>99m</sup> Tc .....	<input type="checkbox"/>					
<b>All Thyroid uptakes</b> .....		<input type="checkbox"/>					
Thyroid uptake	<sup>131</sup> I .....	<input type="checkbox"/>					
	<sup>123</sup> I .....	<input type="checkbox"/>					
<b>All Liver scans</b> .....		<input type="checkbox"/>					
Liver scan	<sup>198</sup> Au-Colloid .....	<input type="checkbox"/>					
<b>All Brain scans</b> .....		<input type="checkbox"/>					
Brain scan	<sup>131</sup> I SHA .....	<input type="checkbox"/>					
	<sup>203</sup> Hg .....	<input type="checkbox"/>					
	<sup>197</sup> Hg .....	<input type="checkbox"/>					
	<sup>99m</sup> Tc .....	<input type="checkbox"/>					
<b>All Renal scans</b> .....		<input type="checkbox"/>					
Renal scan	<sup>203</sup> Hg .....	<input type="checkbox"/>					
	<sup>197</sup> Hg .....	<input type="checkbox"/>					
	<sup>99m</sup> Tc .....	<input type="checkbox"/>					
<b>All Bone scans</b> .....		<input type="checkbox"/>					
Bone scan	<sup>85</sup> Sr .....	<input type="checkbox"/>					
	<sup>99m</sup> Tc .....	<input type="checkbox"/>					
<b>All Lung perfusion scans</b> .....		<input type="checkbox"/>					
Lung perfusion scan	<sup>131</sup> I-MAA .....	<input type="checkbox"/>					
	<sup>99m</sup> Tc-MAA .....	<input type="checkbox"/>					

DIAGNOSTIC PROCEDURE, cont.	RADIONUCLIDE	NEVER DONE	How many TIMES per WEEK did you perform these procedures in each time period?					
			1945-1964	1965-1979	1980-1989	1990-1999	2000-2009	
<b>All Lung ventilations</b> .....		<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Lung ventilation	<sup>133</sup> Xe .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<sup>127</sup> Xe .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>All Bone marrow scans</b> .....		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Bone marrow scan	<sup>198</sup> Au-Colloid .....	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>				
	<sup>99m</sup> Tc-SC .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	<sup>111</sup> In-chloride .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All Gallbladder scans</b> .....		<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Gallbladder scan	<sup>99m</sup> Tc .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All Gastrointestinal procedures</b> .....		<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Gastrointestinal	<sup>99m</sup> Tc in solid meal ...	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All Cardiac scans</b> .....		<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Cardiac scan	<sup>201</sup> Tl-chloride .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	<sup>99m</sup> Tc (1d) .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	<sup>99m</sup> Tc (2d) .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All tumor and abscess localizations</b> .....		<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Tumor and abscess localization	<sup>67</sup> Ga-citrate .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	<sup>111</sup> In-octreotide .....	<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All Pancreas scans</b> .....		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Pancreas scan		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<b>All PET scans (brain)</b> .....		<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	
PET scan (brain)	<sup>18</sup> F-FDG .....	<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	
<b>All PET scans (except brain)</b> .....		<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	
PET scan (except brain)	<sup>18</sup> F-FDG .....	<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	
	<sup>82</sup> Rb-chloride .....	<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	
	<sup>13</sup> N-ammonia .....	<input type="checkbox"/>				<input type="text"/>	<input type="text"/>	

DIAGNOSTIC PROCEDURE, cont.	RADIONUCLIDE	NEVER DONE	How many TIMES per WEEK did you perform these procedures in each time period?				
			1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
All Iron metabolism .....		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Iron metabolism <sup>59</sup> Fe.....		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please list other diagnostic procedures below:

	DIAGNOSTIC PROCEDURE	RADIONUCLIDE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
1.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The following questions are about your work patterns and practices while performing or assisting with DIAGNOSTIC RADIOISOTOPE procedures. Please complete all questions for each time period.

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
5a. Did you ever prepare radiopharmaceuticals for DIAGNOSTIC procedures? If NEVER DONE, go to Question 6a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
5b. How many TIMES per WEEK did you prepare radiopharmaceuticals?		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5c. When you prepared radiopharmaceuticals, did you use any protection? If NEVER DONE, go to Question 6a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
5d. Check all of the following that you typically used more than 50% of the time:						
lead shielded vial .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lead shielded syringe .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lead apron .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fume hood .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L-Block .....		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (specify) _____		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6a. Did you ever elute the Tc generator? If NEVER DONE, go to Question 7a.

NEVER DONE	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

6b. How many TIMES per WEEK did you elute the Tc generator?

6c. When you eluted the <sup>99m</sup>Tc generator, did you use any radiation protection? If NEVER DONE, go to Question 7a.

NEVER DONE	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

6d. Check all of the following that you typically used more than 50% of the time:

- lead shielded vial .....
- lead apron .....
- fume hood .....
- other (specify) \_\_\_\_\_ .....

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7a. Did you ever inject the patient with a diagnostic radioisotope? If NEVER DONE, go to Question 8a.

NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

7b. How many TIMES per WEEK did you inject patients with a radioisotope?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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7c. When you injected the patient, did you use any radiation protection? If NEVER DONE, go to Question 8a.

NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

7d. Check all of the following that you typically used more than 50% of the time:

- lead shielded syringe .....
- lead apron .....
- other (specify) \_\_\_\_\_ .....

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8a. When you assisted the patients for diagnostic radioisotope examinations, did you use any radiation protection? If NEVER DONE, go to Question 9a.

NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

8b. Check all of the following that you typically used or did more than 50% of the time:

- lead apron .....
- moved more than 3 feet away from patient.....
- other (specify) \_\_\_\_\_ .....

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9a. When you imaged patients, did you use any radiation protection? If NEVER DONE, go to Question 10.

NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9b. Check all of the following that you typically used or did more than 50% of the time:

- lead apron .....
- moved more than 3 feet away from patient.....
- other (specify) \_\_\_\_\_ .....

### THERAPEUTIC RADIOISOTOPE PROCEDURES

10. During each time period, how many YEARS did you perform or assist with THERAPEUTIC RADIOISOTOPE procedures at least once a month?

1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>

11. For the following THERAPEUTIC RADIOISOTOPE procedures, please provide your best estimate of how many times per week you performed or assisted with these procedures, with the specific radioisotope listed, during each time period. If you used more than one radioisotope for a given procedure, please include in the section below.

NOTE: If you mark "never done," leave the rest of the columns blank for that procedure and radionuclide.

THERAPEUTIC PROCEDURE OR DISEASE	RADIONUCLIDE	NEVER DONE	How many TIMES per WEEK did you perform these procedures in each time period?				
			1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
Hyperthyroidism .....	<sup>131</sup> I .....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
Thyroid ablation .....	<sup>131</sup> I .....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
Follow up after thyroid ablation...	<sup>131</sup> I .....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
Malignant effusion.....	<sup>198</sup> Au-Colloid.....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
Bone metastases .....	<sup>153</sup> Sm.....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
Non-Hodgkin's lymphoma or liver tumor .....	<sup>90</sup> Y .....	<input type="checkbox"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>

Please list other therapeutic radioisotope procedures or disease below:

	THERAPEUTIC PROCEDURE OR DISEASE	RADIOISOTOPE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
1.	<input style="width: 250px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
2.	<input style="width: 250px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>
3.	<input style="width: 250px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>

The following questions are about your work patterns and practices while performing or assisting with THERAPEUTIC RADIOISOTOPE procedures. Please complete all questions for each time period.

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>12a. Did you ever prepare radiopharmaceuticals for THERAPEUTIC procedures?</b> If NEVER DONE, go to Question 13a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>12b. How many TIMES per WEEK did you prepare radiopharmaceuticals?</b>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>12c. When you prepared radiopharmaceuticals, did you use any radiation protection?</b> If NEVER DONE, go to Question 13a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>12d. Check all of the following that you typically used more than 50% of the time:</b>						
lead shielded vial .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lead shielded syringe .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lead apron .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fume hood .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L-Block .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (specify) _____ .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>13a. Did you ever administer oral <sup>131</sup>I?</b> If NEVER DONE, go to Question 14a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>13b. How many TIMES per WEEK did you administer oral <sup>131</sup>I?</b>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>13c. When you administered oral <sup>131</sup>I, did you use any radiation protection?</b> If NEVER DONE, go to Question 14a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>13d. Check all of the following that you typically used more than 50% of the time:</b>						
lead apron .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (specify) _____ .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>14a. Did you ever inject the patient with a therapeutic radioisotope?</b> If NEVER DONE, go to Question 15a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>14b. How many TIMES per WEEK did you inject patients with the radioisotope?</b>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>14c. When you injected the patient with the radioisotope, did you use any radiation protection?</b> If NEVER DONE, go to Question 15a.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>14d. Check all of the following that you typically used more than 50% of the time:</b>						
lead apron.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lead shielded syringe.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	NEVER DONE	1945-1964	1965-1979	1980-1989	1990-1999	2000-2009
<b>15a. When you assisted the patient for therapeutic radioisotope procedures, did you use any radiation protection?</b> If NEVER DONE, go to Question 16.	<input type="checkbox"/>	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
<b>15b. Check all of the following that you typically used or did more than 50% of the time:</b>						
lead apron.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
moved more than 3 feet away from patient .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you!**

OFFICE USE ONLY
<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E