

PROGRAMMING INSTRUCTIONS APPEAR IN BLUE.

1. During your career, how long have you been administering antineoplastic agents to patients?

- Less than one year
- 1-5 years
- 6-10 years
- 11-20 years
- More than 20 years

2. What training, if any, have you received on the safe handling of antineoplastic agents?

Please ✓ all that apply.

- Association of Pediatric/Hematology Oncology Nurses (APHON) Chemotherapy and Biotherapy course
 - Oncology Nurses Society (ONS) Safe Handling of Hazardous Drugs course
 - ONS Chemotherapy and Biotherapy course
 - Other (Please specify)
-
- I have not received training
→GO TO QUESTION 4

3. When was the last time you received training on the safe handling of antineoplastic agents?

- Within the past 12 months
- More than 12 months ago

4. How familiar are you with the following guidance documents on the safe handling of antineoplastic agents?

	Very	Somewhat	Not at All
a. American Society of Health-System Pharmacists (ASHP) guidelines for handling hazardous drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. NIOSH Alert on Preventing Exposures to Antineoplastic Agents and Other Hazardous Drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Oncology Nurses Society (ONS) Safe Handling of Hazardous Drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Occupational Safety and Health Administration (OSHA) guidelines for the management of antineoplastic drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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If you work for more than one employer, the following questions apply to your primary employer, i.e., the one for which you typically work the most hours. If you are self-employed, consider yourself the employer.

5. Does your employer have procedures that address safe administration of antineoplastic agents?
- Yes
 - No
 - I don't know

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6. During the past 7 calendar days, which of the following antineoplastic agents did you administer to patients? **Please ✓ all that apply.**

DISPLAY CALENDAR HIGHLIGHTING THE PAST 7 CALENDAR DAYS. APPLIES TO ALL QUESTIONS WITH 'IN THE PAST 7 CALENDAR DAYS'.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aldesleukin | <input type="checkbox"/> Floxuridine | <input type="checkbox"/> Paclitaxel |
| <input type="checkbox"/> Alemtuzumab | <input type="checkbox"/> Fludarabine | <input type="checkbox"/> Palifermin |
| <input type="checkbox"/> Alitretinoin | <input type="checkbox"/> Fluoxymesterone | <input type="checkbox"/> Pegaspargase |
| <input type="checkbox"/> Altretamine | <input type="checkbox"/> Flutamide | <input type="checkbox"/> Pemetrexed |
| <input type="checkbox"/> Aminoglutethimide | <input type="checkbox"/> Fluorouracil | <input type="checkbox"/> Pentostatin |
| <input type="checkbox"/> Amifostine | <input type="checkbox"/> Fluvestrant | <input type="checkbox"/> Plicamycin |
| <input type="checkbox"/> Amsacrine | <input type="checkbox"/> Gemcitabine | <input type="checkbox"/> Procarbazine |
| <input type="checkbox"/> Anastrozole | <input type="checkbox"/> Gemtuzumab ozogamicin | <input type="checkbox"/> Raloxifene |
| <input type="checkbox"/> Arsenic trioxide | <input type="checkbox"/> Goserelin | <input type="checkbox"/> Rituximab |
| <input type="checkbox"/> Asparaginase | <input type="checkbox"/> Hydroxyurea | <input type="checkbox"/> Sargramostim |
| <input type="checkbox"/> Azacitidine | <input type="checkbox"/> Ibritumomab Tiuxetan | <input type="checkbox"/> Sorafenib |
| <input type="checkbox"/> BCG live | <input type="checkbox"/> Idarubicin | <input type="checkbox"/> Streptozocin |
| <input type="checkbox"/> Bevacizumab | <input type="checkbox"/> Ifosfamide | <input type="checkbox"/> Sunitinib |
| <input type="checkbox"/> Bexarotene | <input type="checkbox"/> Imatinib mesylate | <input type="checkbox"/> Tamoxifen |
| <input type="checkbox"/> Bicalutamide | <input type="checkbox"/> Interferon Alfa | <input type="checkbox"/> Temozolomide |
| <input type="checkbox"/> Bleomycin | <input type="checkbox"/> Irinotecan | <input type="checkbox"/> Teniposide |
| <input type="checkbox"/> Bortezomib | <input type="checkbox"/> Lapatinib | <input type="checkbox"/> Thalidomide |
| <input type="checkbox"/> Busulfan | <input type="checkbox"/> Lenalidomide | <input type="checkbox"/> Thioguanine |
| <input type="checkbox"/> Capecitabine | <input type="checkbox"/> Letrozole | <input type="checkbox"/> Thiotepa |
| <input type="checkbox"/> Carboplatin | <input type="checkbox"/> Leuprolide | <input type="checkbox"/> Topotecan |
| <input type="checkbox"/> Carmustine | <input type="checkbox"/> Levamisole | <input type="checkbox"/> Toremifene |
| <input type="checkbox"/> Cetuximab | <input type="checkbox"/> Lomustine | <input type="checkbox"/> Trastuzumab |
| <input type="checkbox"/> Chlorambucil | <input type="checkbox"/> Megestrol | <input type="checkbox"/> Trimetrexate |
| <input type="checkbox"/> Cisplatin | <input type="checkbox"/> Melphalan | <input type="checkbox"/> Tretinoin |
| <input type="checkbox"/> Cladribine | <input type="checkbox"/> Mercaptopurine | <input type="checkbox"/> Valrubicin |
| <input type="checkbox"/> Cyclophosphamide | <input type="checkbox"/> Merchlorethamine | <input type="checkbox"/> Vinblastine |
| <input type="checkbox"/> Cytarabine | <input type="checkbox"/> Methotrexate | <input type="checkbox"/> Vincristine |
| <input type="checkbox"/> Dacarbazine | <input type="checkbox"/> Mitomycin-C | <input type="checkbox"/> Vinorelbine |
| <input type="checkbox"/> Dactinomycin | <input type="checkbox"/> Mitotane | <input type="checkbox"/> Investigational compounds (not yet named) |
| <input type="checkbox"/> Daunorubicin | <input type="checkbox"/> Mitoxantrone | <input type="checkbox"/> Other (Please specify up to 2 more antineoplastic agents): |
| <input type="checkbox"/> Denileukin | <input type="checkbox"/> Motexafin gadolinium | _____ |
| <input type="checkbox"/> Docetaxel | <input type="checkbox"/> Nilutamide | _____ |
| <input type="checkbox"/> Doxorubicin | <input type="checkbox"/> Oprelvekin | |
| <input type="checkbox"/> Epirubicin | <input type="checkbox"/> Oxaliplatin | |
| <input type="checkbox"/> Estramustine | | |
| <input type="checkbox"/> Etoposide | | |
| <input type="checkbox"/> Exemestane | | |

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7.	During the past 7 calendar days, on how many days did you administer antineoplastic agents to patients?	<input type="radio"/> 1 day <input type="radio"/> 2 days <input type="radio"/> 3 days <input type="radio"/> 4 days <input type="radio"/> 5 days <input type="radio"/> 6 days <input type="radio"/> 7 days
8.	During the past 7 calendar days, what was the total number of treatments of antineoplastic agents you administered to patients? Note: <u>One treatment</u> equals one or more chemo drugs administered to one patient during one therapy session.	<input type="radio"/> 1-2 treatments <input type="radio"/> 3-4 treatments <input type="radio"/> 5-9 treatments <input type="radio"/> 10-20 treatments <input type="radio"/> 21-40 treatments <input type="radio"/> More than 40 treatments
9.	During the past 7 calendar days, the total number of treatments of antineoplastic agents you administered was...	<input type="radio"/> ...more treatments than usual <input type="radio"/> ...fewer treatments than usual <input type="radio"/> ...about the same number of treatments as usual
10.	Of the total number of antineoplastic drug treatments you administered during the past 7 calendar days... a. ...what percent was liquid? b. ...what percent were tablets/capsules?	<p>_____ % IF 100%, SKIP QUESTIONS 11 AND 12</p> <p>_____ % FILL IN DIFFERENCE BETWEEN 100% AND NUMBER ENTERED IN 10A</p> <p>IF 100%, SKIP QUESTIONS 15a-d, 17-26 AND 41-43.</p>

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IF ONLY ONE RESPONSE MARKED IN QUESTION 13 → GO TO QUESTION 15.

14.	Of the locations you checked above, please indicate the area where you most often administered antineoplastic agents.	LIST AREAS MARKED IN QUESTION 13 (USE RADIO BUTTONS)
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Questions addressing work practices and use of personal protective clothing and equipment will help us understand what is currently used and under what circumstances. Depending on your job and exposures, these may not be required.

SKIP QUESTIONS 15 A, B, C AND D, IF '100%' TABLETS/CAPSULES IN QUESTION 10B.

15. During the past 7 calendar days while administering antineoplastic agents to patients, how often did you...

	Always	Sometimes	Never
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a. ...use a closed-system transfer device (e.g., PhaSeal)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. ...use Luer-Lock fittings for all needleless systems, syringes, needles, infusion tubing, and pumps?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. ...use a needle-less system?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. ...use a plastic-backed absorbent pad under injection site?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. ...replace gloves immediately when damaged or contaminated?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. ...wash hands after removing gloves?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. ...wear shoe covers?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. ...wear a head cover?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. During the past 7 calendar days, how often did you store prepared antineoplastic agents in an area restricted to authorized personnel before administering them to patients?

- Always
- Sometimes
- Never
- Not applicable, I did not store antineoplastic agents before administering them to patients

SKIP QUESTIONS 17-26 IF '100%' TABLETS/CAPSULES IN QUESTION 10B.

17. During the past 7 calendar days, which of the following best describes how liquid antineoplastic agents were most commonly received from the pharmacy (or drug preparation area)?

- IV tubing primed with antineoplastic agent
- IV tubing primed with diluents (i.e., a liquid other than antineoplastic agent)
- IV tubing is not primed
- Not applicable, I did not receive any liquid antineoplastic agents from a pharmacy or drug preparation area

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18. During the past 7 calendar days, how often did you prime the IV tubing before administering antineoplastic agents to patients?

Always
 Sometimes
 Never → [GO TO QUESTION 20](#)

19. During the past 7 calendar days, how did you prime the IV tubing?

With antineoplastic agent
 With diluents (i.e., a liquid other than antineoplastic agent)

Please ✓ all that apply.

20. In the past year, have you accidentally punctured your skin with a sharp while administering antineoplastic agents?

Yes
 No

21. During the past 7 calendar days, did a spill or leak of any amount (even a few drops) occur while you were administering liquid antineoplastic agents?

Yes
 No → [GO TO QUESTION 27](#)

22. During the past 7 calendar days, did any of the following cause a spill or leak of liquid antineoplastic agents during administration?

	Yes	No
a. Attaching, injecting, or detaching from IV line	<input type="radio"/>	<input type="radio"/>
b. Drawing up or expelling air from syringe	<input type="radio"/>	<input type="radio"/>
c. Bad connection	<input type="radio"/>	<input type="radio"/>
d. Excessive pressure in vial	<input type="radio"/>	<input type="radio"/>
e. Equipment malfunction	<input type="radio"/>	<input type="radio"/>
f. Other (Please specify): _____	<input type="radio"/>	<input type="radio"/>

23. During the past 7 calendar days, how many spills or leaks occurred while you were administering liquid antineoplastic agents?

	No spills	1-2 spills	3-5 spills	More than 5 spills
a. Spills or leaks less than 5 ml	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Spills or leaks of 5 ml or more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

IF 'NO SPILLS' MARKED IN BOTH QUESTIONS 23A AND 23B → GO TO QUESTION 27. ALL OTHER RESPONSES → GO TO QUESTION 24.

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24. How often was/were the spill(s) cleaned up?

- Always
- Sometimes
- Never → GO TO QUESTION 27
- I don't know → GO TO QUESTION 27

25. How often did you yourself clean up the spill(s)?

- Always → GO TO QUESTION 27
- Sometimes
- Never

26. Who cleaned up the spill(s)?
Please ✓ all that apply.

- You
- Designated spill cleanup team
- Other (Please specify):

I don't know

27. Are hazardous drug spill kits readily available?

- Yes
- No
- I don't know

28. During the past 7 calendar days, did your skin come into direct contact with antineoplastic agents during handling or administration?

- Yes
- No

29. Has exposure monitoring (e.g., air sampling, wipe sampling) been conducted in the **past 12 months** to assess your or your co-workers' exposure to antineoplastic agents?

- Yes
- No
- I don't know

30. A **medical surveillance program** may include work history, physical exam, blood and/or urine tests, etc. Do you participate in a medical surveillance program that addresses potential health effects of exposure to antineoplastic agents?

- Yes
- No, my (primary) employer offers such a program but I did not participate in it.
- My (primary) employer does not provide such a program
- I am not aware of whether my employer provides such a program.

Questions addressing work practices and use of personal protective clothing and equipment will help us understand what is currently used and under what circumstances. Depending on your job and exposures, these may not be required.

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31. During the past 7 calendar days, how often did you wear a **nonabsorbent gown with closed front and tight cuffs** while administering antineoplastic agents to patients?

- Always → **GO TO QUESTION 34**
- Sometimes
- Never

32. What were the reason(s) you did not always wear a **nonabsorbent gown with closed front and tight cuffs** while administering antineoplastic agents?

Please ✓ all that apply.

- An engineering control (e.g., closed-system drug transfer device) was being used
- Skin exposure was minimal
- Not part of our protocol
- Not provided by employer
- No one else who does this work uses them
- Too uncomfortable or difficult to use
- Not readily available in work area
- Cross contamination to other areas is not a concern
- Concerned about raising the patient's anxiety
- Other (Please specify):

IF ONLY ONE RESPONSE MARKED IN QUESTION 32 → GO TO QUESTION 34.

33. Of the reasons you checked above, please indicate the **most important reason** you did not always wear a **nonabsorbent gown with closed front and tight cuffs** while administering antineoplastic agents.

LIST REASONS AREAS MARKED IN QUESTION 32 (USE RADIO BUTTONS)

34. In your current job, have you taken home any clothing that came into contact with antineoplastic agents?

- Yes
- No
- I don't know

35. During the past 7 calendar days, how often did you wear **chemotherapy gloves** while administering antineoplastic agents to patients?

- Always
- Sometimes
- Never → **GO TO QUESTION 37**
- I don't know if the gloves I wore were chemotherapy gloves → **GO TO QUESTION 39**

Note: A chemotherapy glove is a medical glove that has been approved by FDA for use when handling antineoplastic agents.

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36. When wearing chemotherapy gloves, how often did you wear two pairs (i.e., double glove)?
- Always
 - Sometimes
 - Never
 - I don't know

IF 'ALWAYS' MARKED IN QUESTION 35 ➔ GO TO QUESTION 39. IF 'SOMETIMES' MARKED IN QUESTION 35 ➔ GO TO QUESTION 37.

37. What were the reason(s) you did not always wear **chemotherapy gloves** while administering antineoplastic agents?

Please ✓ all that apply.

- Skin exposure was minimal
- Not part of our protocol
- Not provided by employer
- No one else who does this work uses them
- Too uncomfortable or difficult to use
- Not readily available in work area
- Cross contamination to other areas is not a concern
- Concerned about raising the patient's anxiety
- Other (Please specify):

IF ONLY ONE RESPONSE MARKED IN QUESTION 37 ➔ GO TO QUESTION 39.

38. Of the reasons you checked above, please indicate the **most important reason** you did not always wear **chemotherapy gloves** while administering antineoplastic agents.

LIST REASONS MARKED IN QUESTION 37 (USE RADIO BUTTONS)

39. During the past 7 calendar days, did you perform any of the following activities while wearing gloves that had been used to administer antineoplastic agents?

	Yes	No
a. Use phone/cell phone/pager	<input type="radio"/>	<input type="radio"/>
b. Touch a computer keyboard, mouse, monitor or calculator	<input type="radio"/>	<input type="radio"/>
c. Handle files or charts	<input type="radio"/>	<input type="radio"/>
d. Touch door knobs, cabinets or drawers	<input type="radio"/>	<input type="radio"/>
e. Eat, drink, chew gum or smoke	<input type="radio"/>	<input type="radio"/>
f. Use pen or pencil	<input type="radio"/>	<input type="radio"/>

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g. Touch waste basket/garbage bags	<input type="radio"/>	<input type="radio"/>
h. Use restroom	<input type="radio"/>	<input type="radio"/>
i. Apply cosmetics (e.g., lip balm)	<input type="radio"/>	<input type="radio"/>
j. Touch IV pump or bed controls	<input type="radio"/>	<input type="radio"/>
k. Use a non-disposable stethoscope	<input type="radio"/>	<input type="radio"/>

40. During the past 7 calendar days, did you remove and later put back on the gloves you had worn while administering antineoplastic agents?

Yes
 No

41. During the past 7 calendar days, how often did you wear **eye or face protection** (e.g., goggles, face shield) while administering liquid antineoplastic agents to patients?
Do not include personal eye glasses

Always → **GO TO QUESTION 44**
 Sometimes
 Never

42. What were the reason(s) you did not **always** wear **eye or face protection** while administering liquid antineoplastic agents?

Please ✓ all that apply.

- An engineering control (e.g., closed-system drug transfer device) was being used
- Exposure was minimal
- Not part of our protocol
- Not provided by employer
- No one else who does this work uses them
- Too uncomfortable or difficult to use
- Not readily available in work area
- Concerned about raising the patient's anxiety
- Other (Please specify):

IF ONLY ONE RESPONSE MARKED IN QUESTION 42 → GO TO QUESTION 44.

43. Of the reasons you checked above, please indicate the **most important reason** you did not always wear **eye or face protection** while administering liquid antineoplastic agents.

**LIST REASONS MARKED IN QUESTION 42.
(USE RADIO BUTTONS)**

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44. During the past 7 calendar days, did you wear any of the following **while administering antineoplastic agents**?

Please ✓ all that apply.

N95 respirator (includes surgical N95 respirator)



Half-facepiece air purifying respirator with particulate cartridge(s)



Powered air purifying respirator (PAPR)



Standard surgical mask



None of above

I don't know

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DISPLAY FOLLOWING NOTE ON A SEPARATE SCREEN (EXCEPT THOSE WHO MARKED 'I DON'T KNOW'): THE FOLLOWING QUESTIONS ASK ABOUT RESPIRATORS. STANDARD SURGICAL MASKS ARE NOT RESPIRATORS.

IF RESPONDENT MARKED 'N95 RESPIRATOR', 'HALF-FACEPIECE AIR PURIFYING RESPIRATOR' OR 'POWERED AIR PURIFYING RESPIRATOR' IN QUESTION 44 → GO TO QUESTION 45

IF RESPONDENT MARKED 'STANDARD SURGICAL MASK' OR 'NONE OF THE ABOVE' IN QUESTION 44 → GO TO QUESTION 46

IF RESPONDENT MARKED 'I DON'T KNOW' IN QUESTION 44 → GO TO INSTRUCTIONS IN QUESTION 48

45. How often did you wear a N95 respirator, half-facepiece air purifying respirator with particulate cartridge or a powered air purifying respirator while administering antineoplastic agents?
- Always → GO TO QUESTION 48
 Sometimes

46. What were the reason(s) you did not **always** wear a N95 respirator, a half-facepiece air purifying respirator with particulate cartridge, or a powered air purifying respirator while administering antineoplastic agents?

Please ✓ all that apply.

- An engineering control (e.g., closed-system drug transfer device) was being used
- Exposure was minimal
- Not part of our protocol
- Not provided by employer
- No one else who does this work uses them
- Too uncomfortable or difficult to use
- Not readily available in work area
- Concerned about raising the patient's anxiety
- Other (Please specify):
-

IF RESPONDENT MARKED MORE THAN ONE REASON IN QUESTION 47 → GO TO QUESTION 48.

OTHERWISE → GO TO INSTRUCTIONS BEFORE QUESTION 48.

47. Of the reasons you checked above, please indicate the **most important reason** you did not **always** wear a **respirator** while administering antineoplastic agents.

LIST REASONS MARKED IN QUESTION 46 (USE RADIO BUTTONS)

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IF RESPONDENT MARKED "N95 RESPIRATOR" OR "HALF-FACEPIECE AIR PURIFYING RESPIRATOR WITH PARTICULATE CARTRIDGE" IN QUESTION 44 → GO TO QUESTION 48.

OTHERWISE ↗ EXIT MODULE AND GO TO CORE MODUULE IF THIS IS THE FIRST HAZARD MODULE COMPLETED

IF THIS IS THE SECOND HAZARD MODULE COMPLETED, END SURVEY. END WITH 'THANK YOU' STATEMENT.

48. Have you been fit-tested for the respirator(s) you use for administering antineoplastic agents?

Yes

No

↗ EXIT MODULE AND GO TO CORE MODULE IF THIS IS THE FIRST HAZARD MODULE COMPLETED

IF THIS IS THE SECOND HAZARD MODULE COMPLETED, END SURVEY. END WITH 'THANK YOU' STATEMENT.

Thank you for participating in the NIOSH Health and Safety Practices Survey of Healthcare Workers. Your answers have been submitted.