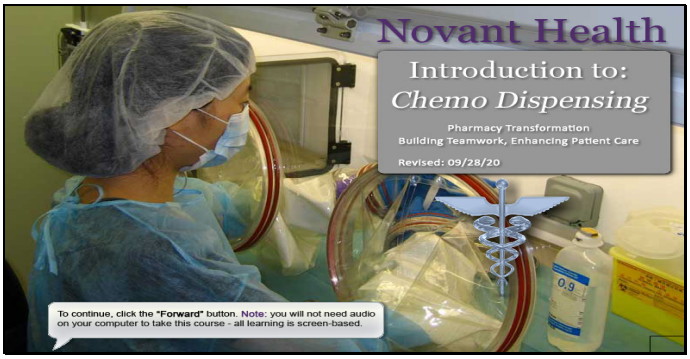


Slide 1 - Title

Text Captions: Revised: 09/28/20

Pharmacy Transformation

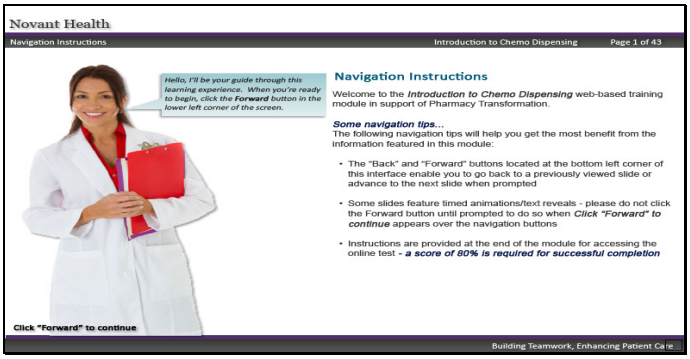
Building Teamwork, Enhancing Patient Care

Introduction to:

Chemo Dispensing

Novant Health

To continue, click the “Forward” button. Note: you will not need audio on your computer to take this course - all learning is screen-based.



Slide 2 - Navigation

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Hello, I'll be your guide through this learning experience. When you're ready to begin, click the Forward button in the lower left corner of the screen.

Introduction to Chemo Dispensing

Page 1 of 43

Navigation Instructions

Navigation Instructions

Welcome to the Introduction to Chemo Dispensing web-based training module in support of Pharmacy Transformation.

Some navigation tips...

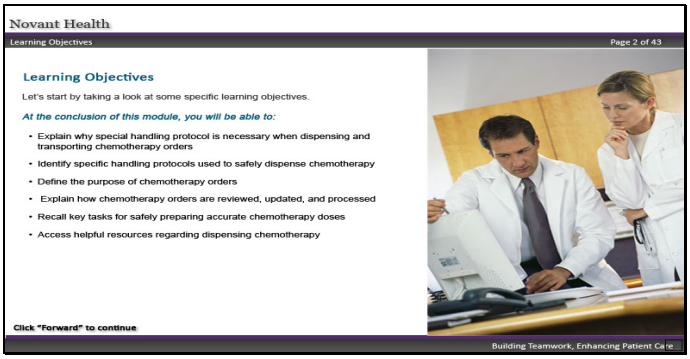
The following navigation tips will help you get the most benefit from the information featured in this module:

The "Back" and "Forward" buttons located at the bottom left corner of this interface enable you to go back to a previously viewed slide or advance to the next slide when prompted

Some slides feature timed animations/text reveals - please do not click the Forward button until prompted to do so when Click "Forward" to continue appears over the navigation buttons

Instructions are provided at the end of the module for accessing the online test - a score of 80% is required for successful completion

Click "Forward" to continue



Slide 3 - Objectives

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Learning Objectives

Learning Objectives

Let’s start by taking a look at some specific learning objectives.

At the conclusion of this module, you will be able to:

Explain why special handling protocol is necessary when dispensing and transporting chemotherapy orders

Identify specific handling protocols used to safely dispense chemotherapy

Define the purpose of chemotherapy orders

Explain how chemotherapy orders are reviewed, updated, and processed

Recall key tasks for safely preparing accurate chemotherapy doses

Access helpful resources regarding dispensing chemotherapy

Click “Forward” to continue

Slide 4 - Section 2

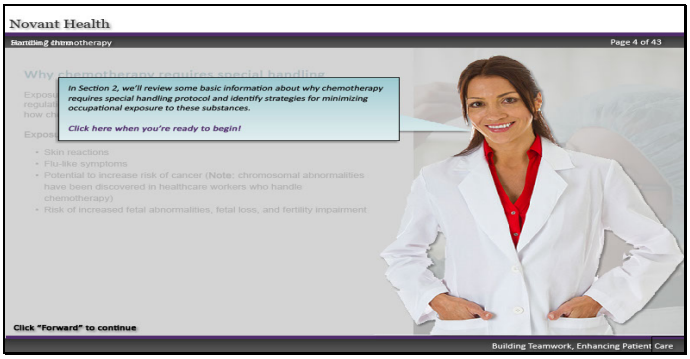
Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Page 3 of 43

Section 2: An introduction to dispensing chemotherapy

Section 2



Slide 5 - Secion 1 intro

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Section 2 Intro

Handling chemotherapy

Why chemotherapy requires special handling

Exposure to chemotherapy can be hazardous to your health. In fact, safety regulation entities (such as OSHA, ASHP, etc.) place strict guidelines for how chemotherapy is dispensed and transported to the units.

Exposure to chemotherapy can result in:

Skin reactions

Flu-like symptoms

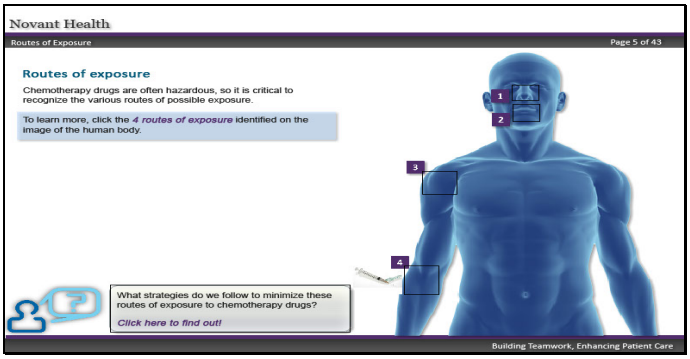
Potential to increase risk of cancer (Note: chromosomal abnormalities have been discovered in healthcare workers who handle chemotherapy)

Risk of increased fetal abnormalities, fetal loss, and fertility impairment

In Section 2, we'll review some basic information about why chemotherapy requires special handling protocol and identify strategies for minimizing occupational exposure to these substances.

Click here when you're ready to begin!

Click "Forward" to continue



Slide 6 - Exposure routes

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Routes of Exposure

Routes of exposure

Chemotherapy drugs are often hazardous, so it is critical to recognize the various routes of possible exposure.

To learn more, click the 4 routes of exposure identified on the image of the human body.

What strategies do we follow to minimize these routes of exposure to chemotherapy drugs?

Click here to find out!

Accidental injection - drugs accidentally injected by a needle stick.

Click the “X” to close this window.

Direct skin contact/absorption - drugs contaminating work surfaces, clothing, medical equipment, bed linen, and/or patients’ urine/feces.

Click the “X” to close this window.

Ingestion - drugs accidentally entering body via PO route.

Click the “X” to close this window.

Inhalation - aerosolized drugs, spills resulting in airborne particulates, etc.

Click the “X” to close this window.

Slide 7 - Strategy 1

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Strategies to Prevent Occupational Exposure

Safety Strategies

Multiple strategies are employed to reduce the risk of occupational exposure to these drugs. In all facilities equipped for chemotherapy, it is mandatory that chemotherapy drugs are stored in a separate location with hazard signage.

Our safety strategies begin with storage and preparation...

Storage strategy:

Separate area with signage

Injectables stored in negative pressure room (prevents spread of aerosolized drug in the event of a spill)

Preparation/PPE strategy (proper technique is critical):

Biological safety cabinet prevents exposure to aerosolized drug and provides for aseptic manipulations

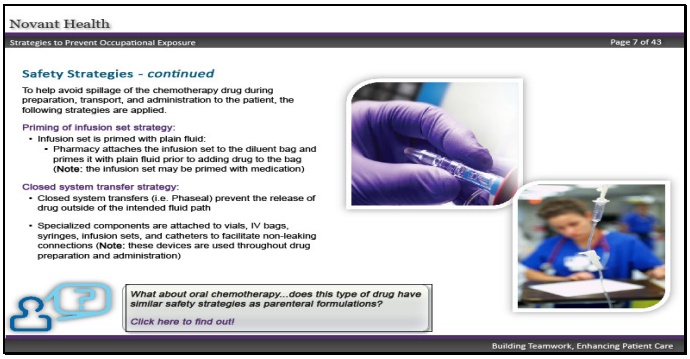
Chemotherapy-rated gloves (two pairs for preparation and administration)

Impervious gown

Mask, hair covering, and shoe covers

Where else would we need a safety strategy in place for chemotherapy?...

Click here to find out!



Slide 8 - Strategy 2

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Strategies to Prevent Occupational Exposure

Safety Strategies - continued

To help avoid spillage of the chemotherapy drug during preparation, transport, and administration to the patient, the following strategies are applied.

Priming of infusion set strategy:

Infusion set is primed with plain fluid:

Pharmacy attaches the infusion set to the diluent bag and primes it with plain fluid prior to adding drug to the bag (Note: the infusion set may be primed with medication)

Closed system transfer strategy:

Closed system transfers (i.e. Phaseal) prevent the release of drug outside of the intended fluid path

Specialized components are attached to vials, IV bags, syringes, infusion sets, and catheters to facilitate non-leaking connections (Note: these devices are used throughout drug preparation and administration)

What about oral chemotherapy...does this type of drug have similar safety strategies as parenteral formulations?

Click here to find out!

Slide 9 - PO strategy

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Page 8 of 43

Strategies to Prevent Occupational Exposure

Enteral formulation safety strategies

Oral chemotherapy has similar exposure risks as parenteral chemotherapy formulations. Precautions must be taken to minimize exposure - required safety strategies include:

Wear PPE

Do not crush, split or compound oral solutions outside of the BSC

Ensure the label states chemotherapy or “hazardous medication”

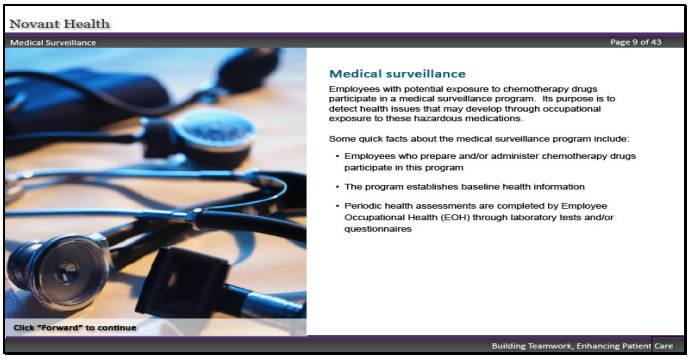
Do not tube

Do not place in ADM for dispensing

Dispose of in black container

Novant Health has a medical surveillance safety plan in place for employees handling chemotherapy to check for exposure to the hazardous substances.

Click the nurse to learn more about the medical surveillance.



Slide 10 - Medical surveillance

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Medical Surveillance

Medical surveillance

Employees with potential exposure to chemotherapy drugs participate in a medical surveillance program. Its purpose is to detect health issues that may develop through occupational exposure to these hazardous medications.

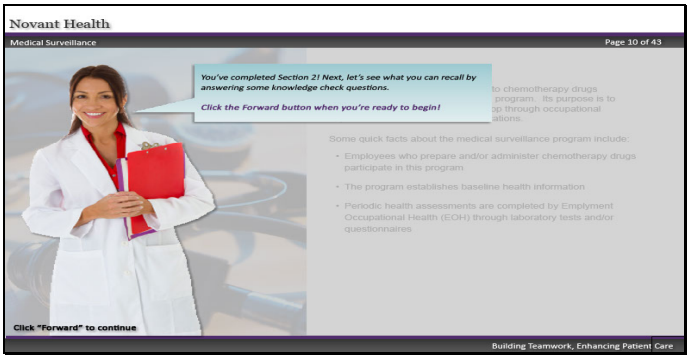
Some quick facts about the medical surveillance program include:

Employees who prepare and/or administer chemotherapy drugs participate in this program

The program establishes baseline health information

Periodic health assessments are completed by Employee Occupational Health (EOH) through laboratory tests and/or questionnaires

Click “Forward” to continue



Slide 11 - Medical surveillance

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Medical Surveillance

Medical surveillance

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Some quick facts about the medical surveillance program include:

Employees who prepare and/or administer chemotherapy drugs participate in this program

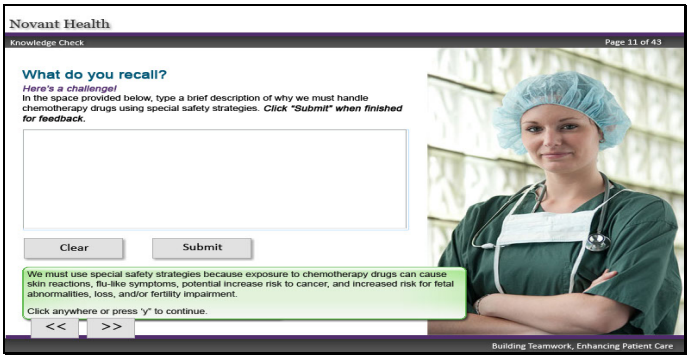
The program establishes baseline health information

Periodic health assessments are completed by Emplyment Occupational Health (EOH) through laboratory tests and/or questionnaires

You've completed Section 2! Next, let's see what you can recall by answering some knowledge check questions.

Click the Forward button when you're ready to begin!

Click "Forward" to continue



Slide 12 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Knowledge Check

Here's a challenge!

In the space provided below, type a brief description of why we must handle chemotherapy drugs using special safety strategies. Click "Submit" when finished for feedback.

Question 1 of 10

You must answer the question before continuing.

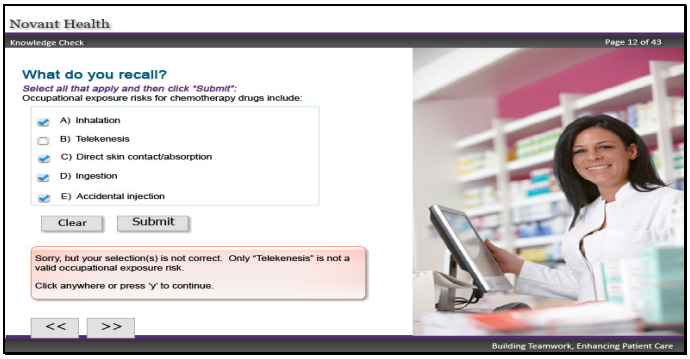
We must use special safety strategies because exposure to chemotherapy drugs can cause skin reactions, flu-like symptoms, potential increase risk to cancer, and increased risk for fetal abnormalities, loss, and/or fertility impairment.

Click anywhere or press 'y' to continue.

We must use special safety strategies because exposure to chemotherapy drugs can cause skin reactions, flu-like symptoms, potential increase risk to cancer, and increased risk for fetal abnormalities, loss, and/or fertility impairment.

Click anywhere or press 'y" to continue.

What do you recall?



Slide 13 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Page 12 of 43

Knowledge Check

What do you recall?

Select all that apply and then click “Submit”:

Occupational exposure risks for chemotherapy drugs include:

You must answer the question before continuing.

Question 2 of 10

That’s correct!

Click anywhere or press ‘y’ to continue.

Sorry, but your selection(s) is not correct. Only “Telekenesis” is not a valid occupational exposure risk.

Click anywhere or press ‘y’ to continue.

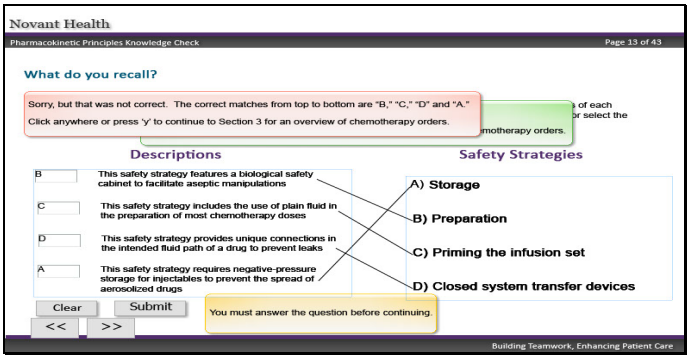
B) Telekenesis

A) Inhalation

C) Direct skin contact/absorption

D) Ingestion

E) Accidental injection



Slide 14 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

What do you recall?

Pharmacokinetic Principles Knowledge Check

Page 13 of 43

Here's a challenge!

Let's finish Section 2 by checking what you know about our safety strategies. Listed below, you'll find some descriptions of each strategy. Click on each description in the left column and drag it over its associated safety strategy in the right column (or select the correct letter match from the drop-down box). Click "Submit" when finished for feedback on your selections.

Descriptions

Safety Strategies

That's correct, you made all of the right matches!

Click anywhere or press 'y' to continue to Section 3 for an overview of chemotherapy orders.

Sorry, but that was not correct. The correct matches from top to bottom are "B," "C," "D" and "A."

Click anywhere or press 'y' to continue to Section 3 for an overview of chemotherapy orders.

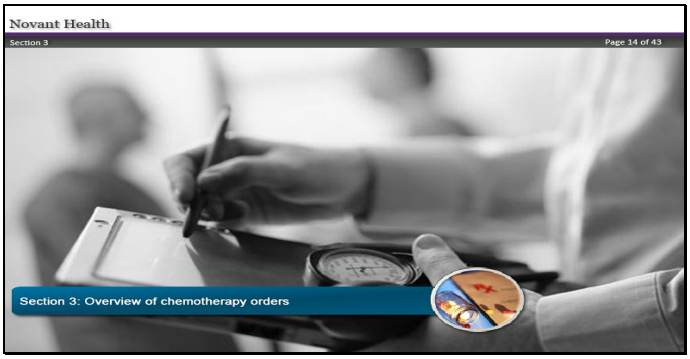
You must answer the question before continuing.

Question 3 of 10

This safety strategy features a biological safety cabinet to facilitate aseptic manipulations

This safety strategy includes the use of plain fluid in the preparation of most chemotherapy doses

This safety strategy provides unique connections in the intended fluid path of a drug to prevent leaks



Slide 15 - Section 3

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Section 3

Section 3: Overview of chemotherapy orders

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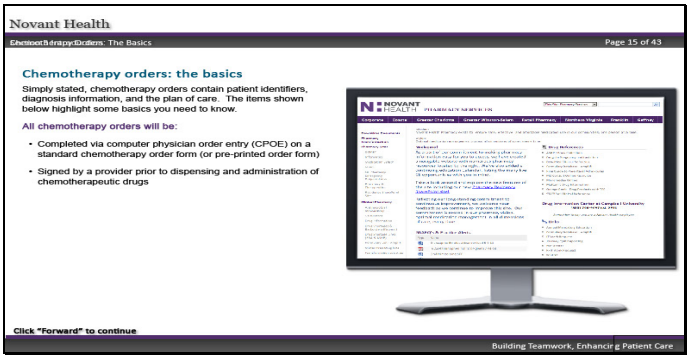

Slide 16 - Section 3 Intro

Text Captions: Novant Health

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Section 3 Introduction

Chemotherapy Orders: The Basics

Chemotherapy orders: the basics

Simply stated, chemotherapy orders contain patient identifiers, diagnosis information, and the plan of care. The items shown below highlight some basics you need to know.

All chemotherapy orders will be:

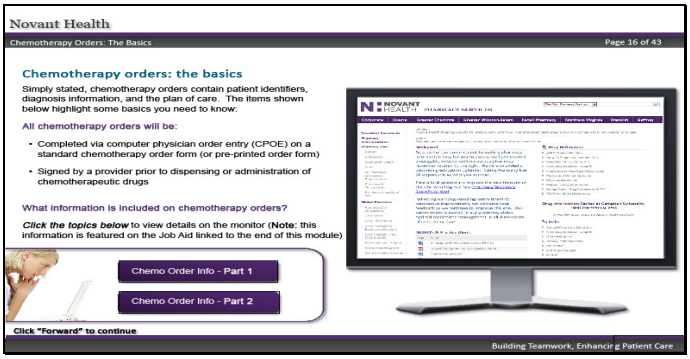
Completed via computer physician order entry (CPOE) on a standard chemotherapy order form (or pre-printed order form)

Signed by a provider prior to dispensing and administration of chemotherapeutic drugs

In Section 3, we'll identify what standard information is included on chemotherapy orders, how they're updated if needed, and how an order is processed.

Click here when you're ready to begin!

Click "Forward" to continue



Slide 17 - Absorption Intro

Text Captions: Novant Health

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Chemotherapy Orders: The Basics

Chemotherapy orders: the basics

Simply stated, chemotherapy orders contain patient identifiers, diagnosis information, and the plan of care. The items shown below highlight some basics you need to know:

All chemotherapy orders will be:

Completed via computer physician order entry (CPOE) on a standard chemotherapy order form (or pre-printed order form)

Signed by a provider prior to dispensing or administration of chemotherapeutic drugs

What information is included on chemotherapy orders?

Click the topics below to view details on the monitor (Note: this information is featured on the Job Aid linked to the end of this module)

Chemo Order Info - Part 1

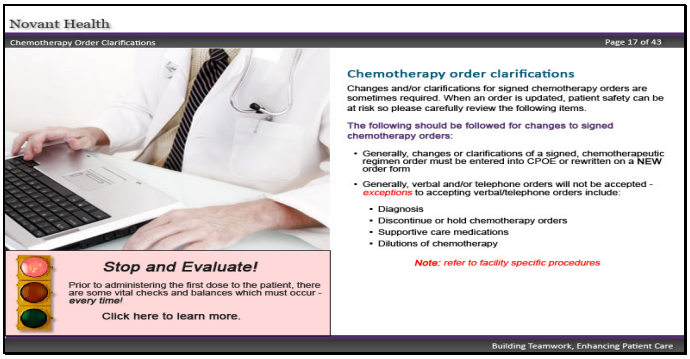
Chemo Order Info - Part 2

What treatment orders include (Part 2):

Modifications to drug therapy determined by physician

Route of administration

Schedule of administration including frequency and dates or intervals of administration



Slide 18 - Order changes

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Order Clarifications

Chemotherapy order clarifications

Changes and/or clarifications for signed chemotherapy orders are sometimes required. When an order is updated, patient safety can be at risk so please carefully review the following items.

The following should be followed for changes to signed chemotherapy orders:

Generally, changes or clarifications of a signed, chemotherapeutic regimen order must be entered into CPOE or rewritten on a NEW order form

Generally, verbal and/or telephone orders will not be accepted - exceptions to accepting verbal/telephone orders include:

Diagnosis

Discontinue or hold chemotherapy orders

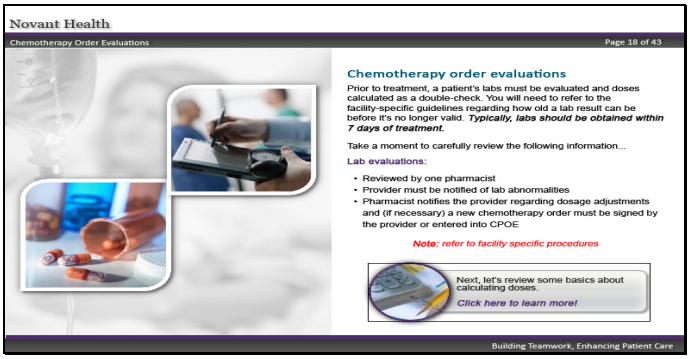
Supportive care medications

Dilutions of chemotherapy

Note: refer to facility specific procedures

Stop and Evaluate!

Prior to administering the first dose to the patient, there are some vital checks and balances which must occur - every



Slide 19 - Order evals

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Order Evaluations

Chemotherapy order evaluations

Prior to treatment, a patient's labs must be evaluated and doses calculated as a double-check. You will need to refer to the facility-specific guidelines regarding how old a lab result can be before it's no longer valid. Typically, labs should be obtained within 7 days of treatment.

Take a moment to carefully review the following information...

Lab evaluations:

Reviewed by one pharmacist

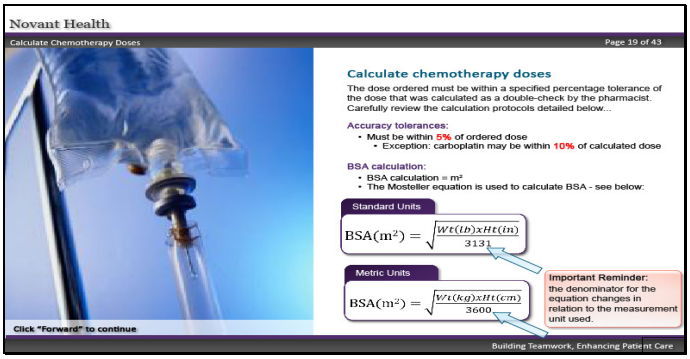
Provider must be notified of lab abnormalities

Pharmacist notifies the provider regarding dosage adjustments and (if necessary) a new chemotherapy order must be signed by the provider or entered into CPOE

Note: refer to facility specific procedures

Next, let's review some basics about calculating doses.

Click here to learn more!



Slide 20 - Calculate doses

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Calculate Chemotherapy Doses

Calculate chemotherapy doses

The dose ordered must be within a specified percentage tolerance of the dose that was calculated as a double-check by the pharmacist. Carefully review the calculation protocols detailed below...

Accuracy tolerances:

Must be within 5% of ordered dose

Exception: carboplatin may be within 10% of calculated dose

BSA calculation:

BSA calculation = m2

The Mosteller equation is used to calculate BSA - see below:

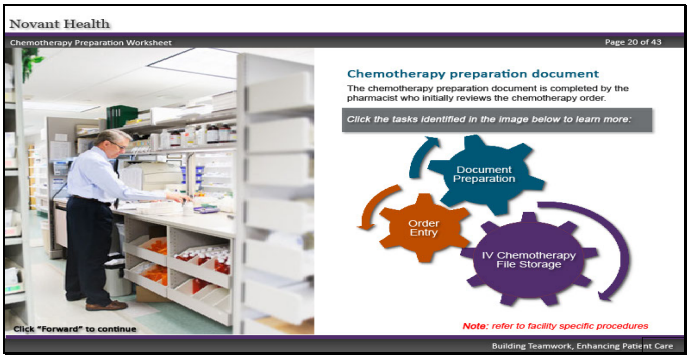
Metric Units

Standard Units

Important Reminder:

the denominator for the equation changes in relation to the measurement unit used.

Click “Forward” to continue



Slide 21 - Worksheets

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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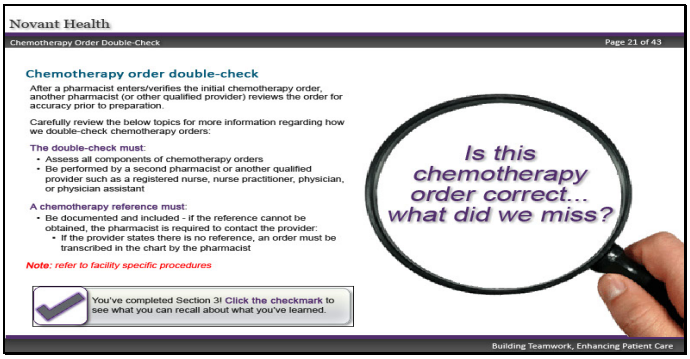
Chemotherapy Preparation Worksheet

Chemotherapy preparation document

The chemotherapy preparation document is completed by the pharmacist who initially reviews the chemotherapy order.



Slide 22 - Double-check

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Order Double-Check

Chemotherapy order double-check

After a pharmacist enters/verifies the initial chemotherapy order, another pharmacist (or other qualified provider) reviews the order for accuracy prior to preparation.

Carefully review the below topics for more information regarding how we double-check chemotherapy orders:

The double-check must:

Assess all components of chemotherapy orders

Be performed by a second pharmacist or another qualified provider such as a registered nurse, nurse practitioner, physician, or physician assistant

A chemotherapy reference must:

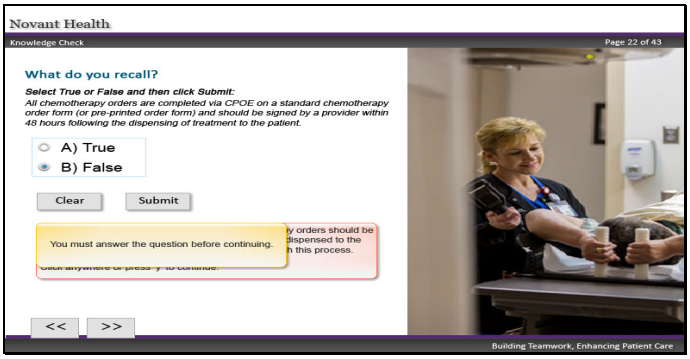
Be documented and included - if the reference cannot be obtained, the pharmacist is required to contact the provider:

If the provider states there is no reference, an order must be transcribed in the chart by the pharmacist

Note: refer to facility specific procedures

Is this chemotherapy order correct... what did we miss?

You've completed Section 3! Click the checkmark to see what you can recall about what you've learned.



Slide 23 - Knowledge check

Text Captions: Novant Health

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Knowledge Check

Page 22 of 43

Select True or False and then click Submit:

All chemotherapy orders are completed via CPOE on a standard chemotherapy order form (or pre-printed order form) and should be signed by a provider within 48 hours following the dispensing of treatment to the patient.

A) True

B) False

Question 4 of 10

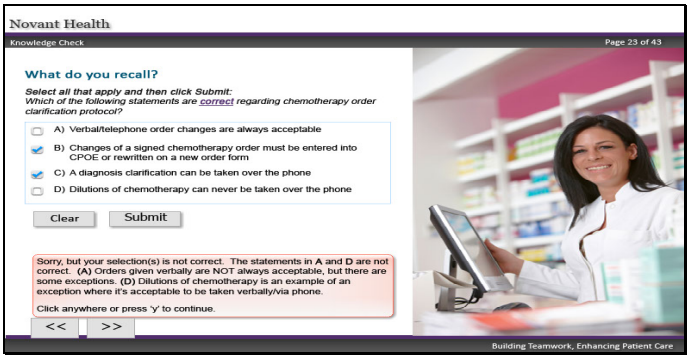
What do you recall?

Correct - Click anywhere or press ‘y’ to continue.

Sorry, but this is not a true statement. All chemotherapy orders should be signed by the provider PRIOR to the treatment being dispensed to the patient and there is no 48 hour timeline associated with this process.

Click anywhere or press ‘y’ to continue.

You must answer the question before continuing.



Slide 24 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Knowledge Check

What do you recall?

Select all that apply and then click Submit:

Which of the following statements are correct regarding chemotherapy order clarification protocol?

You must answer the question before continuing.

Question 5 of 10

That's correct, great job!

Click anywhere or press 'y' to continue.

Sorry, but your selection(s) is not correct. The statements in A and D are not correct. (A) Orders given verbally are NOT always acceptable, but there are some exceptions. (D) Dilutions of chemotherapy is an example of an exception where it's acceptable to be taken verbally/via phone.

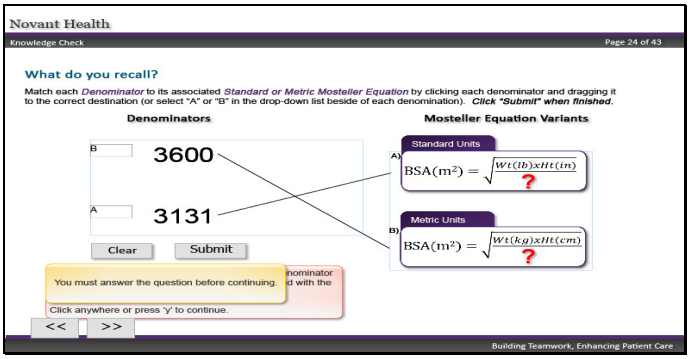
Click anywhere or press 'y' to continue.

B) Changes of a signed chemotherapy order must be entered into CPOE or rewritten on a new order form

A) Verbal/telephone order changes are always acceptable

C) A diagnosis clarification can be taken over the phone

D) Dilutions of chemotherapy can never be taken over the phone



Slide 25 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Standard Units

Metric Units

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?

Knowledge Check

?

What do you recall?

Match each Denominator to its associated Standard or Metric Mosteller Equation by clicking each denominator and dragging it to the correct destination (or select “A” or “B” in the drop-down list beside of each denomination). Click “Submit” when finished.

Denominators

Mosteller Equation Variants

Great, your matches were correct!

Click anywhere or press ‘y’ to continue.

Sorry, your matches were incorrect. “3600” is the denominator used with the Metric Units version and “3131” is used with the Standar Units version of the Mosteller equation.

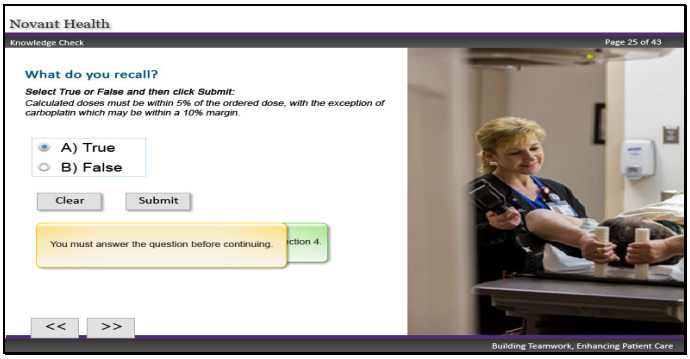
Click anywhere or press ‘y’ to continue.

You must answer the question before continuing.

Question 6 of 10

3600

3131



Slide 26 - Knowledge check

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Knowledge Check

Page 25 of 43

Select True or False and then click Submit:

Calculated doses must be within 5% of the ordered dose, with the exception of carboplatin which may be within a 10% margin.

A) True

B) False

Question 7 of 10

What do you recall?

Correct - Click anywhere or press ‘y’ to continue to Section 4.

You are incorrect - this statement is actually true.

Click anywhere or press ‘y’ to continue to Section 4.

You must answer the question before continuing.

Slide 27 - Section 4

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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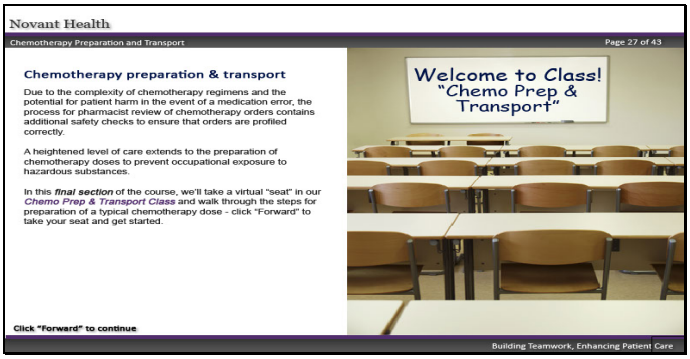
Section 4

Section 4: chemotherapy dose preparation & transport



Slide 28 - Section 2 Intro

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Chemotherapy preparation & transport

Due to the complexity of chemotherapy regimens and the potential for patient harm in the event of a medication error, the process for pharmacist review of chemotherapy orders contains additional safety checks to ensure that orders are profiled correctly.

A heightened level of care extends to the preparation of chemotherapy doses to prevent occupational exposure to hazardous substances.

In this final section of the course, we'll take a virtual “seat” in our Chemo Prep & Transport Class and walk through the steps for preparation of a typical chemotherapy dose - click “Forward” to take your seat and get started.

Welcome to Class!

“Chemo Prep & Transport”

Click “Forward” to continue

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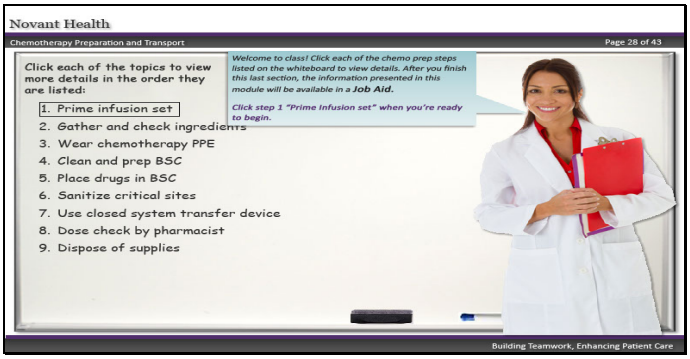
Chemotherapy Preparation and Transport



Slide 29 - Class intro

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

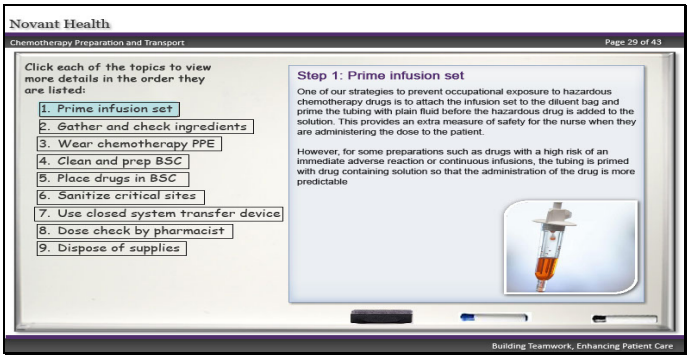
Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Welcome to class! Click each of the chemo prep steps listed on the whiteboard to view details. After you finish this last section, the information presented in this module will be available in a Job Aid.

Click step 1 “Prime Infusion set” when you’re ready to begin.



Slide 30 - Step 1

Text Captions: Novant Health

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

Dose check by pharmacist

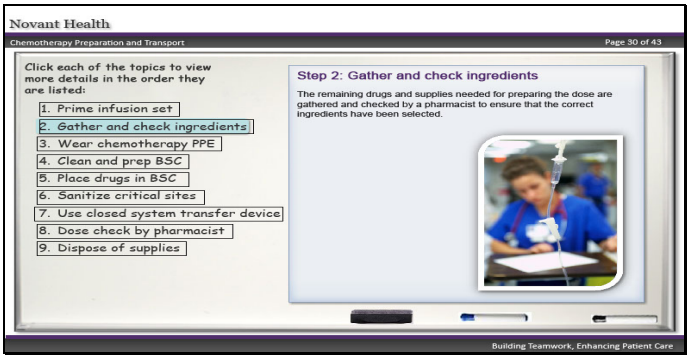
Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Step 1: Prime infusion set

One of our strategies to prevent occupational exposure to hazardous chemotherapy drugs is to attach the infusion set to the diluent bag and prime the tubing with plain fluid before the hazardous drug is added to the solution. This provides an extra measure of safety for the nurse when they are administering the dose to the patient.

However, for some preparations such as drugs with a high risk of an immediate adverse reaction or continuous infusions, the tubing is primed with drug containing solution so that the administration of the drug is more predictable



Slide 31 - Step 2

Text Captions: Novant Health

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

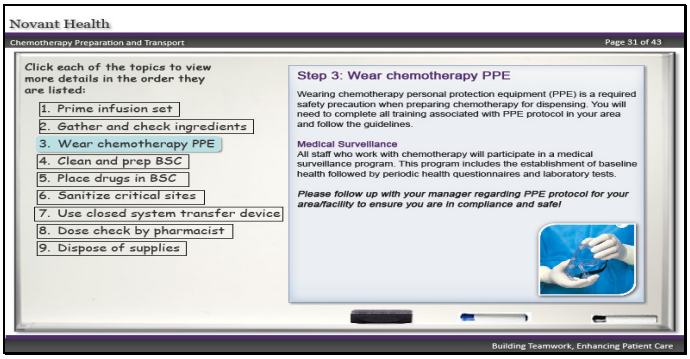
Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Step 2: Gather and check ingredients

The remaining drugs and supplies needed for preparing the dose are gathered and checked by a pharmacist to ensure that the correct ingredients have been selected.



Slide 32 - Step 3

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

Dose check by pharmacist

Dispose of supplies

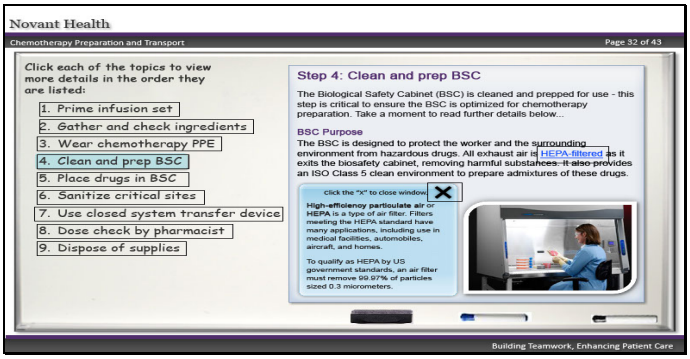
Click each of the topics to view more details in the order they are listed:

Step 3: Wear chemotherapy PPE

Wearing chemotherapy personal protection equipment (PPE) is a required safety precaution when preparing chemotherapy for dispensing. You will need to complete all training associated with PPE protocol in your area and follow the guidelines.

Medical Surveillance

All staff who work with chemotherapy will participate in a medical surveillance program. This program includes the establishment of baseline health followed by periodic health questionnaires and laboratory tests.



Slide 33 - Step 4

Text Captions: Novant Health

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

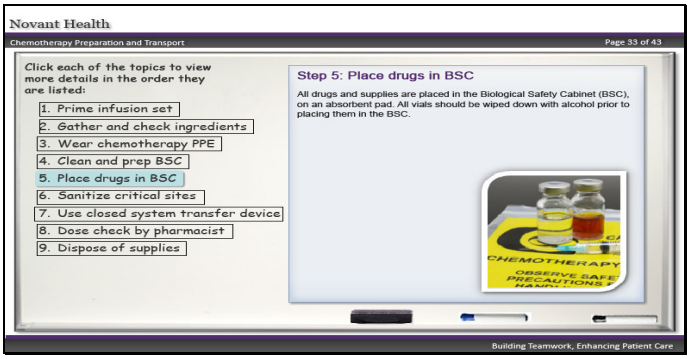
Step 4: Clean and prep BSC

The Biological Safety Cabinet (BSC) is cleaned and prepped for use - this step is critical to ensure the BSC is optimized for chemotherapy preparation. Take a moment to read further details below...

BSC Purpose

The BSC is designed to protect the worker and the surrounding environment from hazardous drugs. All exhaust air is HEPA-filtered as it exits the biosafety cabinet, removing harmful substances. It also provides an ISO Class 5 clean environment to prepare admixtures of these drugs.

Click the “X” to close window.



Slide 34 - Step 5

Text Captions: Novant Health

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

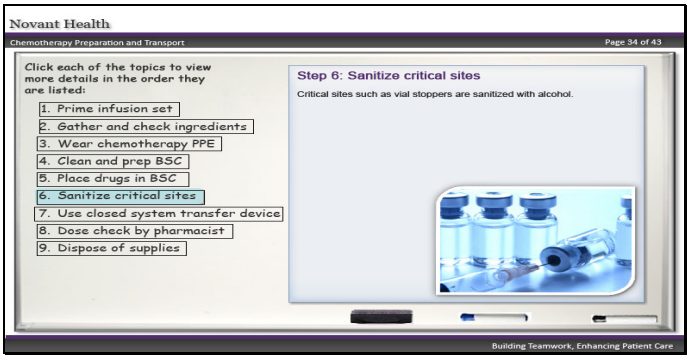
Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Step 5: Place drugs in BSC

All drugs and supplies are placed in the Biological Safety Cabinet (BSC), on an absorbent pad. All vials should be wiped down with alcohol prior to placing them in the BSC.



Slide 35 - Step 6

Text Captions: Novant Health

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

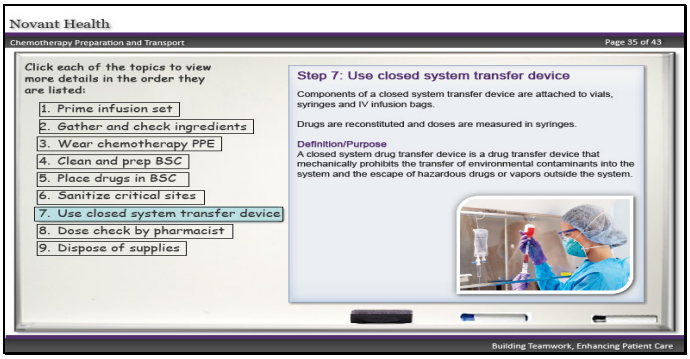
Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Step 6: Sanitize critical sites

Critical sites such as vial stoppers are sanitized with alcohol.



Slide 36 - Step 7

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

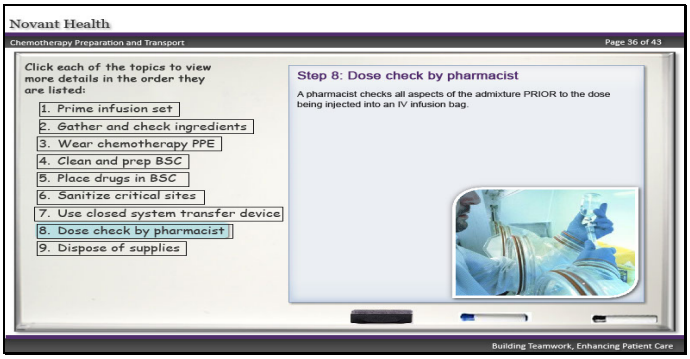
Step 7: Use closed system transfer device

Components of a closed system transfer device are attached to vials, syringes and IV infusion bags.

Drugs are reconstituted and doses are measured in syringes.

Definition/Purpose

A closed system drug transfer device is a drug transfer device that mechanically prohibits the transfer of environmental contaminants into the system and the escape of hazardous drugs or vapors outside the system.



Slide 37 - Step 8

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

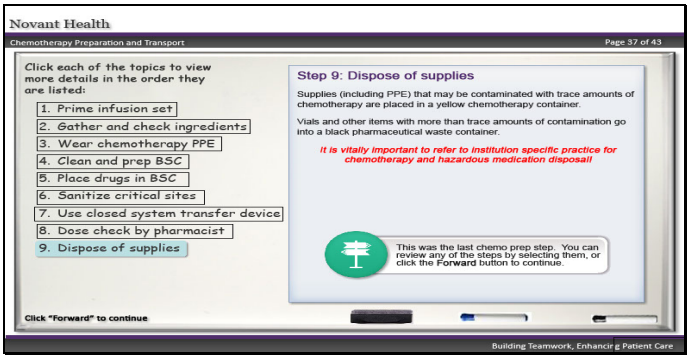
Dose check by pharmacist

Dispose of supplies

Click each of the topics to view more details in the order they are listed:

Step 8: Dose check by pharmacist

A pharmacist checks all aspects of the admixture PRIOR to the dose being injected into an IV infusion bag.



Slide 38 - Step 9

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Chemotherapy Preparation and Transport

Prime infusion set

Gather and check ingredients

Wear chemotherapy PPE

Clean and prep BSC

Place drugs in BSC

Sanitize critical sites

Use closed system transfer device

Dose check by pharmacist

Dispose of supplies

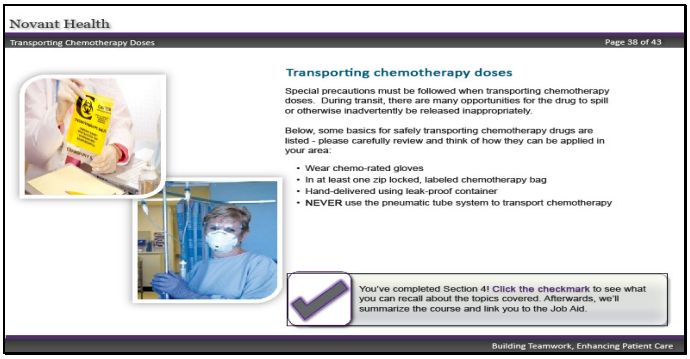
Click each of the topics to view more details in the order they are listed:

Step 9: Dispose of supplies

Supplies (including PPE) that may be contaminated with trace amounts of chemotherapy are placed in a yellow chemotherapy container.

Vials and other items with more than trace amounts of contamination go into a black pharmaceutical waste container.

It is vitally important to refer to institution specific practice for chemotherapy and hazardous medication disposal!



Slide 39 - Chemo transport

Text Captions: Novant Health

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Transporting Chemotherapy Doses

Transporting chemotherapy doses

Special precautions must be followed when transporting chemotherapy doses. During transit, there are many opportunities for the drug to spill or otherwise inadvertently be released inappropriately.

Below, some basics for safely transporting chemotherapy drugs are listed - please carefully review and think of how they can be applied in your area:

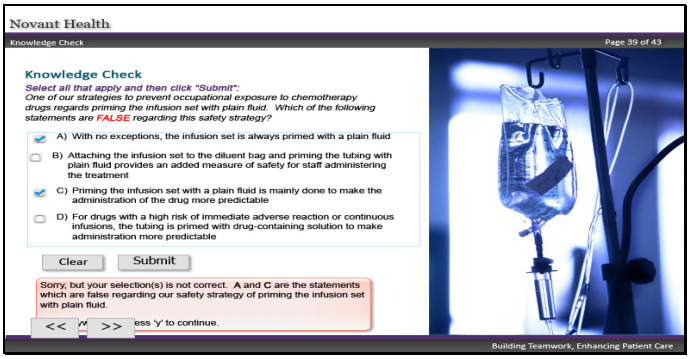
Wear chemo-rated gloves

In at least one zip locked, labeled chemotherapy bag

Hand-delivered using leak-proof container

NEVER use the pneumatic tube system to transport chemotherapy

You've completed Section 4! Click the checkmark to see what you can recall about the topics covered. Afterwards, we'll summarize the course and link you to the Job Aid.



Slide 40 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Knowledge Check

Knowledge Check

Select all that apply and then click “Submit”:

One of our strategies to prevent occupational exposure to chemotherapy drugs regards priming the infusion set with plain fluid. Which of the following statements are FALSE regarding this safety strategy?

You must answer the question before continuing.

Question 8 of 10

That’s correct, great job!

Click anywhere or press ‘y’ to continue.

Sorry, but your selection(s) is not correct. A and C are the statements which are false regarding our safety strategy of priming the infusion set with plain fluid.

Click anywhere or press ‘y’ to continue.

C) Priming the infusion set with a plain fluid is mainly done to make the administration of the drug more predictable

A) With no exceptions, the infusion set is always primed with a plain fluid

B) Attaching the infusion set to the diluent bag and priming the tubing with plain fluid provides an added measure of safety for staff administering the treatment

D) For drugs with a high risk of immediate adverse reaction or continuous infusions, the tubing is primed with drug-containing solution to make administration more predictable

Slide 41 - KC

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Knowledge Check

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Knowledge Check

Decide whether the below statement is True or False, then click “Submit”:

One of our key safety strategies is that we ALWAYS seal chemotherapy drugs in zip lock bags when the pneumatic tube system is used for transport.

Correct, good job! The statement is False - the pneumatic tube system should NEVER be used to transport chemotherapy drugs.

Click anywhere or press ‘y’ to continue to view the Course Summary and receive instructions on how to get credit for completing this course.

That was not the right selection - the statement is “False.” The pneumatic tube system should NEVER be used to transport chemotherapy.

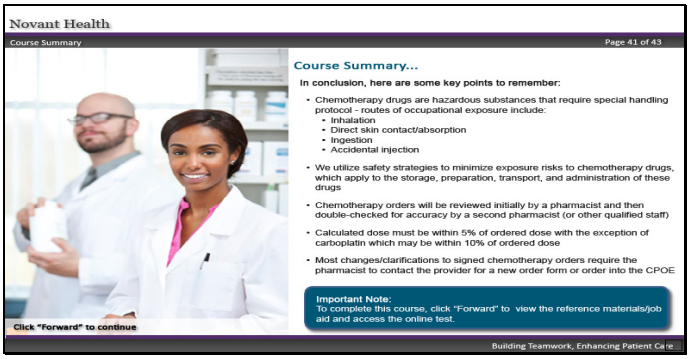
Click anywhere or press ‘y’ to continue to view the Course Summary and receive instructions on how to get credit for completing this course.

You must answer the question before continuing.

Question 9 of 10

A) True

B) False



Slide 42 - Course Summary

Text Captions: Novant Health

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Course Summary

Course Summary...

In conclusion, here are some key points to remember:

Chemotherapy drugs are hazardous substances that require special handling protocol - routes of occupational exposure include:

Inhalation

Direct skin contact/absorption

Ingestion

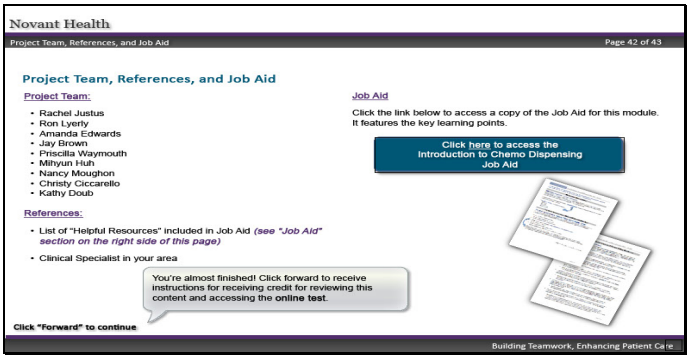
Accidental injection

We utilize safety strategies to minimize exposure risks to chemotherapy drugs, which apply to the storage, preparation, transport, and administration of these drugs

Chemotherapy orders will be reviewed initially by a pharmacist and then double-checked for accuracy by a second pharmacist (or other qualified staff)

Calculated dose must be within 5% of ordered dose with the exception of carboplatin which may be within 10% of ordered dose

Most changes/clarifications to signed chemotherapy orders require the pharmacist to contact the provider for a new order form or order into the CPOE



Slide 43 - Job Aid

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

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Project Team, References, and Job Aid

Project Team, References, and Job Aid

Project Team:

Rachel Justus

Ron Lyerly

Amanda Edwards

Jay Brown

Priscilla Waymouth

Mihyun Huh

Nancy Moughon

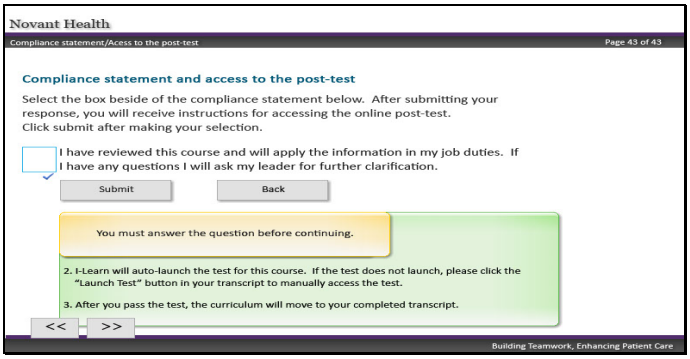
Christy Ciccarello

Kathy Doub

References:

List of “Helpful Resources” included in Job Aid (see “Job Aid” section on the right side of this page)

Clinical Specialist in your area



Slide 44

Text Captions: Novant Health

Building Teamwork, Enhancing Patient Care

Select the box beside of the compliance statement below. After submitting your response, you will receive instructions for accessing the online post-test. Click submit after making your selection.

Compliance statement/Acess to the post-test

Compliance statement and access to the post-test

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I have reviewed this course and will apply the information in my job duties. If I have any questions I will ask my leader for further clarification.

Next steps for completing this curriculum:

1. Close this browser window.

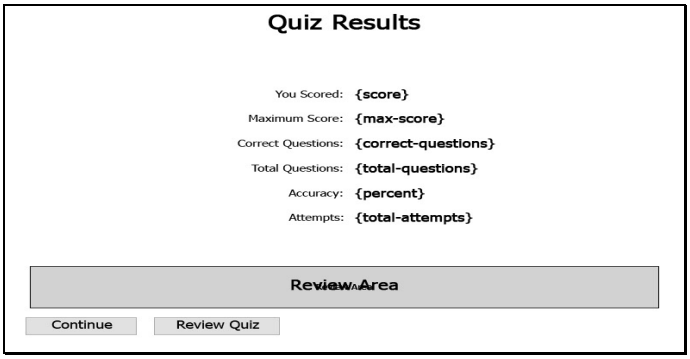
2. I-Learn will auto-launch the test for this course. If the test does not launch, please click the "Launch Test" button in your transcript to manually access the test.

3. After you pass the test, the curriculum will move to your completed transcript.

Incorrect - Click anywhere or press ‘y’ to continue.

You must answer the question before continuing.

Question 10 of 10



Slide 45

Text Captions: Quiz Results

You Scored:

{score}

Maximum Score:

{max-score}

Correct Questions:

{correct-questions}

Total Questions:

{total-questions}

Accuracy:

{percent}

Attempts:

{total-attempts}