

## Drag and Drop

Minimum of 4 and Maximum of 10. There can be 1 or more response targets to drag a “token” to. Students can select a token on top of a target and remove it either dragging it back to the token list or just removing it. If the target already has a token and the student selects another token on top of the same target, the original token is sent back to the token list.

### Example

Vital Signs

Patient Data

Nurses' Notes

History & Physical

Flow Sheet

Orders

1330 (Day 1):

Client identifies that there is no prior history of antihypertensive medication use. Client denies knowledge of drug effects and medication precautions. Client states currently experiencing a headache, 4 on a numeric 0-to-10 pain scale. Client takes chlorthalidone and lisinopril tablets without difficulty.

The nurse administers the initial dose of medication as prescribed and documents in the Nur

Drag from Word Choices to complete the sentence.

The nurse identifies the priority client problems as

altered cardiac output

,

insufficient knowl  
of medications

reduced oxygenation

, and

pain

.

Word Choices

nutritional deficit

anxiety

# DRAG-AND-DROP RATIONALE ITEM TYPE

Item includes 1 sentence with 1 cause and 1 effect or 1 sentence with one cause and 2 effects. This can be a single dyad (1 sentence with 2 targets) or a single triad (1 sentence with 3 targets). Students can select a token on top of a target and remove it by either dragging it back to the token list or just removing it.

## Here's How It Works

Review patient data including:

- Nurse's Notes
- History & Physical
- Flow Sheet
- Orders

You must drag and drop one condition and one client finding to complete the sentence

Vital Signs

**Patient Data**

Nurses' Notes History & Physical

Flow Sheet Orders

**1330 (Day 1):**  
Client identifies that there is no prior history of antihypertensive medication use. Client denies knowledge of drug effects and medication precautions. Client states currently experiencing a headache, 4 on a numeric 0-to-10 pain scale. Client takes chlorthalidone and lisinopril tablets without difficulty.

**1000 (Day 2):**  
Administered daily doses of chlorthalidone 12.5 mg po and lisinopril 10 mg orally. No current headache reported. Client has slept through the night.

**1430 (Day 2):**  
Client experiences an episode of dizziness when sitting up in bed in preparation for ambulation around the unit. The nurse assists the client back to bed, and symptoms resolve without further intervention. Vital signs assessed.

The client experiences dizziness several hours after administration of antihypertensive medication on hospital day 2, which the nurse documents in the Nurses' Notes.

**Drag one condition and one client finding to complete the sentence.**

The nurse determines that the client is experiencing  as a result of .

Options for 1

- apnea
- anxiety

Options for 2

- insufficient food intake
- pain

Correct Not Sure

# DROP DOWN

## DROP DOWN CLOZE ITEM TYPE

Includes a paragraph of information with 1 or more drop-down options from which to complete the paragraph. There can be 3-5 options in each drop-down. There is a minimum of 1 sentence with 1 drop-down per sentence; maximum of 5 sentences with 1 drop-down per sentence.

### UNFOLDING ITEM TYPE

Review patient data including:

- History & Physical
- Orders

Chose the most likely options from the drop downs to complete the statements.

Vital Signs

**Patient Data**

History & Physical    Orders

A 65-year-old client is seen in the emergency department (ED) today with extreme headaches, which have been occurring daily for the last week. There is no prior history of high blood pressure. The client denies taking antihypertensive medication, steroids, appetite suppressants, tricyclic antidepressants, monoamine oxidase inhibitors, cocaine, and other drugs. The client states using nonsteroidal anti-inflammatory drugs (NSAIDS) and over-the-counter cold medication, if needed. No history of diabetes, heart disease, kidney disease, dyslipidemia, or tobacco use. Occasional, social alcohol intake. Indicates regular intake of processed, frozen foods. Family history significant for hypertension (father).

The nurse reviews the client's admission history and physical, and the healthcare provider orders in the medical record.

Choose the most likely options for the information missing from the statement(s) by selecting from the lists of options provided.

The aspect of the client's admission history that is most concerning to the nurse is  .

Physical examination findings that require immediate follow-up include  and  .

Confident    Not Sure

# DROP DOWN RATIONALE ITEM TYPE

Item includes 1 sentence with 1 cause and 1 effect or 1 sentence with one cause and 2 effects. This can be a single dyad (1 sentence with 2 drop-downs) or a single triad (1 sentence with 3 drop downs each). There can be 3 to 5 options in each drop-down.

## UNFOLDING ITEM TYPE

Review patient data including:

- History & Physical
- Laboratory Results
- Flow Sheet

Choose the most likely options from the drop downs to complete the statements.

Maternal Nutrition

Patient Data

History & Physical    Laboratory Results

Flow Sheet

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
- Weight: 187 pounds (84.8 kg)
- Blood pressure (BP): 138/92
- Temperature (Temp): 99.1° F (37.3° C)
- Pulse (P): 110
- Respirations (R): 20

Client is 10 weeks' gestation.

Based on the finding of high

BMI



and low

Select Response



The nurse would prioritize

Select Response



HcT

HCG

R

HgB

# DROP DOWN TABLE ITEM TYPE

Item includes 1 sentence with 1 cause and 1 effect or 1 sentence with one cause and 2 effects. This can be a single dyad (1 sentence with 2 drop-downs) or a single triad (1 sentence with 3 drop downs each). There can be 3 to 5 options in each drop-down.

**UNFOLDING ITEM**

**Review patient data including:**

- History & Physical
- Laboratory Results
- Nurses Notes

Choose the most likely options from the drop downs to complete the statements.

Endocrine – Patient 2

**Patient Data**

History & Physical    Laboratory Results

Nurses' Notes    Orders

0900:

Intake:

- Current height: 5 feet, 10 inches
- Current weight: 250 pounds (113.3 kg)
- Body mass index: 35.9 kg/m<sup>2</sup>
- Temperature: 98.6°F (37°C)
- Blood pressure: 160/100 mm Hg
- Heart rate: 88 beats/min
- Respiratory rate: 18 breaths/min


4 months after office visit:

Intake:

- Current height: 5 feet, 10 inches
- Current weight: 240 pounds (108 kg)
- Body mass index: 34.4 kg/m<sup>2</sup>
- Temperature: 98.6°F (37°C)
- Blood pressure: 160/90 mm Hg
- Heart rate: 86 beats/min
- Respiratory rate: 20 breaths/min

Based on new medications prescribed for this client, the nurse prepares to provide client teaching.

For each medication, chose the appropriate option for Drug Classification and Client Teaching.

Medication	Drug Classification	Client Teaching
metformin	Select Response ▾	Select Response ▾
amlodipine	Select Response ▾	Select Response ▾
hydrochlorothiazide	Select Response ▾	Select Response ▲ teach to eat foods high in potassium  encourage limitation of oral fluids take a bedtime

# MULTIPLE CHOICE

# MULTIPLE CHOICE ITEM TYPE

Includes radio buttons that can be selected or unselected. If one radio button is already selected and another is selected, the selection moves to the newly selected one.

## UNFOLDING ITEM TYPE

You are given a set of client information:

- History & Physical
- Nurses Notes
- Flow Sheet
- Laboratory Results
- Orders

Select the single nursing intervention that would be most appropriate.

Maternal Nutrition

Patient Data

History & Physical Nurses' Notes

Flow Sheet Laboratory Results Orders

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
- Weight: 187 pounds (84.8 kg)
- Blood pressure (BP): 138/92
- Temperature (Temp): 99.1° F (37.3° C)
- Pulse (P): 110
- Respirations (R): 20

Client is 10 weeks' gestation.

The healthcare provider has set goals of increasing hemoglobin levels to 12 g/dL and achieving weight gain of no more than 0.5 pounds per week during second and third trimesters.

Which change to the client's diet would most help achieve both goals set by the healthcare provider?

- Reducing caffeine intake
- Limiting sweet treats
- Increasing vegetable consumption
- Increasing water intake
- Avoiding alcohol

# MATRIX MULTIPLE CHOICE ITEM TYPE

Items have at least 4 rows and no more than 10 rows. There can be 2 options/columns or 3 options/columns. Each row must have 1 response option selected. A student cannot continue to the next item until responding to all rows.

## UNFOLDING ITEM TYPE

You are given a set of patient's data.

- History & Physical
- Laboratory Results
- Flow Sheet

Select the most appropriate from each row

Maternal Nutrition

### Patient Data

History & Physical    Laboratory Results

### Flow Sheet

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
  - Weight: 187 pounds (84.8 kg)
  - BP: 138/92
  - Temperature (Temp): 99.1° F (37.3° C)
  - Pulse (P): 110
  - Respirations (R): 20
- Client is 10 weeks' gestation.

Based on the finding of increased BMI, indicate whether or not the client is at risk for the listed condition.

Condition	At Risk For	Not At Risk For
Bleeding disorders	<input type="radio"/>	<input type="radio"/>
Miscarriage	<input checked="" type="radio"/>	<input type="radio"/>
Hypertension	<input type="radio"/>	<input type="radio"/>
Rheumatoid arthritis	<input type="radio"/>	<input type="radio"/>
Depression	<input type="radio"/>	<input type="radio"/>
Hypocalcemia	<input type="radio"/>	<input type="radio"/>

# MULTIPLE RESPONSE

## MATRIX MULTIPLE RESPONSE ITEM TYPE

Each response column could have multiple correct responses. There can be between 2 and 10 columns and 4 to 7 rows, and each column must have 1 response option selected.

### UNFOLDING ITEM TYPE

You are given a set of patients data

- Nurse's Notes
- History & Physical

Select each response from the row that indicate an appropriate response.

Bowel Elimination – Patient 2

#### Patient Data

Nurses' Notes History & Physical

0800

Client is in rehabilitation after hip surgery. The client is alert, oriented to person, place, and time. The client's skin is warm and dry. Client reports needing to have a bowel movement but has been unable to do so for the last 3 days. The client called the nurse to the room stating, "I have had an accident and wet the bed. I need some help." Bed is wet from stool that is seeping from the rectum. Bed linens changed. Client cleaned and dried. The client states that her appetite has decreased. No nausea and vomiting present. She feels bloated. Abdomen distended with hypoactive bowel sounds. Vital signs: Temperature 97.6 °F (36.4 °C), Pulse 84 beats per minute, Respirations 20 breaths per minute, Blood pressure 142/86 mmHg, Oxygen saturation on room air 97%

The nurse is analyzing assessment data in the care of a 78-year-old female in rehabilitation after hip surgery.

For each assessment finding, click to indicate whether findings from this client's assessment are generally associated with constipation, fecal impaction, or flatus.

Each row must have at least one, but may have more than one, response option selected.

Assessment Findings	Constipation	Fecal Impaction	Flatus
Unable to have a bowel movement for the last 3 days	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Decreased appetite	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feels bloated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distended abdomen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hypoactive bowel sounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seepage of stool from the rectum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# MULTIPLE RESPONSE SELECT ALL THAT APPLY ITEM TYPE

Includes questions with answers with only 1 correct response or multiple correct responses. There are at least 5 options with no more than 10 options. All 10 could be correct.

## UNFOLDING ITEM TYPE

You are given a set of patients data

- Nurses' notes
- History & Physical
- Laboratory Results
- Flow Sheet
- Orders

Select ANY or ALL responses that indicate an appropriate response.

### Maternal Nutrition

#### Patient Data

**Nurses' Notes** History & Physical

Laboratory Results Flow Sheet Orders

#### Nutritional assessment:

- Fast food (almost every day) with little to no fruit or vegetable intake.
- Water between meals, approximately 16 ounces per day.
- Sodas at mealtime and coffee in the morning.
- Client admits to having a "sweet tooth."
- Multivitamin supplementation, with folic acid for the past 12 weeks while trying to conceive.
- Appetite has decreased slightly with pregnancy and nausea.
- Client does not smoke or consume alcohol.

The healthcare provider has prescribed iron supplementation and nutritional counseling for this client, with the goals of increasing hemoglobin levels to 12 g/dL and achieving weight gain of no more than 0.5 pounds per week during second and third trimesters. The nurse performed a nutritional assessment.

Based on the nutritional assessment, select the items that the nurse would encourage the client to continue.

- Fast food (almost every day) with little to no fruit or vegetable intake.
- Water between meals, approximately 16 ounces per day.
- Sodas at mealtime and coffee in the morning.
- Client admits to having a "sweet tooth."
- Multivitamin supplementation, with folic acid for the past 12 weeks while trying to conceive.
- Appetite has decreased slightly with pregnancy and nausea.
- Client does not smoke or consume alcohol.

# MULTIPLE RESPONSE SELECT N ITEM TYPE

Different than other multiple response item types in that the student may not select all but instead is limited to a certain number of keys. The required number to select is based on the keys.

## UNFOLDING ITEM TYPE

You are given a set of patient data:

- History & Physical
- Laboratory Results
- Flow Sheet

Select the number of selections from the group that indicate the appropriate responses.

### Maternal Nutrition

#### Patient Data

History & Physical    Laboratory Results

#### Flow Sheet

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
- Weight: 187 pounds (84.8 kg)
- Blood pressure (BP): 138/92
- Temperature (Temp): 99.1° F (37.3° C)
- Pulse (P): 110
- Respirations (R): 20

Client is 10 weeks' gestation.

The nurse is meeting with a new client to discuss her care during pregnancy.

Select the 2 findings that require immediate follow-up.

- Temp 99.1° F (37.3° C)
- P 110
- R 20
- BP 138/92
- BMI of 31.1
- HgB 10.2 g/dL
- Hct 35%
- PAPP-A 0.9 MOM
- HCG 194,800 mIU/mL

# MULTIPLE RESPONSE GROUPING ITEM TYPE

The table has a minimum of 2 groupings with a maximum of 5 groupings. Each grouping has a minimum of 2 options and maximum of 4 options. The number of options are the same for all groupings, and students must select at least one option from each grouping.

## UNFOLDING ITEM TYPE

You are given a set of patient's data.

- Nurses Notes
- Flow Sheet

Select each response from the group that indicate an appropriate response.

Bowel Elimination – Patient 1

### Patient Data

[Nurses' Notes](#) [Flow Sheet](#)

The nurse on the medical unit is caring for a male client, 54 years old, who developed Clostridium difficile (C. difficile or C. diff) after treatment with antibiotics for a severe infection. The client is experiencing explosive foul-smelling diarrhea. Client reports that orange juice makes it worse, even though he likes the taste.

0900

Client reports abdominal cramping with diarrhea.

1100

Client states, "I feel so weak."

The nurse reviews the flow sheet data and nurses' notes.

For each client need, click to specify the potential nursing intervention that would be appropriate for the care of the client.

Each client need may support more than one potential nursing intervention. Each category must have at least one response option selected.

Client Need	Potential Nursing Intervention
Nutritional	<input checked="" type="checkbox"/> Offer bland, low-residue foods <input checked="" type="checkbox"/> Avoid gas-producing foods <input type="checkbox"/> Offer orange juice
Elimination	<input checked="" type="checkbox"/> Obtain a bedside commode <input checked="" type="checkbox"/> Apply skin barrier ointment <input type="checkbox"/> Keep head of the bed flat when on the bedpan
Fluid and Electrolytes	<input checked="" type="checkbox"/> Request an intravenous (IV) infusion <input type="checkbox"/> Reduce fluid intake <input checked="" type="checkbox"/> Monitor for dehydration
Infection Control	<input type="checkbox"/> Test stool for ova and parasites <input checked="" type="checkbox"/> Wash hands with soap and water <input checked="" type="checkbox"/> Place on contact isolation precautions

# HIGHLIGHT

## HIGHLIGHT TEXT ITEM TYPE

Students must select parts of the text to determine what is critical for the action. Responses are tokenized, and there can be a maximum of 10 options. Students can also select and unselect options.

### UNFOLDING ITEM TYPE

You are given a set of patient data.

- Nurses Notes
- History & Physical

Highlight the text that is critical in determining a course of treatment.

Bowel Elimination – Patient 2

#### Patient Data

Nurses' Notes

History & Physical

0800

Client is in rehabilitation after hip surgery. The client is alert, oriented to person, place, and time. The client's skin is warm and dry. Client reports needing to have a bowel movement but has been unable to do so for the last 3 days. The client called the nurse to the room stating, "I have had an accident and wet the bed. I need some help." Bed is wet from stool that is seeping from the rectum. Bed linens changed. Client cleaned and dried. The client states that her appetite has decreased. No nausea and vomiting present. She feels bloated. Abdomen distended with hypoactive bowel sounds. Vital signs: Temperature 97.6 °F (36.4 °C), Pulse 84 beats per minute, Respirations 20 breaths per minute, Blood pressure 142/86 mmHg, Oxygen saturation on room air 97%

The nurse is reviewing the client's health history and medical record for a 78-year-old female in rehabilitation after hip surgery.

Click to highlight the findings related to a bowel elimination problem that would require follow-up from the nurse.

0800: Client is in rehabilitation after hip surgery. The client is alert, oriented to person, place, and time. The client's skin is warm and dry. Client reports needing to have a bowel movement but has been unable to do so for the last 3 days. The client called the nurse to the room stating, "I have had an accident and wet the bed. I need some help." Bed is wet from stool that is seeping from the rectum. Bed linens changed. Client cleaned and dried. The client states that her appetite has decreased. No nausea and vomiting present. She feels bloated. Abdomen distended with hypoactive bowel sounds. Vital signs: Temperature 97.6°F (36.4°C), Pulse 84 beats per minute, Respirations 20 breaths per minute, Blood pressure 142/86 mmHg, Oxygen saturation on room air 97%.

Correct Word(s) highlighted

# HIGHLIGHT TABLE ITEM TYPE

Students must select parts of the text to determine what is critical for the action. Responses are tokenized, and there can be a maximum of 10 options. Students can select and unselect options.

## UNFOLDING ITEM TYPE

You are given a set of patient data:

- History & Physical
- Nurses Notes
- Laboratory Results

Highlight all the text that is critical in determining a course of treatment.

Endocrine – Patient 1

### Patient Data

History & Physical Nurses' Notes

### Laboratory Results

**1200:** The client is an 11-year-old child brought into the emergency department after being found at home unconscious by her parent. The parent states the child has been drinking an excessive amount of fluids and has been frequently urinating, even throughout the night. Earlier in the day the child had reported abdominal pain and had one episode of vomiting before losing consciousness. Over the last week the child has lost weight, even though her appetite has increased tremendously. Upon assessment, dry mucous membranes, poor skin turgor, and soft and sunken eyes are noted. Assessment findings also reveal the child to have Kussmaul respirations.

#### Vital signs

- Temperature: 98.6F (37C)
- Heart rate: 128 beats/min
- Respiratory rate: 28 breaths/min
- Blood pressure: 80/50 mm Hg
- Pulse oximetry reading: 95%

The client was diagnosed with diabetic ketoacidosis and treatments were started.

Click to highlight the laboratory results in the table that indicate improvement in the client's condition from the treatment for diabetic ketoacidosis.

Laboratory Parameter	Result 1200	Result 1600	Result 2000	Reference Range
Red blood cells (RBC)	5.0 million/ $\mu$ L	4.6 million/ $\mu$ L	4.3 million/ $\mu$ L	Females: 4.2-5.4 million/ $\mu$ L Males: 4.7-6.1 million/ $\mu$ L
Hemoglobin (Hgb)	14 g/dL	12.8 g/dL	12.5 g/dL	Females: 12-16 million/ $\mu$ L Males: 4.7-6.1 million/ $\mu$ L
Hematocrit (Hct)	41%	38.2%	38%	Females: 37%-47% Males: 42%-52%
White blood cell count	12,000/mm <sup>3</sup>	12,500/mm <sup>3</sup>	12,000/mm <sup>3</sup>	5000-10,000/mm <sup>3</sup>
Glucose	480 mg/dL	300 mg/dL	180 mg/dL	<126 mg/dL
Blood urea nitrogen	40 mg/dL	28 mg/dL	18 mg/dL	7-20 mg/dL
Arterial pH	7.26	7.30	7.36	7.35-7.45
Bicarbonate (HCO <sub>3</sub> )	13 mEq/L	18 mEq/L	23 mEq/L	22-28 mEq/L
Urine ketones	Positive	Positive	Negative	Negative

Correct Word(s) highlighted

# BOWTIE

# BOWTIE ITEM TYPE

Addresses all 6 steps of the NCJMM in one item. Students must drag and drop an item a series of the targets to continue forward.

## STANDALONE ITEM TYPE

Responses fall into 3 categories:

- Actions to take.
- Potential conditions
- Parameters to monitor.

Drag and drop and item into each of the targets at the top to continue.

After the client is admitted to the medical unit, the nurse reviews the history and physical imaging studies to plan care. Complete the diagram by dragging from the choices area to specify which condition the client is most likely experiencing, two actions the nurse should take to address the condition, and two parameters the nurse should monitor to assess the client's progress.

Actions to Take

Parameters to Monitor

Functional incontinence

Actions to Take

Parameters to Monitor

Actions to Take

Potential Conditions

Parameters to Monitor

Request a prescription for a diuretic from the healthcare provider

Irrigate the bladder with sterile normal saline

Contact healthcare provider for insertion of a retention catheter

Assist the client to the bathroom every 2 hours during the day

Encourage client to drink fluids

Stress incontinence

Polycyria

Dysuria

Understanding of urinary diversion home care

Vital signs

Color of urine in catheter bag

Frequency of episodes

Intake and Output

Not Sure

## Urinary Elimination

### Patient Data

#### History and Physical Imaging Studies

A 73-year-old female with severe arthritis of the hands has trouble using the toilet due to the physical limitations, causing involuntary loss of urine and loss of bladder control. Client states that she has an accident before she ever reaches the toilet. She has no urgency, pain, or burning upon urination. Abdomen is soft and nontender. Manual dexterity of her hands is limited. Her gait is slow but steady. She is embarrassed when the episodes occur and has reduced her social activities. The client has started to limit her intake of fluids to decrease the number of episodes she experiences. Her weight is within normal limits.

After the client is admitted to the medical unit, the nurse reviews the history and physical imaging studies to plan care. Complete the diagram by dragging from the choices area to specify which condition the client is most likely experiencing, two actions the nurse should take to address the condition, and two parameters the nurse should monitor to assess the client's progress.

Encourage client to drink fluids

Assist the client to the bathroom every 2 hours during the day

Functional incontinence

Intake and Output

Frequency of episodes

Actions to Take

Potential Conditions

Parameters to Monitor

Request a prescription for a diuretic from the healthcare provider

Irrigate the bladder with sterile normal saline

Contact healthcare provider for insertion of a retention catheter

Stress incontinence

Polycyria

Dysuria

Understanding of urinary diversion home care

Vital signs

Color of urine in catheter bag

# TREND

# TREND ITEM TYPE

Addresses multiple steps of the NCJMM by having the student review information over time. Trend standalone items can feature any item response type.

## STANDALONE ITEM TYPE

You are given a set of clients needs

For each client need, select the nursing intervention(s) that would be appropriate.

### Bowel Elimination – Patient 1

#### Patient Data

[Nurses Notes](#)   [Flow Sheet](#)

The nurse on the medical unit is caring for a male client, 54 years old, who developed Clostridium difficile (C. difficile or C. diff) after treatment with antibiotics for a severe infection. The client is experiencing explosive foul-smelling diarrhea. Client reports that orange juice makes it worse, even though he likes the taste.

0900

Client reports abdominal cramping with diarrhea.

1100

Client states, "I feel so weak."

For each client need, click to specify the potential nursing intervention that would be appropriate for the care of the client.

Each client need may support more than one potential nursing intervention. Each category must have at least one response option selected.

Client Need	Potential Nursing Intervention
Nutritional	<input checked="" type="checkbox"/> Offer bland, low-residue foods <input checked="" type="checkbox"/> Avoid gas-producing foods <input type="checkbox"/> Offer orange juice
Elimination	<input checked="" type="checkbox"/> Obtain a bedside commode <input checked="" type="checkbox"/> Apply skin barrier ointment <input type="checkbox"/> Keep head of the bed flat when on the bedpan
Fluid and Electrolytes	<input checked="" type="checkbox"/> Request an intravenous (IV) infusion <input type="checkbox"/> Reduce fluid intake <input checked="" type="checkbox"/> Monitor for dehydration
Infection Control	<input type="checkbox"/> Test stool for ova and parasites <input checked="" type="checkbox"/> Wash hands with soap and water <input checked="" type="checkbox"/> Place on contact isolation precautions

## Strategies for answering NGN style questions.

Recognize cues in the question to make good clinical decisions. Key is to prevent negative patient outcomes, so by recognizing cues it will ensure safety and quality care. Cues are client findings or assessment data that provide information for nurses as a basis for decision making.

UNFOLDING CASE STUDIES begin with a clinical scenario and are presented in several ways (SEE ABOVE FOR EXAMPLES). Unfolding case studies are used to make realistic scenarios.

NGN test items that measure the ability to Recognize cues will require you to distinguish between which presented client findings are:

**RELEVANT:** cues that are directly related to client outcomes or priority of care  
When determining which client findings are relevant, you need to FIRST CONSIDER if client data is within the normal parameters.

**NOT RELEVANT:** Cues that are NOT DIRECTLY related to client outcomes or priority of care.

EXAMPLE:

A 91-year-old client has been brought by EMS to the ED after falling at home. The client's daughter explains to the nurse that the client has "always been stubborn by insisting on doing everything herself." While the daughter went out to buy groceries, the client climbed onto a stepstool to reach something in a cabinet over the refrigerator. The client apparently lost balance and was found on the kitchen floor. The nurse performs the initial assessment and documents these client findings:

#### INITIAL FINDINGS

- Temperature: 96.8 F
- HR: 90 BPM and regular
- RR: 22 BPM
- BP: 142/88 mm Hg
- SpO2: 92%
- Alert and oriented x 2 (person and place)
- States that pain is 10/10 (on a 0-10 pain intensity scale)
- Whimpering and holding right hip
- Right leg and foot externally rotated.
- Right leg shorter than left leg

#### FINDINGS NOT WITHIN NORMAL RANGE

- **Temperature: 96.8 F: not wnl for an adult it is EXPECTED finding for older adult as a normal physiologic change associated with aging. So this is NOT RELEVANT to the situation.**



- **RR: 22 BPM:** High RR would be EXPECTED as a response to the pain level and considered **NOT RELEVANT**.
- **BP: 142/88 mm Hg:** High BP would be EXPECTED in someone with severe pain, and considered **NOT RELEVANT**.
- **SpO2: 92%:** Oxygen levels decrease with old age , and this finding may **NOT BE RELEVANT** for this client.
- **Alert and oriented x 2 (person and place):** Normal findings would be AOX3, however this client fell, and it would be EXPECTED that she might be disoriented specially because of the pain level. So this factor would be considered **NOT RELEVANT**.

### **THE MOST RELEVANT DATA ARE RELATED TO THE CLIENTS TRAUMA RESULTING FROM THE FALL:**

- States that pain is 10/10 (on a 0-10 pain intensity scale)
- Whimpering and holding right hip
- Right leg and foot externally rotated.
- Right leg shorter than left leg

**\*\*\*This data shows the most immediate concern and the most important factors for the nurse to focus on in this situation.\*\*\***

### **HOW DO YOU ANALYZE CUES**

Analyze cues is a cognitive skill nurses use to interpret the cues recognized in a clinical scenario and establish the significance of those cues. Relevant cues are analyzed to determine supporting and opposing manifestations of an evolving client condition.

Multiple factors are considered and potential complications that could be occurring are identified to guide subsequent planning and nursing actions.

Analyzing cues requires a prompt and comprehensive examination of client data, fitting them into the bigger picture of the overall clinical scenario, and determining what the relevant cues mean. Requires being able to narrow down the client factors.

First ask: “what do these client findings mean?”

Second ask: “What is happening to the client?”

Being able to focus on the relevant data and analyze those cues will help to determine the bigger clinical picture.

Analyzing cues and determining what relevant client data means leads to formulating client needs, prioritizing client care, planning care, and clinical decision making with implanting care.

**STRATEGIES for NGN items that measure ANALYZE CUES:**

1. Examine the relevant cues or findings that are unexpected.
2. Determine client conditions that link or connect with the client findings or cues
3. Ask: What do these findings means and what is happening to the client? Are there any findings or cues that support or oppose any client conditions?
4. Decide if any other information in the clinical situation would help establish the significance of the findings within the context of the bigger clinical picture.

**Test Items and Variations using Analyzing Cues**

Drop Down	Drop- Down Cloze Drop-Down Rationale Drop-Down in Table
Multiple Response	Multiple Response Select N Multiple Response Select All That Apply Multiple Response Grouping Matrix Multiple Response
Multiple Choice	Multiple Choice Single Response Matrix Multiple Choice
Drag and drop	Drag and Drop Cloze Drag and Drop Rationale Drag and Drop in Table

When the drop-down item type is used to measure analyze cues, the test taker is required to complete a sentence or blank space by choosing from a list of options.

## Multiple Response Test Items to Measure Analyze Cues

When multiple response item types are used to measure Analyze cues, you are required to follow the question directions regarding how to select options.

For a matrix style question, look at each condition asked about, and ask yourself whether the assessment findings are specifically related or not specifically related to the suspected client condition and why you are interpreting the findings in this way.

EXAMPLE:

Assessment Finding	COPD Exacerbation	Pneumonia	Adverse Effects of Medications
Increased shortness of breath	Related because of the added stress on the respiratory system	Related because of the added stress on the respiratory system	Not specifically related
Cough	Related as a chronic manifestation of COPD, worsened in exacerbation	Related as an acute manifestation of respiratory infection	Not specifically related
Increased mucus production	Related as a chronic manifestation of COPD, worsened in exacerbation	Related as an acute manifestation of respiratory infection	Not specifically related
Heart palpitations	Not specifically related	Not specifically related	Related to theophylline toxicity
Blood glucose 295 mg/dL (16.8 mmol/L)	High-dose inhaled and oral corticosteroid therapy can cause an increase in blood glucose; client has diabetes	Related as a manifestation of infection, especially in clients with DM	Related to prednisone
Fever	Not specifically related	Related as a manifestation of respiratory infection	Not specifically related
SpO <sub>2</sub> 88% on RA	Related as a chronic manifestation of COPD, worsened in exacerbation	Related as an acute manifestation of respiratory infection	Not specifically related

## DRAG and DROP Rational Questions

For the drag and drop rationale item, a full understanding of “paired” information is required in order to answer the question correctly. The concept needs to be justified by the rationale chosen. If a question is asking about a complication and associated client findings or associated risk

factors, the complication needs to be correctly identified first. Then the client findings and risk factors associated with that complication need to be determine in order to receive credit for the answer.

**PRIORITIZE HYPOTHESES** is a cognitive skill nurses use to establish and rank client needs or hypotheses in order of priority. You must consider potential occurrences such as the likelihood of what could happen in a specific scenario, the urgency of it, and associate risks. In addition, environmental factors and individual factors need to be considered when prioritizing.

When prioritizing, you are deciding which client needs or problems are primary and require immediate attention and which ones could be delayed until a later time because they are not urgent.

Interpret relevant data from a clinical scenario and consider all possibilities /predictions about what is occurring, than rank these according to urgency and risks for client, in order to decide on the priority needs.

To determine MOST IMMEDIATE and MOST SERIOUS ask yourself:

1. What could explain what I am seeing with my client
2. Which explanations are most likely
3. Which explanations are least likely
4. Which of these explanations are the most immediate and serous
5. Where do I start planning care

<b>Environmental Factors</b>	<b>Individual Factors</b>
<p><b>Environment</b> Refers to the setting in which client care is taking place. Important bc you need to establish priority client needs and approach answering a question in ED different than a community based setting.</p> <p><b>Client observation</b> Used to establish hypotheses and then rank them in order of priority, will guide further client care.</p> <p><b>Resources</b> Availability of resources will affect the way you answer a question . If you are a first responder to a mass causality site, you would triage victims differently than</p>	<p><b>Knowledge and Skills</b> Nurses knowledge and skills are individual factors considered when answering question . USE ALL NURSING PROCESSES HERE.</p> <p><b>Specialty</b> Important factor to pay attention to is the nursing specialty. Questions will be answered differently depending on specialty due to slight differences in concepts.</p> <p><b>Candidate (test taker) characteristics</b> <b>Prior experience</b> <b>Level of experience</b></p>

if victims were brought to the ED bc the resources available are different.

**Medical Records**

External factor that is needs to be considered before answering the question about the clinical scenario.

**Consequences and Risks**

Client findings and establishing and ranking hypotheses based on the explanations, you need to think about the consequences and risks associated with the findings.

**Time Pressure**

External factor to consider when applying the skill prioritize hypotheses. If tie is part of the data presented in the question, it may be a factor to consider as you are deciding on the answer or answers to the question.

**Task complexity**

A measure of the difficulty of a task that the nurse considers and takes into account in order to complete the task.

**Cultural consideration**

Information related to the client’s culture is included in the clinical scenario, it will be important to consider these factors as you answer test questions. Example considering dietary preferences as they relate to clients cultural needs.

**COMMON STRATEGIC WORDS OR PHRASES**

- Best
- First
- Primary
- Initial

- Immediate
- Next
- Essential
- Most Likely
- Most Important

### **HIGH PRIORITY**

A client need that is life threatening, or if untreated could result in harm to the client

### **INTERMEDIATE PRIORITY**

A nonemergency and non-life threatening client need that does not require immediate attention and can wait to be addressed

### **LOW PRIORITY**

A client need that is not directly related to the client's illness or prognosis, is not urgent, and can wait until high and intermediate client needs are addressed

### **GENERATE SOLUTIONS**

A cognitive skill nurses use to create the plan of care. Use knowledge of treatments and interventions that would address identified client needs and modifies them to meet priorities of care. Need to be able to connect appropriate actions to your hypotheses (client needs). Skill involves thinking through several care options to create the plan of care, by deciding which actual or potential interventions are acceptable in the scenarios and which are protentional harmful and should be avoided. **AN EXAMPLE OF THIS TYPE OF QUESTION STYLE IS ACCEPTABLE OR CONTRAINIDIATED INTERVENTIONS**

### **HOW TO ANSER THESE QUESTIONS**

- Use known client data and prioritized hypotheses
- Decide on expected outcomes of safe client care
- Create a list of multiple actual and potential interventions – NOT JUST THE BEST
- Remember that actual and potential interventions could be actions or collecting more information
- Communicate and document expected outcomes clearly
- Revise interventions as client needs evolve.

EXAMPLE.

### **BOX 6.1 Heart Failure Exacerbation With Fluid Overload: Examples of Acceptable and Contraindicated Interventions**

#### **Acceptable Interventions**

Monitor for edema  
Monitor daily weight  
Monitor I&O  
Monitor labs (B-natriuretic peptide [BNP], electrolytes)  
Assess lung and heart sounds  
Administer diuretics  
Encourage activity as tolerated  
Position upright  
Assess VS

#### **Contraindicated Interventions**

Provide sodium in the diet  
Encourage fluid intake  
Administer IV fluids  
Maintain the same position in bed  
Promote high activity level

## NCSBN'S MODEL OF CLINICAL JUDGMENT

NGN questions are based on the NCSBN'S Model of Clinical Judgment

### **Key points of clinical judgment:**

- Recognize that clinical judgment is the result or outcome of thinking to make decisions about client care when potential or actual health problems occur. The same process of thinking to make clinical decisions occurs repeatedly as you manage client problems.
- Acquire and recall nursing knowledge to make appropriate clinical judgments.
- Learn how to prioritize a clients need for care based on the data presented about a clinical situation.
- Be familiar with the best current evidence regarding a presented client situation so you can come up with possible solutions or approaches for care to keep the client safe

### **SIX NCSBN Clinical Judgment Measurement Model Cognitive Skills**

1. **Recognize Cues:** What matters most?
  - a. **Collect client data from a number of sources.** Cues are client findings or assessment data that provide information for nurses as a basis for decision making to make appropriate clinical judgments and can be divided into FOUR MAJOR TYPES.
    - i. **Environmental Cues:** Presence of family member
    - ii. **Client observation,** signs and symptoms
    - iii. **Medical record cues,** labs and vitals
    - iv. **Time Pressure cures:** rapid clinical decline
2. **Analyze Cues:** What should it mean?
  - a. After RELEVANT CUES have been identified in a clinical scenario, the nurse organizes and links them to the clients presenting clinical situation.
  - b. Ask yourself:
    - i. What do the relevant client data mean or indicate at this time
3. **Prioritize Hypotheses:** Where do I start?
  - a. After organizing , grouping, and linking relevant client findings with actual or potential client conditions, the next cognitive skill requires you to narrow down what the data means and prioritize the clients problems or needs.
4. **Generate Solutions:** What can I do?
  - a. After identifying the clients priority problem in a given clinical scenario, you want to think about all the possible actions that can be used to resolve or manage the problem. To assist in selecting the possible actions or approach to care you might include, first determine what outcomes are desired or expected for the client.
5. **Take Action:** What will I do?
  - a. **Deciding which action to implement is the focus of this skill.** After generating a list of possible interventions, determine the most appropriate intervention or combination of interventions that will resolve or manage the clients priority health



problems or concerns. Also determine how each intervention will be implemented.

i. **Examples**

1. What to communicate
2. What to document
3. What to perform
4. What to administer
5. What to teach
6. What to request from PCP or other team member

6. **Evaluate outcomes:** did it help?

- a. **Determine if the interventions implemented for the client resolved or effectively managed the health problems.** Best way to make the determination is to compare what the desired or expected outcomes are with current client findings or observed outcomes.

i. **Ask yourself:**

1. Which assessment finding/signs and symptoms indicate that the clients condition has improved?
2. Which finding(s) indicate that the clients condition has declined?

## Layer 3 of the NCJMM Cognitive Skills



## Answer: New NGN Item Types

- Highlight



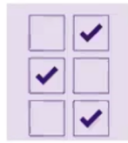
- Drag and Drop



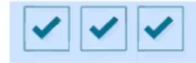
- Drop Down



- Matrix/Grid



- Extended Multiple Response



# Answer

- **Stand-Alone**

- **Bow-tie**

Clinical situation presented at one point in time.

- **Trend**

Clinical situation requiring a review of information over time.

- **Unfolding**

- Clinical situation presented in phases that change over time (e.g., minutes, hours, days).

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	Action to Take	Potential Condition	Parameter to Monitor
	Action To Take		Parameter to Monitor

Vital Signs			
	1200	1400	1600
Temperature	97.8°F (36.4°C)	98.0°F (36.6°C)	98.2°F (36.8°C)
Apical Pulse	80 beats/min	88 beats/min	100 beats/min
Respirations	20 breaths/min	22 breaths/min	24 breaths/min
Blood Pressure	140/90 mmHg	138/88 mmHg	122/84 mmHg
O2 sat	94% at 3L NC	93% at 3L NC	91% at 3L NC
Pain	0/10	1/10	2/10

Flow Sheet			
	1200	1400	1600
Intake	120 mL	60 mL	30 mL
Output	60 mL, clear yellow urine	45 mL, clear yellow urine	30 mL, clear yellow urine

Nurse's Notes			
	1200	1400	1600
	Denies pain and shortness of breath. Fields lined. Appetite poor. No cough. Lungs clear bilaterally. Sinus rhythm on monitor.	Reports mild pain in chest region. States difficult to breath "as if I have to work hard at taking each breath." Appears tired and restless. Coughing with small amount of clear mucus production. Fine crackles in lower lungs bilaterally that clear with coughing. Sinus rhythm on monitor.	Reports mild pain in chest region. Lethargic and anxious, crackles throughout lung fields bilaterally that do not clear with coughing. Coughing and expectorating frothy pink tinged mucus. PVCs noted on cardiac monitor.

## Layer 3 of the NCJMM Cognitive Skills

