Teaching and Testing Clinical Judgment:
Preparing Students to Make Safe Clinical Decisions

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Wolters Kluwer

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LEARNING OBJECTIVES

- Describe the impact of clinical judgment deficits in new nurses
- Define nursing clinical judgment according the NCSBN framework
- Summarize methods nurse educators use can help students develop clinical judgment
- Use active strategies to work through a case designed to teach the six steps NCSBN clinical judgment processes
- Explain the process of creating effective questions to test clinical judgment
- Practice writing Next Generation NCLEX formatted questions
- Create a plan for curricular integration of a clinical judgment model

Clinical Judgment and Judgment Models

Why Focus on Nursing Clinical Judgment?

- Increasing patient acuity requires accurate assessment, judgment and evidence-based solutions for complex clinical situations
- Having clinical knowledge does not ensure effective clinical judgment
- Errors of judgment contribute to adverse events for patients

What Research Shows

- Clinical judgment is an essential skill used in over 46% of tasks routinely performed by new nurses (NCSBN, 2015).
- Only 23% of new nurses demonstrate beginning level competencies (Kavanagh & Szweda, 2017) .
- 75% novice nurses were involved in a medication error(Smith & Crawford, 2003)
- 65% of adverse patient events could have been prevented if nurses had engaged in better decision-making (Munteen, 2012)
- Only one fifth of employers think their new nurse hires have satisfactory decision-making skills. (Saintsing & Gibson, 2011)

Definition of Nursing Clinical Judgment

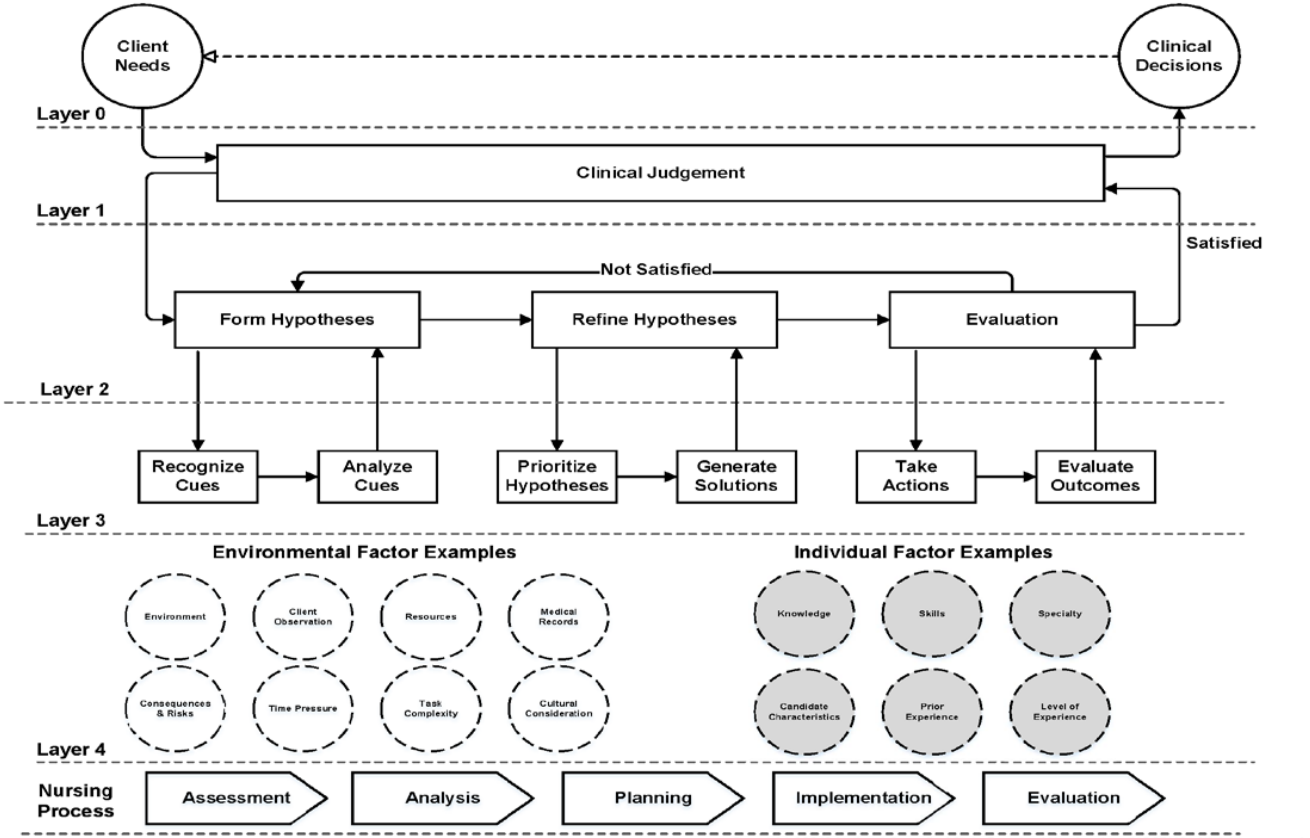
The observed outcome of critical thinking and decision-making. It is an iterative process that uses nursing knowledge to observe and access presenting situations, identify a prioritized client concern and generate the best possible evidence-based solutions in order to deliver safe client care.

Betts , Muntean, Kim, Jorion & Dickison (2019)

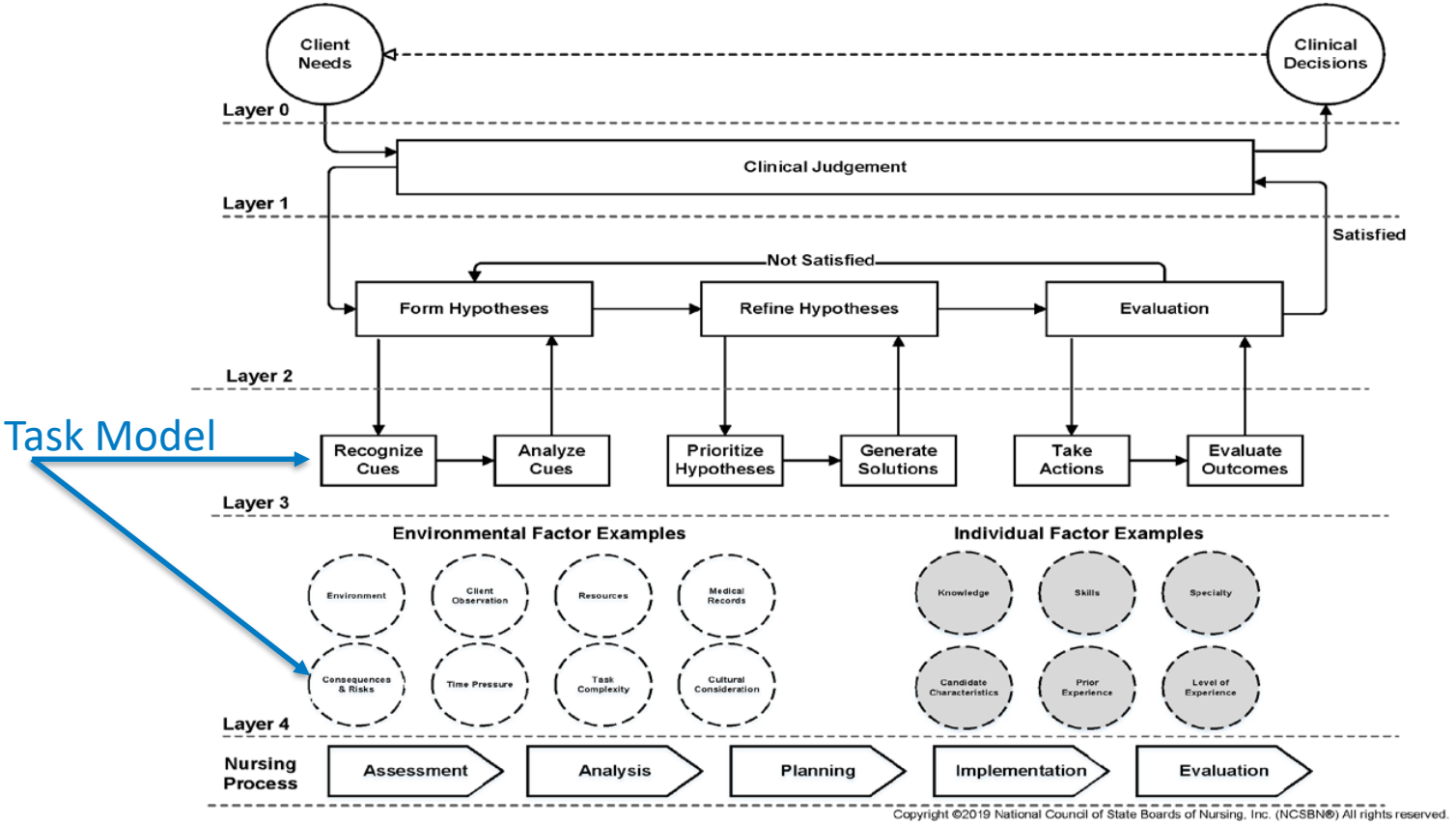
Nursing Clinical Judgment

- Clinical judgment is the observed outcome of critical thinking and decision making
- Involves critical thinking and decision making plus knowledge
- Is a behavior= think like a nurse
- Occurs in all domains of learning: cognitive, psychomotor, affective
- Can be taught, learned, practiced, observed and tested

NCSBN CJM Assessment Model



NCSBN CJM Assessment Model



NCSBN Task & Action Model

Layer 4

Environmental factors

- Environment
- Client observation
- Resources
- Medical records
- Consequences and risks
- Task complexity
- Cultural considerations

Individual factors

- Knowledge
- Skills
- Specialty
- Prior experience
- Level of experience
- Candidate characteristics

Layer 3

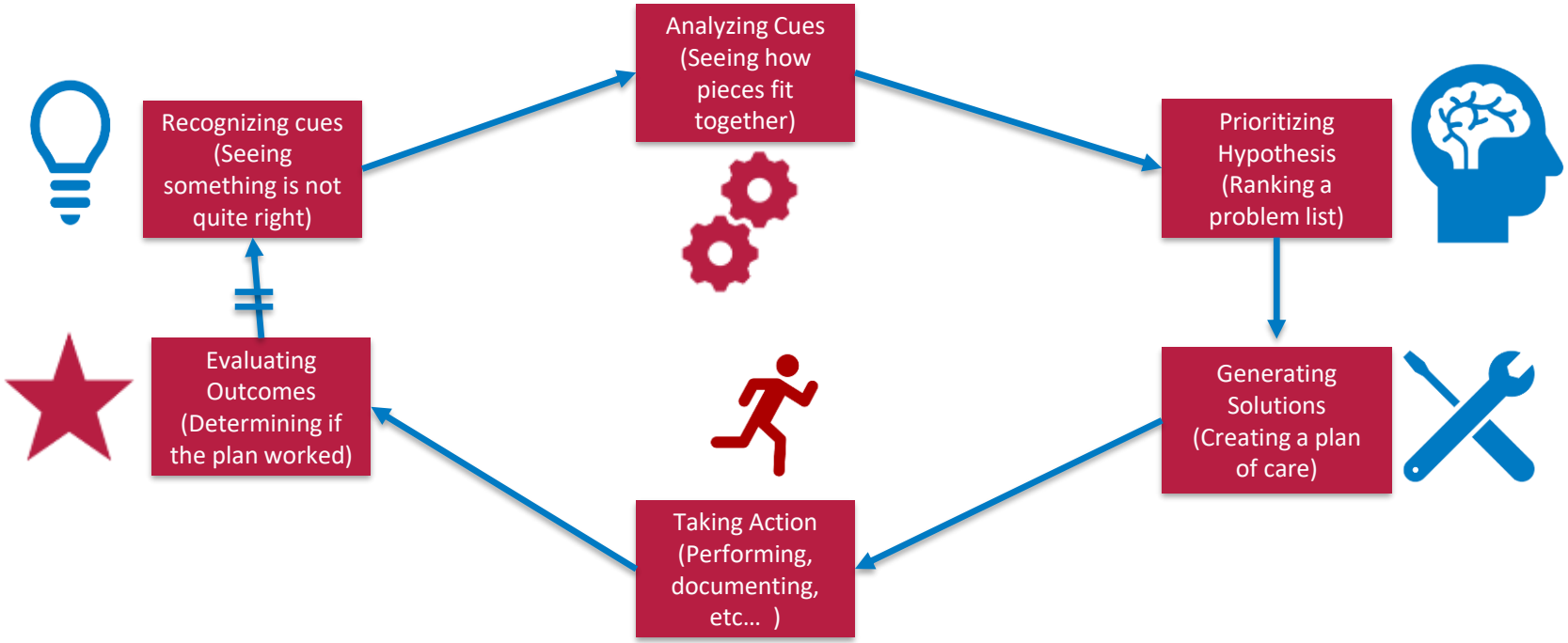
6 Cognitive processes

- Recognizing cues
- Analyzing cues
- Prioritizing a hypothesis
- Generating solutions
- Taking action
- Evaluating outcomes

Action Model

- Task Model + Expected behaviors

Layer 3: The Six Clinical Judgment Processes



Task: Recognize cues

- Observe and assess the client
- Obtain information from client's health record (history, labs, tests, prescriptions)
- Note vital signs—current and changes
- Identify signs and symptoms
- Differentiate relevant from irrelevant data
- Recognize what is most important and most urgent

Task: Analyze cues

- Cluster data
- Recognize patterns
- Recognize inconsistencies
- Link cues to client situation
- Recognize what is concerning and why
- Determine what other information is needed
- Consider possible causes

Task: Prioritize hypothesis

- Narrow possibilities
- Determine the most urgent priority
- Determine which hypothesis poses a risk to the client
- Provide evidence/rational to support conclusions
- Determine order of priorities

Task: Generate solutions

- Determine desired outcomes
- Select multiple appropriate interventions
- Identify interventions to avoid
- Refine hypotheses if necessary
- Gather more information if needed
- Determine if others (team) need to be involved in the solution

Task: Take action

- Perform skill, procedure
- Administer medication
- Protect the client/family/staff
- Collaborate with team members
- Delegate to appropriate persons
- Communicates/documents
- Teach client, families, communities, staff
- Demonstrate professional, legal and ethical behavior

Task: Evaluate outcomes

- Compare observed outcomes to desired outcomes
- Recognizes changes in client status
- Determine effectiveness of action (meds, teaching, procedure)
- Determines which (assessments, vital signs, and labs etc.) requires follow up
- Determines if other interventions are needed

Advantages of the NCSBN Task Model

- Is systematic
- Derived from nursing theories of clinical judgment
- Replaces intuition with deliberate thinking
- Focuses on elements needed to make accurate and safe decisions
- Aligns teaching-learning with testing students' ability to make CJs

Using the NCSBN Task Model to Teach Students to Make Clinical Judgments

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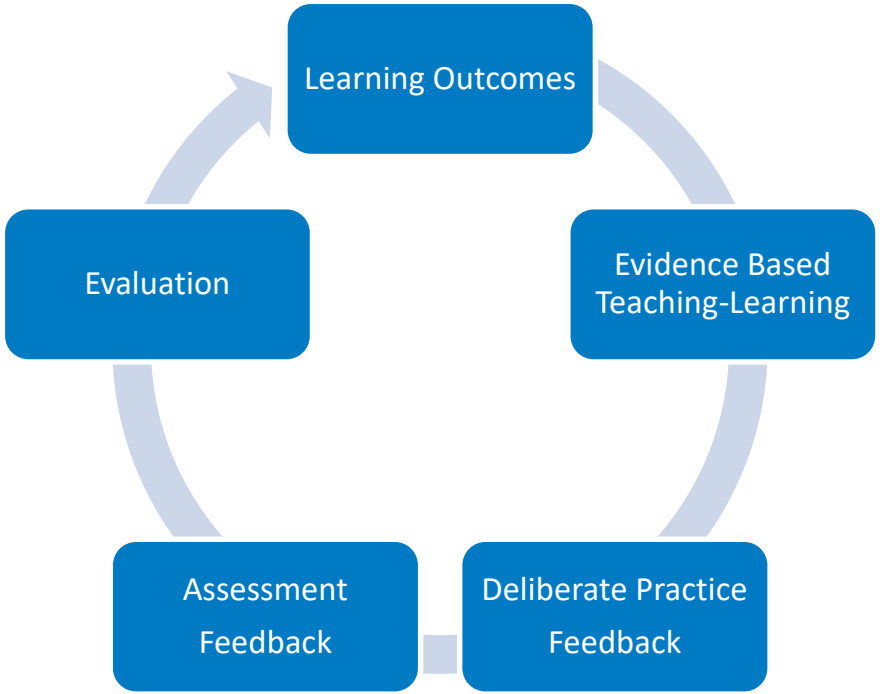
Getting Started

- Choose ONE model and thread in curriculum
- Teach and practice the FULL process
- Prompt for **observable** behavior (verbal or written
- Start with what you have: teaching-learning strategies, assessment activities, test questions
- Revise/develop teaching/evaluation tools to be consistent in teaching and evaluating CJ across all courses
- Collaborate with clinical partners to improve CJ in clinical courses



Using Teaching Strategies to make CJ “Observable”

Possible strategies

- Simulation with debriefing
- Visible thinking
- Visual thinking strategies
- Talk-out-loud
- Questioning
- Prompts

Benefits

- Emphasis on each step of a CJ process
- Deeper understanding of content
- Greater motivation for learning
- Development of learners' thinking and learning abilities
- Develop “thinking routines”

Using Clinical Scenarios/Case Studies to Activate Students' CJ Skills

Definition

- Clinical Scenario*/Case study =actual or contrived situation that follows 6 steps of CJ Model
- Can "unfold" over time

*Betts et al, 2019

Why Use Scenario/Case Study

- Students and faculty are familiar with this strategy
- Easy to make each step of the CJ process "observable"
- Can be developed by students and faculty
- Integrates key course content/concepts
- Easy to use in classroom and clinical practice
- Connects classroom to clinical practice
- Links teaching to testing using NCSBN
- Case studies/clinical scenarios are publically available and can be adapted
  - NLN nln.org
  - QSEN qsen.org
  - Text books, ancillaries

Clinical Scenario

- Starts with a learning outcome: match scenario to content, and students' knowledge
- Is realistic
- Describes clinical context—environmental and individual factors; setting; medical dx; environmental cues, client observations, laboratory data, time pressure cues; resources, education level and experience of nurse/staff
- Includes 2 or more sources of information (prescriptions, labs, SBAR, nurses notes, assessment tools)
- Provides opportunity for students to respond to prompts for each step of CJ process

Making Thinking Observable
Adding Prompts to Clinical Scenarios

- Use prompts (verbal, written) to make thinking and judgment observable/visible at each step of the process
- Clarify that these are “teaching questions,” not “evaluation” questions
- Allow students time to think and answer—10-20 seconds
- Focus on “thinking” and possible answers vs. “knowledge” and correct answer
- Tailor prompts to student’s response and patient situation
- Consider level of the student and amount of knowledge they can draw on (individual factors from the NCSBN CNJ model)
- Students can generate prompts for themselves and classmates

Recognize cues

Tasks

- Observe and assess the client
- Obtain information from client's health record (history, labs, tests)
- Understand patient's current prescriptions
- Identify signs and symptoms
- Differentiate relevant from irrelevant data
- Recognize what is most important and most urgent

Prompts

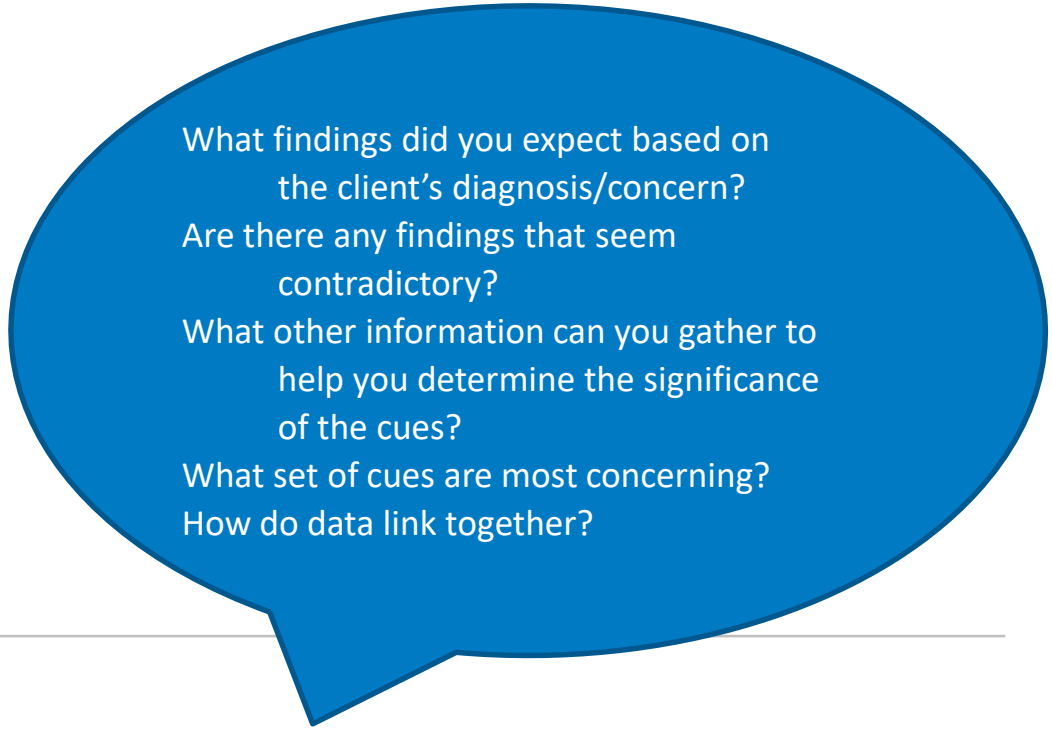
What cues did you recognize?
What are the most significant findings? Relevant? Irrelevant?
What information was less important or distracting?

Analyze cues

Tasks

- Recognize patterns
- Recognize inconsistencies
- Link cues to client situation
- Recognize what is concerning and why
- Determine what other information is needed
- Consider possible causes

Prompts



Prioritize hypothesis

Tasks

- Cluster information
- Narrow possibilities
- Determine the most urgent priority
- Determine which hypothesis poses a risk to the client
- Provide evidence/rational to support conclusions
- Determine order of priorities

Prompts

- What is most likely occurring?
- What makes you say that?
- What will happen if this is not treated?
- What else could be going on?
- Which hypothesis is the most important and the nurse should manage first?
- What are the risks for ignoring other hypotheses?
- Which cues indicate action is required?

Generate solutions

Tasks

- Determine desired outcomes
- Select multiple appropriate interventions
- Identify interventions to avoid
- Gather more information if needed
- Determine of others (team) need to be involved in the solution

Prompts

- What are the desired outcomes related to your hypothesis? (Give at least 2)
- What interventions are indicated?
- What interventions should be avoided?

Take action

Tasks

- Perform skill, procedure
- Administer medication
- Protect the client/family/staff
- Collaborate with team members
- Delegate to appropriate persons
- Communicate/document
- Teach client, families, communities, staff
- Demonstrate professional, legal and ethical behavior

Prompts

- What intervention(s) are needed immediately?
- What steps or equipment are needed to perform an intervention?
- What interventions can you delegate and to whom?
- How do you administer any medications, and what are the major nursing considerations?
- What specific items will you teach the client?
- What information do you include in a SBAR report for handoff and any referrals?
- What information will you document?

Evaluate outcomes

Tasks

- Compare observed outcomes to desired outcomes
- Recognizes changes in client status
- Determine effectiveness of action (meds, teaching, procedure)
- Determines which (assessments, vital signs, and labs etc.) require follow up
- Determines if other interventions are needed

Prompts

- What follow up data is needed?
- What findings would show an intervention is working?
- What findings show an intervention is not effective?

Using Clinical Scenarios

- Teach students the CJ process; be consistent across courses; establish a “thinking routine”
- Present the scenario
- Use prompts to observe student’s thinking
- Give FEEDBACK

  Affirm correct answer or clarify misconceptions

  Prompt further as needed: (What would happen if you did that? Did you miss anything? Do you need to do more? What would happen if the patient did xxx)

  Monitor that all students have ended with understanding each step and where they need to adjust their thinking (metacognitive thinking)

  Monitor that student can apply requisite knowledge, skills, attitudes

  Share your expertise

  Tolerate ambiguity

- Debrief, reflect about CJ process and nursing knowledge

Using a Clinical Scenario to Teach the CJ Process

(Refer to Handout #1)

Directions

- The purpose of this activity is to provide participants and opportunity to experience using a Clinical Scenario to teach students to use the NCSBN Clinical Judgment Model.
- You may work as an individual, dyad, or group at your table.
- The session faculty will guide you through the model by providing prompts for each step of the model. The group can use additional prompts to facilitate making clinical judgments and give feedback to other participants as appropriate.
- Start by reading the case.
- The session faculty will start the case by using prompts. Write your answers on the worksheet included in this handout.
- The focus of the activity is to use prompts to elicit responses from the participants about their thinking and decision making as they make clinical judgments. Do NOT worry about the content. Think like a 3rd or 4th semester student!

Clinical Scenario
(Handout #1)

This scenario requires students to have:

- Knowledge: health assessment; care of older adults; assessment of confusion; sepsis, diabetes, pressure ulcer; lab values; antibiotics; medications to manage diabetes
- Psychomotor skills: obtain wound culture; administer IV fluids; administer oxygen; conduct focused assessment of pressure ulcer; insert Foley catheter catheter; perform ECG and SpO2 monitoring

This scenario takes place from admission to discharge in an emergency room.

Clinical Scenario: Sepsis in an Older Adult

Adapted from the NLN Advancing Care Excellence Series (Red Yoder)
http://www.nln.org/professional-development-programs/teaching-resources/ace-s/unfolding-cases/red-yoder

- The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128.

Chart Information

Nurses Note
The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128. VS are HR 86, B/P 116/64, RR 28, T 100.4F SaO2 92%

Date/ Time:	Emergency Room prescriptions: Prescriptions

Labs: CBG, CBC, electrolytes, BUN and creatinine, arterial blood gases, blood cultures x 2, serum lactate

Wound culture and sensitivity

Oxygen at 2 liters per minute via nasal cannula; titrate to keep SpO2 > 94%

Continuous ECG and Sp O2 monitoring

Capillary blood glucose stat: Administer regular insulin per sliding scale below:

If less than 60 notify Dr. Baker

61-130- give no insulin
131-200- give 2 units subcutaneously
201-250- give 4 units subcutaneously
251-300- give 6 units subcutaneously
>300 notify Dr. Baker

Insert Foley catheter

IV 0.9% NS 500ml bolus; May repeat x1

Saline dressings to pressure ulcer daily

Ceftazidime 1gm IVPB every 8hrs

Frank Baker, MD

Recognize Cues
What cues did you recognize?
What are the most significant findings?

Recognition of cues

What cues did you identify?
Which cues are most significant? *

- Environment: Emergency department
- People present: adult son
- Client observations: Older adult
- Signs and Symptoms: R. foot ulcer; entire foot red and swollen*
- Mental status: client confused*
- Medical Record: P 86, B/P 116/64, RR28*, T100.4*, Sp02 92% *
- Client history: Diabetes; Historyof Rt toe pressure ulcer X 5 weeks, treated with saline dressings*
- Labs: BG 128; CBC and blood culture pending
- Medications: Metformin, glipizide
- Time pressure: Ulcer was getting better 5 days ago; son found client in bed and confused this morning*

Analysis of Cues

What set of cues are most concerning? Do you need other information? How do data link together?

Analysis of cues

Analysis of Cues

What set of cues are most concerning?* Do you need other information? How do data link together?

Analysis of cues	
Need lab results : WBC, Culture, ABG, Serum lactate	
Need to know more about B/P history	
Swollen toe*	
rr28*	Data link to indicate signs of sepsis:
T100.4*	Source of infection, confusion,
SpO2- 92*	RR 28 (>22), Temp 100.4
Confusion*	
Blood glucose 128	

Prioritize Hypothesis

What is likely occurring? What hypothesis is most important and nurse should manage first?

Possible hypotheses

What hypotheses are priorities?

Possible hypotheses
Possible infection*
Possible sepsis*
Blood glucose slightly elevated
Client is confused

What solutions/desired outcomes did you generate? What interventions are needed?

Desired outcomes/Solutions

What solutions/desired outcomes did you generate? What interventions are needed?

Desired outcomes/Solutions
Treat infection (give antibiotics)
Prevent septic shock/ increase perfusion (administer fluids)
Improve cognition/ give oxygen

What action should the nurse take?
What action (s) should be taken immediately?

Action/intervention

What action should the nurse take?
What action(s) should be taken immediately?

Action/intervention
Start oxygen
Administer antibiotics
Administer isotonic fluids
Obtain wound culture
Obtain VS
Keep client oriented
Insert Foley Catheter

Evaluate Outcomes

What data shows the interventions are working?

What Follow-up Data is Needed?

Outcomes

Evaluate Outcomes
What Follow-up Data is Needed?

Outcomes
Vital signs within normal limits
Decreased respiratory rate and SpO2=95%
Antibiotics started
Urine output within normal limits
Client less confused
Follow up with labs (WBC), culture, serum lactate; monitor blood glucose

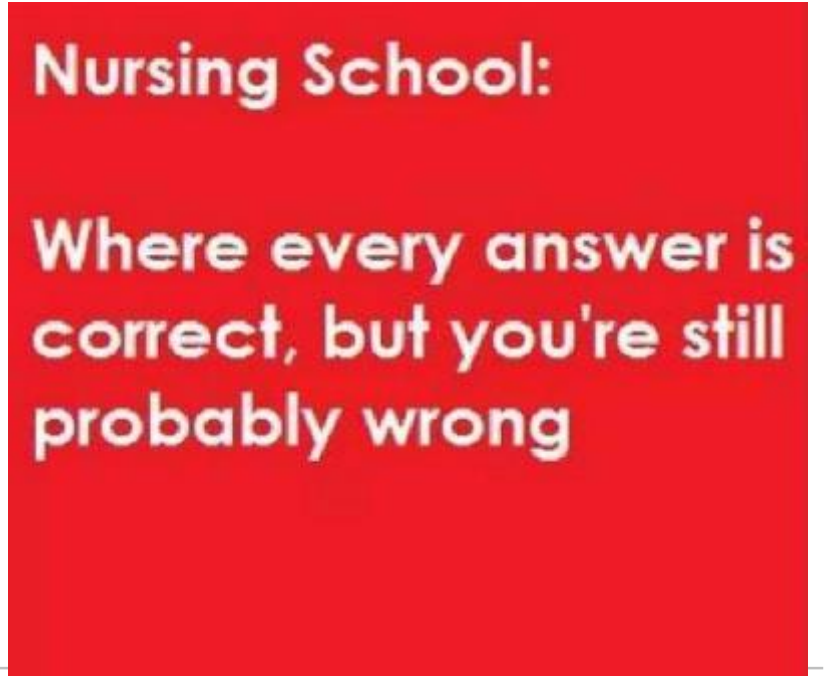
Debrief and Reflect

- What did you experience?
- Was the group process effective?
- Were you able to make the CJ process “observable” ?
- What were the difficult points in working through the case?
- What other information about **teaching CJ** did you need to use the case?
- What else would you need to do if you were teaching students?
- How could you adapt this case to a written format? To a simulation? To a clinical conversation or post conference?

Testing Clinical Judgment

Law of Educational Cause and Effect

For every evaluation action there is an equal (or greater and sometimes opposite) educational reaction.
(*Mccoubrie, 2004)*



Testing Can Drive Learning

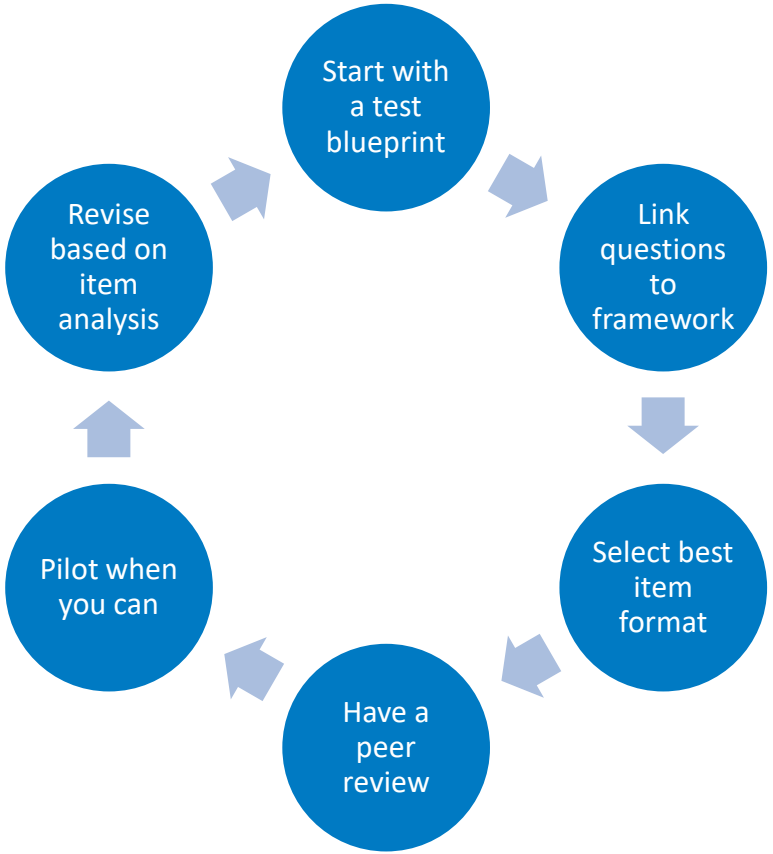
- Learning is affected by test:
  - Content
  - Format
  - Timing
  - Feedback (Mccoubrie, 2004)
- Meta-analysis found practice tests are more beneficial for learning than restudying (Adesope, Trevisan, & Sundararajan, 2017).

Test Questions in Nursing

- Often have linguistic bias (Hicks, 2011).
- Often lack validity and reliability (Considine, Botti, & Thomas, 2005).
- Commercial bank items are often flawed (Masters et al., 2001; Tarrant, Knierim, Hayes, & Ware, 2006).
- Test bank items may be available to students on the web (Madara et al., 2017).
- Flawed questions tend to penalize high-achieving students (Tarrant & Ware, 2008).
- Do not consistently measure clinical judgment (Dickinson et al. 2016).

Process for Building Better Tests

Creating good test items and exams and building evidence of validity takes time.



Frequency of Test Construction Practices

- Course objectives (M=6.0,SD=1.6)
- Class of unit objectives(M=6.4,SD=.94)
- Major content topics(M=6.7,SD=.58)
- Specific content objectives(M=6.5,SD=.77)
- Test blueprint(M=5.2,SD=1.9)
- NCLEX-RN test plan(M=4.8,SD=1.9)
- Peer review(M=4.2,SD=2.0)
- Higher cognitive levels according to Bloom taxonomy(M=6.1,SD=1.1)
- Clinical context for test items(M=5.8,SD=1.1)
- Plausible distractors in MCQ(M=6.1,SD=1.1)
- Even distribution of correct answer in MCQ(M=5.3,SD=1.7)

Killingsworth, Kimble, and Sudia (2015)

Test Plans/Blueprints

- Blueprints are first step in establishing reliability and validity
  - Too much emphasis on one area reduces content validity
  - Decreases ability to measure students' true ability.
- Mapping items to framework promotes fair distribution of questions
- Blueprints serve as a worksheet to track post exam revisions.
- Categorizing items makes collection of meta-data possible.

Sample Test Blueprint

Question #	Content	Course Objective	NCLEX Client Need	Clinical Judgment Task	Item Type	Difficulty	Item Discrimination

Mapping to The NCLEX-RN Test Plan

- NCLEX measures the competencies needed to perform safely and effectively as a newly licensed, entry-level registered nurse
- Linking questions to Client Need categories provides beginning evidence that questions are relevant and appropriate.
- Linking instructor created exams to NCLEX provides evidence of content validity

NCLEX-RN 2019 Test Plan

Client Need	Percentage of Test (+/-3%)	Number of Activity Statements
Management of Care	20%	24
Safety and Infection Control	12%	15
Health Promotion and Maintenance	9%	15
Psychosocial Integrity	9%	15
Basic Care and Comfort	9%	15
Pharmacological and Parental Therapies	15%	16
Reduction of Risk Potential	12%	19
Physiological Adaptation	14%	23

Plus 5 Integrated Processes

Caring

Nursing Process

Communication and Documentation

Teaching and Learning

Culture and Spirituality

Blueprinting Cognitive Levels

Bloom's Taxonomy	NCSBN-CJM
Remembering/Understanding	Recognize cues
Analyzing	Analyze cues
Analyzing/Creating	Prioritize hypothesis
Creating	Generate solutions
Applying	Take action
Evaluating	Evaluate Outcomes

General Rules for Creating Good Test Items

- Match the question to the student's level in program.
- Focus on what the entry -level nurse does or helps the client do.
- Emphasize clinical judgment and decision making.
- Do not ask about what providers other than the RN do.
- Use full sentences ending in a question mark or period.
- Avoid slang and references understood primarily by dominant culture.
- Include environmental factors (context)

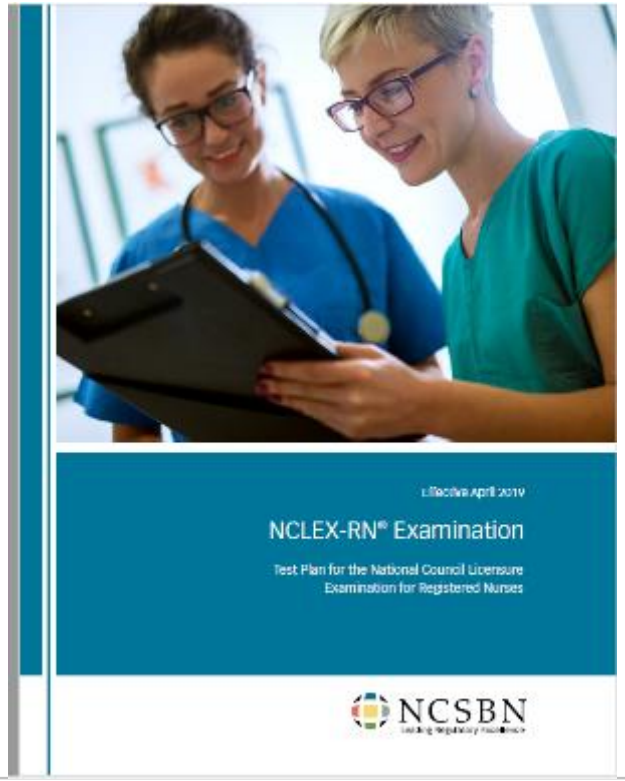
Examples of Environmental Factors

- Care setting
- Client observation
- Resources
- Medical records
- Consequence and risk
- Time pressure
- Task complexity
- Cultural preferences

Consider Using Detailed test Plan to Guide Question Development

- 142 activities statements
- Over 80 content areas
- Majority reflect clinical judgment, decision making, critical thinking, and or problem solving

https://www.ncsbn.org/testplans.htm



Management of Care Stems

- Activity Statement:
  - *Assign and supervise care provided by others (e.g., LPN/VN, assistive personnel, other RNs)*
- Possible stems that reflect decision making:
  - Which task care can be delegated to the LPN?
  - Which client should be assigned to the float nurse?
- Adding context makes the question about clinical judgment
  - What should the nurse do with XXX (information) provided by the UAP about the client with XXXX ?

Sample Question Management of Care MCQ

The nurse cares for a client with coronary artery disease who is now free of chest pain. Which activity is **most** appropriate for the nurse to delegate to the unlicensed assistive personnel (UAP)?

1. Assist the client with identifying risk factors for coronary artery disease.
2. Assess if the client's urine output is adequate.
3. Take the client's vitals signs. (Key)
4. Provide teaching on a low-fat diet to the client.

Building the Test Blueprint

Question #	Content	Course Objective	NCLEX Client Need	Clinical judgment Task	Item Type	Difficulty	Item Discrimination
1	CAD		MoC	Take action	Multiple Choice		

Test Item Types

Current NCLEX Item Types

- Multiple Choice (4 options)
- Multiple Response (5/6 options)
- Drag-and-Drop
- Hot Spot
- Exhibit (Chart)
- Graphic (Picture)
- Fill in the Blank (Calculation)
- Audio

Formatting Multiple Choice Questions

- Include **bolded** key terms in stem.
- Avoid negatively worded items such as **not** or **least.**
- Avoid absolute terms such as **always** or **never.**
- Create 4 stand alone answer options with only 1 correct answer.
- Keep answer options similar in length and format.
- Avoid repeating words from stem only in correct answer.

Recognizing cues with MCQ

An older adult client has a history of seasonal allergies, mild anxiety disorder, and multiple sports injuries. He was treated with doxycycline last year for Lyme disease. At the client's wellness check, he reports occasional wheezing when the pollen count is high. He also report that his left leg has been noticeably more swollen and feels like his calf is cramping after a minor injury last week. His VS are T 98.1, HR 80, RR16, B/P 134/84, Oxygen saturation 97%. What finding is **most** important for the nurse to follow up on?

A. Occasional wheezing
B. Left leg swelling
C. Exposure to Lyme disease
D. Blood pressure of 134/84

Problem: Student has 1 in 4 chance of getting right whether or not they can actually extract what is important from the history

Testing Clinical Judgment with Current Items

	Recognize Cues	Analyze Cues	Prioritize Hypothesis	Generate Solution	Take Action	Evaluate Outcomes
	Assess	Analyze		Plan	Implement	Evaluate
Audio	Good	Fair	Poor	Poor	Poor	Good
Drop & Drag	Fair	Fair	Poor	Poor	Poor	Poor
Exhibit	Good	Good	Fair	Fair	Fair	Fair
Graphic	Good	Fair	Fair	Poor	Poor	Fair
Hot spot	Fair	Poor	poor	poor	poor	poor
Multiple Choice	Fair	Fair	Fair	Fair	Fair	Fair
Multiple Response	Fair	Fair	Fair	Fair	Fair	Fair

Qian, 2019

More on MCQ

Central Queensland University in Australia banned multiple choice questions in 2014 citing they:

- Tested a combination of guessing and knowledge
- Lacked authenticity
- Misled learners with distractors
- Were akin to game shows (Hinchliffe 2014).

Next Generation NCLEX Item Types

- Extended Multiple Response
  - 5-10 options
- Drop and drag (DND)
  - Moving tokens to target
- Highlighting (HL)
  - Identifying sections of text or rows in a table/chart)
- Matrix
  - Multiple choice(1 right answer per row)
  - Multiple response(can have more 1 per row)
- Dropdown/Cloze (DD)
  - Fill in blank with options provided either to complete a table or sentence

Betts et al., 2019

Testing Clinical Judgment

- Most faculty use stand alone questions because it mirrors current CAT practices.
  - MCQ are the primary item format
- Consider incorporating partial case studies/related questions students can make appropriate clinical judgments at all phases of a scenario.
  - Select question formats that best test clinical judgment task
- Current best practices discourage placing information in stem that is not required to answer question.
  - Including extra information may be needed to evaluate if students can differentiate relevant from irrelevant

Testing Clinical Judgment with NGN Items

	Recognize Cues	Analyze Cues	Prioritize Hypothesis	Generate Solution	Take Action	Evaluate Outcomes
	Assess	Analyze		Plan	Implement	Evaluate
Dropdown/ Cloze	Good	Good	Good	Fair	Good	Fair
Highlighting	Good	Fair	Fair	Fair	Fair	Good
Extended Drag&drop	Good	Good	Good	Good	Good	Good
Extended MR	Good	Good	Good	Good	Good	Good
Matrix	Fair	Good	Poor	Good	Good	Good

Qian, 2019

Writing NGN Questions

- Develop a common clinical scenario that an entry-level nurse could be expected to encounter
  - Consider KSA needed to address scenario
- Describe or list the facts/observations and note the context within which the problem presents itself
- Provide information a nurse would have access to:
  - SBAR report
  - Medical record
  - Laboratory results
  - Patient observation
  - Vital signs

Betts et al., 2019

Write 6 Questions Based on Case

- Recognize significant cues
- Interpret the cues to understand the nature of the situation and the presenting signs or symptoms
- Synthesize information to generate and prioritize a hypothesis /problem list
- Create a course of action
- Implement the plan
- Evaluate the effectiveness of the intervention

- Create questions with 5-10 answer options
  - 2-5 correct options
- Distractors should be common errors
- Questions should link to Client Needs

Recognizing Cues: Identify: relevant information from multiple sources including environment, medical record, and patient observation.

Possible Item Stems

- What findings are most important for the nurse to follow up on?
- What findings does the nurse consider abnormal?

Item Types

Best	Okay
Audio	Drop&Drag
Exhibit	Hot spot
Graphic	MC
Dropdown/Cloze (NGN)	MR
Highlighting(NGN)	Matrix (NGN)
Extended Drag&drop (NGN)	
Extended MR (NGN)	

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note
The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128. VS are HR 86, B/P 116/64, RR 28, T 100.4F SaO2 92%

- Click to highlight the findings that require follow up.

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note

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Click to highlight the findings that require follow up.

Testing Analyzing Cues Questions: Clustering information with the client's presentation

Possible Item Stems

- What findings does the nurse find most concerning?
- What other assessments does the nurse need to make?
- What findings suggest that the client has XX?
- What might happen if the problem is left untreated?

Item Types

Best	Okay
Exhibit	Audio
Dropdown/Cloze(NGN)	Drop& drag
Extended Drag& drop (NGN)	Graphic
Extended MR(NGN)	MC
Matrix(NGN)	MR
	Highlighting (NGN)

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Complete the following sentence by choosing from the list of options.

The nurse should recognize that the [Blood glucose / Confusion] is a sign of worsening [Diabetes / Perfusion] [Seizure / Shock] may result if treatment is delayed

AS:Identify pathophysiology related to an acute or chronic condition

Testing Prioritize Hypothesis: Evaluating and ranking hypotheses according to priority

Possible Item Stems

- What problems are most likely occurring?
- What problems are most urgent for the nurse to address?

Item Types

Best	Okay
Dropdown/Cloze(NGN)	Graphic
Extended Drag& drop (NGN)	Exhibit
Extended MR(NGN)	MC
	MR
	Highlighting (NGN)

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Which of the following are most likely occurring based on the information presented on the left? Select all that apply

- Hyperglycemia
- Dementia
- Sepsis
- Dehydration
- Necrosis
- Cancer
- Infection

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note
The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128. VS are HR 86, B/P 116/64, RR 28, T 100.4F SaO2 92%

Which of the following are most likely occurring based on the information presented on the left? Select all that apply

- Hyperglycemia
- Dementia
- Sepsis
- Dehydration
- Necrosis
- Cancer
- Infection

Testing Generate Solutions: Identifying expected outcomes and using hypotheses to define a set of interventions for the expected outcomes.

Possible Item Stems

- What would be the best outcomes for this client?
- What interventions should the nurse include in the plan of care?
- What interventions should be avoided?

Item Types

Best	Okay
Matrix (NGN)	Dropdown/Cloze (NGN)
Extended Drag& drop (NGN)	MC
Extended MR(NGN)	MR
	Highlighting (NGN)
	Exhibit

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note

The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 135. Admitting VS are HR 86, B/P 116/64, RR 28, T 100F,O2% 92

The client's WBC are 12,000 and his HR is now 92.

Drag the word choices from below to fill in the sentence .

The best outcomes for this client would be _____ and _____

To achieve best outcomes the nurse should. _____ and _____

Prevent septic shock	Perform dressing change
Eliminate infection	Normalize glucose
Administer fluid bolus	Administer insulin
Administer antibiotics	Prevention of stroke

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note

The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 135. Admitting VS are HR 86, B/P 116/64, RR 28, T 100F,O2% 92

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Eliminate infection

and

Prevent septic shock

To achieve best outcomes the nurse should.

Administer antibiotics

and

Administer fluid bolus

Prevent septic shock	Perform dressing change
Eliminate infection	Normalize glucose
Administer fluid bolus	Administer insulin
Administer antibiotics	Prevention of stroke

AS: Manage the care of a client with alteration in hemodynamics, tissue perfusion and/or hemostasis

Testing Take Action: Implement solutions that address the highest priorities

Possible Item Stems

- What interventions can the delegate to XX?
- How should the nurse administer a medication?
- What steps should the nurse perform to do XX ?
- What should the nurse teach the client?
- What information should be included in the SBAR report?
- What should the nurse document?

Item Types

Best	Okay
Matrix (NGN)	Exhibit
Extended Drag& drop (NGN)	MC
Extended MR(NGN)	MR
Dropdown/Cloze (NGN)	Highlighting (NGN)

The nurse is caring for an older adult admitted to the emergency department with the following prescriptions.

Emergency Room prescriptions:

Prescriptions

Labs: CBG, CBC, electrolytes, BUN and creatinine, arterial blood gases, blood cultures x 2, serum lactate

Wound culture and sensitivity

Oxygen at 2 liters per minute via nasal cannula; titrate to keep SpO2 > 94%

Continuous ECG and Sp O2 monitoring

Capillary blood glucose stat: Administer regular insulin per sliding scale below:

If less than 60 notify Dr. Baker

61-130- give no insulin
131-200- give 2 units subcutaneously
201-250- give 4 units subcutaneously
251-300- give 6 units subcutaneously
>300 notify Dr. Baker

Insert Foley catheter

IV 0.9% NS 500ml bolus; May repeat x1

Saline dressings to pressure ulcer daily

Ceftazidime 1gm IVPB every 8hrs

Frank Baker, MD

Drag and drop the tasks that are appropriate for the nurse to delegate to the LPN to the box on the right. Choose only steps that are appropriate to delegate.

Tasks	Task to Delegate to LPN
Obtain wound culture	
Complete admission assessment	
Obtain oxygen saturations	
Call BG value >300	
Insert Foley catheter	

The nurse is caring for an older adult admitted to the emergency department with the following prescriptions.

Emergency Room prescriptions:

Prescriptions

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Tasks	Task to Delegate to LPN
Obtain wound culture	Obtain wound culture
Complete admission assessment	Obtain oxygen saturations
Obtain oxygen saturations	Insert Foley catheter
Call BG value >300	
Insert Foley catheter	

AS: Assign and supervise care of client provided by other

Testing Evaluate Outcomes: Comparing observed outcomes against expected outcomes.

Possible Item Stems

- What follow up data should the nurse gather ?
- What findings would show an intervention is effective?
- What critical values does the nurse need to monitor??

Item Types

Best	Okay
Audio	Exhibit
Extended Drag&drop (NGN)	MC
Extended MR (NGN)	MR
Highlighting (NGN)	Graphic
Matrix (NG)	Dropdown/Cloze (NGN)

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note

The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128. VS are HR 86, B/P 116/64, RR 28, T 100.4F SaO2 92%

The nurse is evaluating the client after performing interventions to prevent septic shock.

For each finding click to specify if the finding is effective, ineffective or unrelated

	effective	ineffective	unrelated
HR 94			
RR 18			
Oriented X3			
BP 118/70			
U/O 30ml/hr			
HbA1C 6.5			

The nurse is caring for an older adult admitted to the emergency department.

Nurses Note

The patient is an 80-year-old with type 2 diabetes treated with metformin and glipizide. He was healthy, alert, and active until he developed a pressure ulcer on his right great toe about 5 weeks ago. He was treated at home with moist saline dressings daily, and family thought it was improving. They last visited him 5 days ago. Today, his son found him in bed and confused and brought him to the emergency department. His foot is red and edematous and much worse according to his son. The lab tech just drew his bloods and reported that his blood glucose was 128. VS are HR 86, B/P 116/64, RR 28, T 100.4F SaO2 92%

The nurse is evaluating the client after performing interventions to prevent septic shock.

For each finding click to specify if the finding is effective, ineffective or unrelated.

	effective	ineffective	unrelated
HR 94		X	
RR 18	X		
Oriented X3	X		
BP 118/70	X		
U/O 30ml/hr	X		
HbA1C 6.5			X

AS: Evaluate responses to procedures and treatments

Building the Test Blueprint

Question #	Content	Course Objective	NCLEX Client Need	Clinical judgment Task	Item Type	Difficulty	Item Discrimination
1	CAD		MoC	Take action	MC		
2	Sepsis		PA	Recognize Cues	HL		
3	Sepsis		RR	Analyze Cue	Dropdown		
4	Sepsis		RR	Prioritize Hypothesis	Ex MR		
5	Sepsis		RR	Generate solutions	EX DnD		
6	Sepsis		MoC	Take action	EX DnD		
7	Sepsis		RR	Evaluate outcomes	Matrix		

Practice

- Use the Red Yoder Case to develop 1 multiple response item for analyzing cues, taking action, or evaluating outcomes.
- Link the question to a client need
- Use 7-10 options
- Make 2-5 options correct

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Which actions should the nurse take to prevent septic shock? Select all that apply

1. Apply oxygen
2. Elevate head of bed
3. Give IV normal saline
4. Obtain wound cultures
5. Give IV antibiotics
6. Give antipyretics
7. Give metformin

AS: Use precautions to prevent injury and/or complications associated with a procedure or diagnosis

Change your Multiple Response

- Take the multiple response item you just wrote and turn it into a different format;
  - Extended drop and drag
  - Drop down
  - Matrix/ Grid

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Drag and drop the steps the nurse should take to prevent septic shock to the box on the right. Choose only steps that are appropriate.

Possible Steps	Appropriate Steps
Apply oxygen	
Elevate head of bed	
Give IV normal saline	
Obtain wound cultures	
Give IV antibiotics	
Give antipyretics	
Give metformin	

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Apply oxygen	Apply oxygen
Elevate head of bed	Give IV normal saline
Give IV normal saline	Obtain wound cultures
Obtain wound cultures	Give IV antibiotics
Give IV antibiotics	
Give antipyretics	
Give metformin	

Item Peer Review Basics

- Does the question test entry level practice?
- Is the question clear?
- Is it grammatically correct?
- Are there uncommon words or phrases that could changed?
- Are all distractors plausible?
- Are all distractors similar in length and style?
- Is there only one correct answer for MCQ?

Modified from Tarrant and Ware, 2012

Practice: Peer Review

The nurse places inflatable compression sleeves on the legs of a client undergoing a cesarean birth under regional anesthetic. The client has no risk additional risk factors for a blood clot other than pregnancy and surgery. When does the nurse tell the client that the sleeves will be removed?

1. After sensation returns to the client's lower extremities
2. When the clients' platelets return to pregnant status
3. When the client resumes ambulating
4. Just prior to the client's discharge

Based on activity statement: Apply and maintain devices used to promote venous return.

Practice: Peer Review

The nurse places inflatable compression sleeves on the legs of a client undergoing a cesarean birth under regional anesthetic. The client has no risk additional risk factors for a blood clot other than pregnancy and surgery. When does the nurse tell the client that the sleeves will be removed?

Repeated word

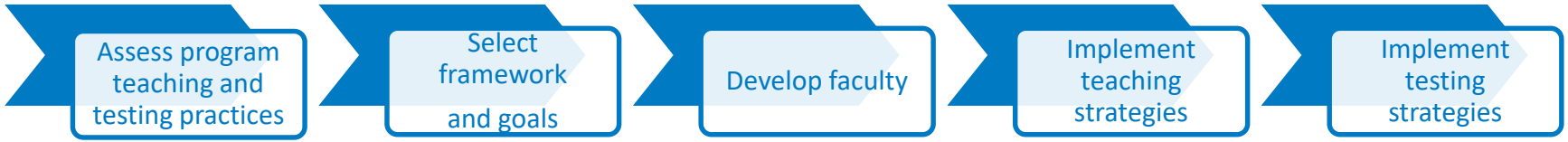
1. After sensation returns to the client's lower extremities
2. When the clients' platelets return to pregnant status
3. When the client resumes ambulating
4. Just prior to the client's discharge

Ambiguous option

Based on activity statement: Apply and maintain devices used to promote venous return.

Planning for Curricular Integration

Preparing for New NCLEX Test



Updates from NCSBN

- NCLEX test plan will continue to be organized around client needs
- Current test bank is 60% MC, 35% MR, 5% all other item types
- Earliest roll out of NGN is 2023, but could be as late as 2025
- NGN scoring models are still being developed but are anticipated to give partial credit
- NGN items will be case based with multiple items from a single case
- How current items will be or not be used with NGN items has not been determined

  (*Q&A from NCLEX Conference, Phoenix AZ, September 9, 2019)*

SWOT Analysis

Strengths	Weaknesses
• Good NCLEX pass rates • Strong program reputation • Experienced FT faculty in class room • Faculty skilled at item development • Faculty champions • Developing simulation program	• Lack guiding CJ framework • Promotion heavily tied to student evaluations • Faculty still rely heavily on PPT • Large volume of Part-time faculty teaching clinical
Opportunities	Threats
• Increased resources for simulation • New clinical partners focused south	• NGN in 2023 • Budgetary threats to private institutions in New England • Testing platforms are not yet developed

Frameworks and Goals

Select a Framework

- Using a structured framework to teach yields better results
- Frameworks with consistent language serve as tools to objectively develop and measure clinical judgment.
- Using a single framework across the curriculum increases the opportunity to use the model with each simulated or actual patient encounter while integrating new content and concepts (Brown Tyo & McCurry, 2019).

Ideas for Program Goals

- Adopt a clinical judgment framework
- Include a case study in every lecture course
- Use structured debriefing in simulation
- Use structured format for clinical conference
- Map test questions to CJ elements
- Revise clinical evaluation tools to measure clinical judgment

Faculty Development

- Shift from deliver of content to facilitator of learning
- Comprehensive development of at least 60 hrs over 4-18 months yields better results than single events focused on teaching skills (Gibbs & Coffey, 2004).
  - Consider implementing teaching circles
- Consider focusing on mid-career faculty as champions
  - May have focused more on research early career

Implementing Teaching Strategies

- Encourage pilots of teaching strategies
- Develop templates and tools
- Expect push back on student teaching evaluations

Implementing Testing Practices

- Many currents students will never see NGN
- Testing platforms are not ready
- Need to consider scoring model
  - NGN scoring models may give partial credit (Qian, 2019)
- Consider what % NGN questions to use
- Consider time frame-
  - In pilot still answered about 1 question/minute

Easy Changes to Make to Get Ready for NGN

Current Testing Practice	Testing Practice Change
Stand alone items	Several questions from a case
4-6 answer options	Add questions with 6-10 answer options
No extra information	Add rich context or multiple data sources
Map to client need or content	Add mapping to clinical judgment step

Consider focusing using NGN questions as a teaching strategy!

What questions do you have?


ThanK
YoU!

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