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The Next Generation NCLEX (NGN)

New nursing licensure examinations for RN and LPN/LVN candidates (NCLEX-RN® and NCLEX-PN®) are expected to launch in April 2023.

Why Change the NCLEX

- Major changes in nursing and health care practice include:
  - Increased complexity of client care
  - New innovations that prolong human life
  - Increased technologies to promote safe client care
  - Move to increased care in community-based settings, such as home, rehabilitation, and long-term care
- Research shows the decreased ability of new nursing graduates to make safe clinical decisions (https://www.ncsbn.org/11447.htm).
  - 50% of new graduates are involved in practice errors; 65% of these errors are related to poor clinical decision-making.
  - Employers are not satisfied with new graduates’ ability to make safe clinical decisions.
- LPNs/LVNs make clinical judgments within the scope of their practice (https://www.ncsbn.org/LPN_Practice_Analysis_FINAL.pdf).
Part I. Review of the NGN and Clinical Judgment

Differences Between the Current NCLEX and the NGN

- The test format remains adaptive similar to the current NCLEX but will consist of less test items.

- Candidates will have between 70 and 135 scored test items.

- All candidates will have three unfolding clinical situations with six test items each to measure the ability to critically think to make safe clinical decisions (clinical judgments) during various phases of client care.

- Some candidates will also have test items referred to as stand-alone items.

- Clinical situation information will be presented in medical record format, similar to the table below.

- Questions in unfolding cases and stand-alone items will include the new NGN item types (discussed in Part II).

- NGN test items (described in more detail starting on pg. 43) will be scored differently than the current NCLEX test items: Partial credit using three scoring rules depending on test item type, including:
  - 0/1 scoring rule
  - +/- scoring rule
  - Rationale scoring rule

Example of Client Information Presented in Medical Record Format

1915: 24-year-old client presents to the Urgent Care Center with report of abdominal discomfort and bloating since yesterday morning; no BM x 5 days. States doesn’t eat much but exercises every day for at least an hour. Has not felt like exercising for two days due to fatigue, weakness, and lack of energy. Worries excessively about “getting fat” because the client is getting married next year and wants to fit into the wedding gown. Current medications include a multivitamin, lorazepam 3 mg orally twice a day, and furosemide 40 mg orally every morning to eliminate “water weight.” Current weight 104 lb (47.2 kg); height 68 in (172.7 cm). Skin is very dry with light lanugo on face. T 96.2°F (35.7°C); HR 50 BPM; RR 18 bpm; BP 96/50 mmHg. SpO₂ 95% on RA; no dyspnea. States sometimes has shortness of breath when exercising.
Clinical Judgment: Definition And Action Model

NCSBN Definition of Clinical Judgment

Clinical judgment is defined as the observed outcome of critical thinking and decision-making. It is an iterative process that uses nursing knowledge to observe and assess presenting situations, identify a prioritized client concern, and generate the best possible evidence-based solutions to deliver safe client care (Dickison, et al., 2019).

Clinical Judgment Action Model (Layer 3 of NCSBN Clinical Judgment Measurement Model [NCJMM]) https://www.ncsbn.org/14798.htm

Action (Practice) Model represents what nurses actually do in practice when making clinical decisions to ensure client safety.

New NGN test item types are based on the Action Model’s six cognitive skills:

- **Recognize Cues**: What matters most?
- **Analyze Cues**: What could it mean?
- **Prioritize Hypotheses**: Where do I start?
- **Generate Solutions**: What can I do?
- **Take Action**: What will I do?
- **Evaluate Outcomes**: Did it help?
Semester 1: Focus On Clinical Judgment

Faculty need to prepare students for nursing practice and success on the NGN using a systematic plan. Phase I of this preparation describes how to introduce clinical judgment or continue to prepare students to use critical thinking and decision-making skills to make safe, appropriate clinical judgments for clients in a variety of health care settings.

View the rollout plans with all the phases for RN and PN/VN programs

Introduce the Nursing Process (NP)

- Introduce the NP early in the first nursing semester as a problem-solving process used to manage basic client needs.

- The NCSBN currently defines the nursing process as part of the NCLEX-RN Test Plan as “a scientific, clinical reasoning approach to client care that includes assessment, analysis, planning, implementation, and evaluation” (NCSBN, 2018, p. 5).

- The NCSBN currently defines the nursing process as part of the NCLEX-PN Test Plan as “a scientific approach to client care that includes data collection, planning, implementation, and evaluation” (NCSBN, 2019, p.5).

- The NCLEX focuses on AAPIE, not ADPIE; NANDA-I nursing diagnosis is not tested on the current NCLEX or NGN because it is not a universal language used in health care or the nursing profession.

- In nursing practice and for NGN, students need to apply knowledge of pathophysiology to analyze client assessment findings (signs and symptoms) and associate them with common conditions (including diseases and disorders) seen in a variety of healthcare settings.

- Nurses need to notice subtle client changes in assessment findings and act promptly and appropriately to prevent Failure to Rescue.
Introduce Clinical Judgment

- After students learn how to use the nursing process in the first semester, introduce clinical judgment as a problem-solving thinking process, essential to managing today's complex client needs in a dynamic healthcare environment. Clinical judgment builds on the nursing process.

- Use the table below to help students transition from the nursing process to clinical judgment (Tanner and NCSBN model included for programs already using Tanner's model).

### Comparison of the Nursing Process with Tanner’s Clinical Judgment (CJ) Model and the NCSBN Action Model of Clinical Judgment

<table>
<thead>
<tr>
<th>Nursing Process (AAPIE): Steps</th>
<th>Tanner’s CJ Model: Phases</th>
<th>NCSBN Model of CJ: Thinking Skills/Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>Noticing</td>
<td>Recognize Cues</td>
</tr>
<tr>
<td>Analysis</td>
<td>Interpreting</td>
<td>Analyze Cues</td>
</tr>
<tr>
<td>Analysis</td>
<td>Interpreting</td>
<td>Prioritize Hypotheses</td>
</tr>
<tr>
<td>Planning</td>
<td>Responding</td>
<td>Generate Solutions</td>
</tr>
<tr>
<td>Implementation</td>
<td>Responding</td>
<td>Take Action</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Reflecting</td>
<td>Evaluate Outcomes</td>
</tr>
</tbody>
</table>
Help students learn NCSBN Clinical Judgment Cognitive Skills and how to use each of them, as summarized below.

### NCSBN Clinical Judgment Cognitive Skills and Descriptions

<table>
<thead>
<tr>
<th>NCSBN Clinical Judgment Cognitive Skill</th>
<th>Description of NCSBN Clinical Judgment Cognitive Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize Cues:</td>
<td>Determining what client findings are significant, most important, and of immediate concern to the nurse (relevant cues)</td>
</tr>
<tr>
<td>What matters most?</td>
<td></td>
</tr>
<tr>
<td>Analyze Cues:</td>
<td>Organizing and linking the relevant cues with client conditions/problems</td>
</tr>
<tr>
<td>What could it mean?</td>
<td></td>
</tr>
<tr>
<td>Prioritize Hypotheses:</td>
<td>Ranking client conditions/problems according to urgency, complexity, and time</td>
</tr>
<tr>
<td>Where do I start?</td>
<td></td>
</tr>
<tr>
<td>Generate Solutions:</td>
<td>Identifying interventions that meet desired outcomes for the client; can include collecting additional assessment data</td>
</tr>
<tr>
<td>What can I do?</td>
<td></td>
</tr>
<tr>
<td>Take Action:</td>
<td>Implementing the solution(s) that are most appropriate and address the client’s priority conditions/problems</td>
</tr>
<tr>
<td>What will I do?</td>
<td></td>
</tr>
<tr>
<td>Evaluate Outcomes:</td>
<td>Comparing actual client outcomes with desired client outcomes to determine effectiveness of care</td>
</tr>
<tr>
<td>Did it help?</td>
<td></td>
</tr>
</tbody>
</table>
Decrease Curricular Content Saturation

- Additive, saturated curriculum has been identified as an issue in pre-licensure nursing education for over 20 years (Giddens & Brady, 2007).

- Curricular content is not always aligned with practice needs, causing a theory-practice gap (Repsha, et al., 2020); faculty often rely solely on textbooks for content to be included in the curriculum.

- Faculty feel the need to lecture in class or provide voiceover slide presentations to “cover” mass amounts of content that are often redundant and duplicative across the curriculum.

- In a content-saturated curriculum, students tend to memorize knowledge for the short-term (often to pass the test), also known as superficial learning.

- Students need to retrieve and use essential knowledge (deep learning) to make safe, appropriate clinical judgments. Retrieval of knowledge requires practice and clinical judgment requires thinking; both processes take time.

- Therefore, nurse educators need to decrease content saturation to “need to know” for entry-level generalist nursing practice.

- Here are some ways to reduce curricular content:
  - Review national health data from sources such as CDC, NIH, and Healthy People 2030 to identify the most common health problems and issues.
  - Review state and local data from health departments to identify the most common health problems and issues.
  - Ask for input from community stakeholders to identify key health care issues and trends.
  - Map the current curriculum using the NCLEX Test Plan to help make revisions that decrease content.
  - Consider exploring a concept-based model for nursing curriculum to focus on nursing concepts with exemplars.
Provide Time for Student Thinking and Processing

- Recall that clinical judgment requires using “nursing knowledge to observe and assess presenting situations, identify a prioritized client concern, and generate the best possible evidence-based solutions in order to deliver safe client care (Dickison, 2019).”

- Students need to learn how to retrieve and use essential knowledge (deep learning) to make safe, appropriate clinical judgments. Remember that knowledge retrieval requires practice and clinical judgment requires thinking; both processes take time.

- Clinical judgment requires THINKING about how to use knowledge; therefore:
  - Avoid hours of lecture in person or voiceover PowerPoints®. Instead of lecture/slides only, use a flipped or scrambled classroom (or online) approach to allow more time for active synchronous learning activities. Scrambled classroom provides short lectulettes or mini lectures of five to ten minutes interspersed with student thinking activities to process information.
  - Provide multiple opportunities for thinking activities in all learning environments: class, online, skills lab, simulation, clinical agencies.
  - Remember that nurse educators are accountable for facilitating learning; students are accountable for the learning, including reviewing information from previous courses as needed.
### Use Active Learning Activities

- **Focus on learning (what the student does)** rather than teaching (what the nurse educator does) to meet students’ needs for entry-level professional practice.

- **Use well-planned “thinking” activities** to engage students in all learning environments.

- **Consider the multigenerational and multicultural needs of diverse students** to plan meaningful and engaging learning activities. Students prefer varying types of activities based on their primary learning styles.

- **Provide opportunities for individual, pair, and group learning activities** to help meet the needs of diverse students.

- **Ensure** purposeful planning to either help students retrieve or learn new knowledge or use knowledge to make safe, appropriate clinical judgments in all learning environments.

- **Retrieving knowledge** requires practice in numerous contexts. Use these suggestions for active learning activities that help students gain, reinforce, or retrieve knowledge:
  - **Gaming**, such as Jeopardy, Who Wants to be a Millionaire? (Note: Limit these activities to less than 30 minutes.)
  - **Apps**, such as Kahoot! and Socrative
  - **Admit or Exit Ticket**; some examples include:
    - **Pre-class/end-of-class review** with things like Muddiest Points/Questions about reading or class discussion.
    - **Think-Pair-Share activities** in which each student Thinks about the answer to a posed question by faculty and then Pairs with another student to Share and compare answers. This activity helps students validate knowledge they know and be reminded of what knowledge they may not have retained.
    - **Directed Reading** (aka Guided Reading) requires faculty to provide a list of questions for learners to answer while reading and to help guide and focus their reading.
  - **Use these suggestions** for active learning activities that help students use knowledge to make clinical decisions (make safe, appropriate clinical judgments):
    - **Venn Diagram** helps students compare and contrast (a critical thinking skill) using overlapping circles. Assessment findings and nursing interventions are examples of client care that can be compared and contrasted. In the example below, students identify those client assessment findings of RA and OA that are similar and write them in the gray-toned area. Those findings that are different between the two types of arthritis are written in the white spaces within the circles.

### COMMON ASSESSMENT FINDINGS OF LATE-STAGE RA VS. OA

![Venn Diagram](attachment:common_assessment_findings.png)

#### Rheumatoid Arthritis (RA)

#### Osteoarthritis (OA)
Use Active Learning Activities, cont.

Use these suggestions for active learning activities that help students use knowledge to make clinical decisions (make safe, appropriate clinical judgments):

- **Concept Mapping** can be used as part of class or online activities in pairs or groups to develop a plan of care or explore a concept. This activity helps students think about connections between and among aspects of the care plan or concept.

- **Structured Controversy** is a thinking activity used for ethical issues in which each student in a pair supports a "pro" and "con" side of the dilemma and should not use their partner’s views. This activity stimulates critical thinking, one type of thinking needed to make safe, appropriate clinical judgments.

- Use **Send-a-Problem** learning activity to highlight the most important knowledge needed to make clinical judgments and have students practice NCLEX-style test writing. Students usually work in groups to develop practice test items in NCLEX-format and then "send" their developed questions to another group to answer. This process continues until the entire class has reviewed and answered all questions.

- Have students respond to **case studies** in all learning environments, including these four types:

  - **Case method:** Short clinical scenario (one to two sentences) that provides only the essential data; one or two related questions for beginning students to start the thinking process.
  - **Single episode (stand-alone) case:** One clinical scenario (one to two paragraphs) that requires thinking to make clinical judgment, which includes one or more high-level thinking questions (open-ended or structured).
  - **Unfolding (continuing or evolving) case study:** Initial comprehensive clinical scenario (one to two paragraphs) that changes over time (several phases of care) as the client’s condition changes; requires analysis and clinical reasoning to answer multiple high-level thinking questions for each phase of care demonstrating safe, appropriate clinical judgments. Questions may be aligned with the NCSBN’s six clinical judgment cognitive skills.
  - **Reverse case study:** Students develop an unfolding case study with questions/answers after being given a medical diagnosis and drug profile.
Incorporate Thinking into the Skills Laboratory

• Typical “check-offs” of psychomotor skills do not ensure learner competence. Return demonstrations represent the lowest level of the psychomotor learning domain taxonomy (imitation).

• Nursing education is moving towards being more competency-based with a focus on learner competency assessments. For example, the American Association of Colleges of Nursing (AACN) developed new Essentials which delineate entry-level (nurse generalist) and advanced practice competencies within ten domains. Clinical judgment is a core concept that is integrated throughout these domains.

• Requirements for any competency assessment, such as assessing the ability to perform psychomotor skills, requires that:
  ◦ Each competency must be observable and measurable.
  ◦ Each competency must be evaluated over time and on multiple occasions.
  ◦ Each competency must be evaluated in multiple contexts.
  ◦ Each competency should integrate knowledge, skills, and attitudes with critical thinking while providing care.

• For competency assessment, initially have students practice skills in lab. Consider self-reflection and peer review as assessment options instead of nurse educator “check-offs” for a pass/fail assessment.

• Manipulate the clinical situation to require students to use critical thinking to perform one or more skills safely and effectively. Evaluate skill performance again in various clinical settings and contexts.

Increase High-Fidelity Simulation Experiences

• High-fidelity simulation experiences allow students to use cognitive (thinking) skills to make clinical judgments as part of nursing care.

• Use Lasater’s Clinical Judgment Rubric or another tool to measure thinking skills during simulation to help prepare students for professional practice and the NGN.

• Increase the use of simulation for students to gain practice and confidence in clinical judgment skills because clinical experiences are often limited.

• Include reflection on learner ability to make safe, appropriate clinical judgments as part of debriefing.
Utilize Curricular Resources that Help Prepare Students to Make Appropriate Clinical Judgments and Be Ready for the NGN

- Select and adopt textbooks that focus on clinical judgment.

- Adopt available workbooks and textbook ancillaries to help students practice and develop competence in the six cognitive skills needed to make appropriate clinical judgments (See Resources List in Part III).

- Adopt NGN student success resources such as Strategies for Student Success on the Next Generation NCLEX® (NGN) Test Items by Silvestri, Silvestri, and Ignatavicius.

Attend Professional Development Workshops and Conferences on Clinical Judgment and the NGN

- Recognize that the official and most reliable source of information about the NGN is the National Council of State Boards of Nursing (NCSBN).

- Attend annual NCLEX conference held in late September; most speakers are NCSBN staff members.

- Attend state conferences sponsored by boards of nursing about the NGN and how to prepare students for the NGN.

- For other workshops and webinars, be sure that speaker information is reliable and consistent with the NCSBN (see www.ncsbn.org).
Semester 2: Introduction To The New NGN Test Items

Semester 2 of the rollout plan focuses on introducing the new NGN test items to students and providing practice with answering these item types. Faculty need to help students understand what cognitive skills will be measured in a test item and promote the necessary thinking processes required.

NGN Case Studies and Test Items Overview

- The case study is the foundation for measuring knowledge and clinical judgment using NGN item types.
- The new NGN test items will be embedded in case studies and based on the six clinical judgment cognitive skills (described in Part I). Case studies present a "real-world" clinical situation.
- There are two types of cases: unfolding cases and stand-alone items. Unfolding cases will be accompanied by six test items; each item will measure one of the six cognitive skills. A stand-alone item includes a short clinical scenario and an individual item that is not part of an unfolding case study; there are two stand-alone item types, the bow-tie and the trend.
- There are 12 NGN item types used for the unfolding case items and the trend item as shown on page 24.

Curriculum Approach

- Semester 2 is the time to begin introducing cases and NGN item types to students. This is practice time and not the time yet to be putting these NGN items on course exams for grading.
- In each course, start working with the students on unfolding case studies and the accompanying six items that address the six cognitive skills.
- Use cases that connect to content being taught in nursing courses. These cases should be used in all settings: class, clinical, lab, online.
- Faculty can write their own cases to use for practice, or they can use cases that have been developed by experts. See Part III, the References and Resources section for texts that provide practice cases and NGN items.
- When introducing NGN items, start with item types students are familiar with and will be more comfortable with, such as multiple choice and multiple response in a Select All that Apply format and a Select N format.
- Help students understand how each cognitive skill is being measured.
- Review the rationales for the correct and incorrect answers and engage the students in this review; use Socratic questioning — Why? and What if? — challenge their thinking processes!
- Help students design test-taking strategies that guide logical thinking processes for answering items correctly.
- Close to the end of the semester, around three to four weeks before the semester ends, introduce the stand-alone clinical situations both the bow-tie and trend.
An Unfolding Case

- The unfolding case study starts by presenting a “real-world” clinical situation and some client data that will most likely be in a medical record format.

- The medical record format will include tabs specifying for example, Health History, Nurses Notes, Physician’s Orders, Laboratory Profile (see example on page 19).

- The clinical situation in the unfolding case study will include phases over time as the client’s situation changes; this could be over minutes, hours, or days.

- Six questions will accompany the case study, each representing one of the six cognitive skills.

- Every test-taker will receive three unfolding case studies, each with six items, for a total of 18 items with these three unfolding cases.

A Stand-Alone Item

- The NCSBN currently identifies two types of stand-alone test items, the bow-tie and the trend.

- Some test-takers — those who take more than the minimum number of items on the NCLEX — will receive approximately six to seven stand-alone cases, either the bow-tie type or trend, or a mix of both.

- The **bow-tie item** is unique and as it is titled, looks like a bow-tie. This item type can measure up to all six cognitive skills. It’s important to remember that the clinical scenario in a bow-tie item includes client data at one point in time.

- The **trend item** begins with a client situation that includes assessment information. This information includes multiple data points over time in the clinical situation rather than one point in time and the test-taker needs to review the information looking for trends. The trend item measures one or more than one cognitive skill and any of the NGN item types (except bow-tie) can be used for a trend item.
Summary Points: Unfolding Case Studies and Stand-Alone Items

<table>
<thead>
<tr>
<th>Type</th>
<th>Clinical Situation</th>
<th>Phases</th>
<th>Items</th>
<th>Cognitive Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfolding</td>
<td>Situation and client data; likely a medical record format</td>
<td>Over time: minutes, hours, or days</td>
<td>6</td>
<td>Each item measures one of the six clinical skills</td>
</tr>
<tr>
<td>Stand-alone</td>
<td>Bow-tie</td>
<td>One point in time</td>
<td>1</td>
<td>Can measure up to all six clinical skills</td>
</tr>
<tr>
<td>Stand-alone Trend</td>
<td>Situation and client data; likely a medical record format</td>
<td>Multiple data points over time</td>
<td>1</td>
<td>Measures one or more than one clinical skill</td>
</tr>
</tbody>
</table>

Writing a Case Study

- For either a stand-alone or unfolding case study, faculty can think about clients they have cared for in their own practice or have assigned to students, clinical situations they have read about, or common errors or problems that they know occur in health care; these sources will help create the “story.”

- The clinical scenario needs to be one that a new nursing graduate would likely encounter.

Stand-alone item

- Presents a client scenario with an adequate amount of data that represents one point in time (bow-tie item) or multiple data points in time (trend item).

- The data in this type of client situation do not need to be as comprehensive as the data in an unfolding case type.

- See page 37 for an example bow-tie item and page 38 for an example trend item.

Unfolding case

- Presents a client scenario that changes over time through multiple phases of care.

- The data are more comprehensive than in a stand-alone item as the “story” unfolds.

- All six cognitive skills need to be measured using any of the appropriate NGN test item formats.

- Provides initial information about a client scenario and then progresses to unfold with the addition of new information about the client’s condition or status.

- The case study can unfold to present a scenario in any environment such as the emergency department, hospital unit, clinic, community setting, home.

- The client scenario can present information in which the client’s condition improves, remains stable, or declines, such as with the development of a complication; some case studies may encompass all these potential situations.

- If laboratory results are included in a case, place in a table with columns that indicate the name of the test, the result, and the reference range. If the result is abnormal, indicate this by either an H or a L bolded and red (see example trend item on the next page).

- An unfolding case includes more than one phase of care for one client; up to four phases may be needed depending on the complexity of the case study.

- There may be only one test item for each phase or more than one.
How a Case May Unfold

**PHASE 1**
- Includes an introduction to the client and three to five sentences to describe the client’s clinical situation.
- Place a time for the data if appropriate.
- Data provided is most likely presented in a medical record format.
- Includes adequate client data anticipating that following Phase 1, two NGN test questions could be created:
  - NGN Item #1 will measure the cognitive skill: 
    - Recognize Cues
  - NGN Item #2 will measure the cognitive skill: 
    - Analyze Cues

**PHASE 2**
- Describes what happened to the client after Phase 1.
- Place a time in minutes, hours, or days at the data you will present for Phase 2.
- The time-lapse between the client’s introduction or Phase 1 of care and this next phase of care (Phase 2) may be minutes, hours, or days, depending on how the case is created.
- The data can be presented in the form of a nurse’s note, assessment data, or medical record format.
- Include adequate data anticipating that following Phase 2, two NGN test questions could be created:
  - NGN Item #3 will measure the cognitive skill: 
    - Prioritize Hypotheses
  - NGN Item #4 will measure the cognitive skill: 
    - Generate Solutions

**PHASE 3**
- Describes what happened to the client after Phase 2.
- The time-lapse between Phase 2 of care and Phase 3 of care may be minutes, hours, or days.
- Place a time in minutes, hours, or days at the data that you will present for Phase 3.
- The data can be presented in the form of a nurse’s note, assessment data, or medical record format.
- Include adequate data anticipating that following Phase 3, two NGN test questions could be created:
  - NGN Item #5 will measure the cognitive skill: 
    - Take Action
  - NGN Item #6 will measure the cognitive skill: 
    - Evaluate Outcomes
Example: Unfolding Case

Phase 1

1900: A 55-year-old client returns from the PACU after a left total knee arthroplasty. During surgery the client had epidural and regional anesthesia, and is currently receiving gabapentin, cyclobenzaprine, and IV acetaminophen for surgical pain. The client has a long history of osteoarthritis (OA) in both knees, ankles, and feet due to obesity, family history, and a job which requires long periods of standing. The nurse documents the following assessment findings in the Nurses’ Notes.

<table>
<thead>
<tr>
<th>History and Physical</th>
<th>Nurses’ Notes</th>
<th>Orders</th>
<th>Laboratory Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1915: VS: T 99.2°F (37.3°C); HR 109 BPM; RR 20 bpm; BP 148/92 mmHg. SpO₂ 95% on RA; left knee pain of 6/10 on a 0-10 pain intensity scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drowsy but arouses easily; Reports “frequent waves of nausea”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports that legs and feet feel “very heavy and numb”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small amount of serosanguinous drainage present on surgical dressing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Place NGN Item #1 here to measure the cognitive skill: Recognize Cues
1900: A 55-year-old client returns from the PACU after a left total knee arthroplasty. During surgery the client had epidural and regional anesthesia, and is currently receiving gabapentin, cyclobenzaprine, and IV acetaminophen for surgical pain. The client has a long history of osteoarthritis (OA) in both knees, ankles, and feet due to obesity, family history, and a job which requires long periods of standing. The nurse documents the following assessment findings in the Nurses’ Notes.

### History and Physical

- **VS:** T 99.2°F (37.3°C); HR 109 BPM; RR 20 bpm; BP 148/92 mmHg. SpO₂ 95% on RA; left knee pain of 6/10 on a 0-10 pain intensity scale
- Drowsy but arouses easily; Reports “frequent waves of nausea”
- Reports that legs and feet feel “very heavy and numb”
- Small amount of serosanguinous drainage present on surgical dressing

---

**Place NGN Item #2 here to measure the cognitive skill:** Analyze Cues
Example: Unfolding Case

Phase 2

1300: A 55-year-old client had a left total knee arthroplasty yesterday due to uncontrolled pain from osteoarthritis (OA) caused by obesity, family history, and a job which requires long periods of standing. An hour after receiving an analgesic, the client states that the pain is 3/10 pain (on a 0-10 pain intensity scale) in the surgical knee when getting out of bed with assistance. The client also states “I would not have had this surgery if I knew I would be in so much pain.”

Place NGN Item #3 here to measure the cognitive skill: Prioritize Hypotheses

1300: A 55-year-old client had a left total knee arthroplasty yesterday due to uncontrolled pain from osteoarthritis (OA) caused by obesity, family history, and a job which requires long periods of standing. The client tells the nurse that “I would not have had this surgery if I knew I would be in so much pain,” and has several questions about care.

Place NGN Item #4 here to measure the cognitive skill: Generate Solutions
Example: Unfolding Case

Phase 3

1100: A 55-year-old client had a left total knee arthroplasty two days ago. The nurse assesses the client and plans health teaching for the client in preparation for discharge.

Place NGN Item #5 here to measure the cognitive skill: Take Action

1100: A 55-year-old client had a left total knee arthroplasty two days ago. The nurse assesses the client and plans health teaching for the client in preparation for discharge.

Place NGN Item #6 here to measure the cognitive skill: Evaluate Outcomes
The NGN Item Types at a Glance

- There are 12 item types that can be used in unfolding case studies and in the stand-alone trend item.
- These can be grouped into categories for organization purposes.

<table>
<thead>
<tr>
<th>Highlight</th>
<th>Drag &amp; Drop</th>
<th>Drop Down</th>
<th>Matrix/Grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highlight in Text</td>
<td>Drag &amp; Drop Cloze</td>
<td>Drop Down Cloze</td>
<td>Matrix Multiple Response</td>
</tr>
<tr>
<td>Highlight in Table</td>
<td>Drag &amp; Drop Rationale</td>
<td>Drop Down Rationale</td>
<td>Matrix Multiple Choice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drop Down In Table</td>
<td></td>
</tr>
</tbody>
</table>

Extended Multiple Response

Multiple Response
Select All That Apply
Multiple Response
Select N
Multiple Response
Grouping

Writing the NGN Item Types

- Think about the learning outcome to be measured.
- Think about the cognitive skill to be measured and consider item types that would optimally measure the cognitive skill.
- Select an item type to create the question.
- Each item type has unique characteristics and criteria that must be met for the type to be effective in its measurement; follow these criteria in developing the item.
### NGN Item Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Criteria</th>
<th>Cognitive Skill(s) Optimally Measured*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highlight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highlight In Text</td>
<td>Includes a paragraph of information.&lt;br&gt;Test-taker selects (highlights) parts of the text based on what the question is asking.&lt;br&gt;There can be a maximum of ten options.</td>
<td>Recognize Cues&lt;br&gt;Evaluate Outcomes</td>
</tr>
<tr>
<td>Highlight In Table</td>
<td>Includes a table of information.&lt;br&gt;Test-taker selects (highlights) parts of the text based on what the question is asking.&lt;br&gt;There can be a maximum of ten options.&lt;br&gt;Includes two columns (one being a header) and up to five rows.</td>
<td>Recognize Cues&lt;br&gt;Evaluate Outcomes</td>
</tr>
<tr>
<td><strong>Drag &amp; Drop</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drag &amp; Drop Cloze</td>
<td>Includes a minimum of four options (known as tokens) and a maximum of ten.&lt;br&gt;There can be one or more response targets (target is where the token is dragged to).&lt;br&gt;There is a minimum of one sentence with one target per sentence and a maximum of five sentences with one target per sentence.</td>
<td>Recognize Cues&lt;br&gt;Analyze Cues&lt;br&gt;Prioritize Hypotheses&lt;br&gt;Generate Solutions&lt;br&gt;Take Action&lt;br&gt;Evaluate Outcomes</td>
</tr>
<tr>
<td>Drag &amp; Drop Rationale</td>
<td>Includes one sentence with one cause and one effect OR one sentence with one cause and two effects.&lt;br&gt;Sentence can be a single dyad (one sentence with two targets) OR a single triad (one sentence with three targets).&lt;br&gt;There can be three to five tokens for each drag &amp; drop target.</td>
<td>Recognize Cues&lt;br&gt;Analyze Cues&lt;br&gt;Prioritize Hypotheses&lt;br&gt;Generate Solutions&lt;br&gt;Take Action&lt;br&gt;Evaluate Outcomes</td>
</tr>
</tbody>
</table>
NGN Item Types, cont.

<table>
<thead>
<tr>
<th>Type</th>
<th>Criteria</th>
<th>Cognitive Skill(s) Optimally Measured*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop Down Cloze</td>
<td>Includes one or two sentences of information with one or more drop-down options from which to complete the sentence(s).</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
<tr>
<td></td>
<td>There can be three to five options in each drop-down.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is a minimum of one sentence with one drop-down per sentence and a maximum of five sentences with one drop-down per sentence.</td>
<td></td>
</tr>
<tr>
<td>Drop Down Rationale</td>
<td>Includes one sentence with one cause and one effect OR one sentence with one cause and two effects.</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
<tr>
<td></td>
<td>There can be three to five options in each drop-down.</td>
<td></td>
</tr>
<tr>
<td>Drop Down In Table</td>
<td>Includes a table of information with drop down options in different parts of the table.</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
<tr>
<td></td>
<td>There can be a minimum of three columns and three rows and a maximum of five columns and four rows.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>One column is a header column.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is one drop-down per row.</td>
<td></td>
</tr>
</tbody>
</table>
## NGN Item Types, cont.

<table>
<thead>
<tr>
<th>Type</th>
<th>Criteria</th>
<th>Cognitive Skill(s) Optimally Measured*</th>
</tr>
</thead>
<tbody>
<tr>
<td>*** Matrix/Grid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matrix Multiple Response</td>
<td>Includes response columns and each response column could have multiple correct responses.</td>
<td>Recognize Cues</td>
</tr>
<tr>
<td></td>
<td>There can be between two and ten columns and four to seven rows.</td>
<td>Analyze Cues</td>
</tr>
<tr>
<td></td>
<td>Each column must have one response option selected but one or more responses per column can be selected.</td>
<td>Generate Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluate Outcomes</td>
</tr>
<tr>
<td>Matrix Multiple Choice</td>
<td>Includes at least four rows and no more than ten rows.</td>
<td>Recognize Cues</td>
</tr>
<tr>
<td></td>
<td>There can be two options/columns or three options/columns.</td>
<td>Analyze Cues</td>
</tr>
<tr>
<td></td>
<td>Allows the test-taker to select one answer option per row.</td>
<td>Generate Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluate Outcomes</td>
</tr>
<tr>
<td>** Extended Multiple Response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Response Select All That Apply</td>
<td>Allows the test-taker to select one or more answer options.</td>
<td>Recognize Cues</td>
</tr>
<tr>
<td></td>
<td>There can be only one correct response or multiple correct responses.</td>
<td>Analyze Cues</td>
</tr>
<tr>
<td></td>
<td>There needs to be at least five options with no more than ten options, but all ten options could be correct.</td>
<td>Prioritize Hypotheses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generate Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluate Outcomes</td>
</tr>
<tr>
<td>Multiple Response Select N</td>
<td>The question needs to tell the test-taker the number of items (N) that can be selected.</td>
<td>Recognize Cues</td>
</tr>
<tr>
<td></td>
<td>There needs to be at least five options with no more than ten options</td>
<td>Analyze Cues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prioritize Hypotheses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generate Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take Action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluate Outcomes</td>
</tr>
</tbody>
</table>
NGN Item Types, cont.

<table>
<thead>
<tr>
<th>Type</th>
<th>Criteria</th>
<th>Cognitive Skill(s) Optimally Measured*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended Multiple Response</td>
<td>Options are presented in a table and the table can have a minimum of two groupings and a maximum of five groupings. Each grouping has a minimum of two options and a maximum of four options and the number of options for each grouping needs to be the same. The test-taker needs to select at least one option from each grouping.</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
<tr>
<td>Stand-Alone Items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bow-tie</td>
<td>Visually, the item looks like a bow-tie. There are five options in the left side and five options in the right side of the bow-tie (wells), and four options in the middle well. Items address up to all of the cognitive skills in the one item.</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
<tr>
<td>Trend</td>
<td>Presents information over time in a medical record format or flow sheet format requiring the test-taker to review information over time. Item addresses multiple cognitive skills in the one item. Can feature any NGN item type (except the bow-tie).</td>
<td>Recognize Cues, Analyze Cues, Prioritize Hypotheses, Generate Solutions, Take Action, Evaluate Outcomes</td>
</tr>
</tbody>
</table>

*The cognitive skills listed for each item type are those that can be optimally measured. Access the NCSBN website at [www.ncsbn.org](http://www.ncsbn.org) frequently for the latest updates on item types and best measurement of cognitive skills.
Part II. Preparing for the NGN: Steps for the RN and LPN/LVN Rollout Plans

Introduction To The New NGN Test Items

Examples: Highlight NGN Items

Example of Highlight In Text in Elsevier’s learning and assessment products

Example of Highlight In Table in Elsevier’s learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Drag & Drop NGN Items

Drag and Drop Cloze Example

Patient Data

History and Physical

07PM: A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client's riding helmet remained intact during the accident. After lifting the motorcycle from the client's entrapped right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:

- Temperature 98.6°F (37.1°C)
- Pulse 90 beats per minute
- Respirations 24 breaths per minute
- Blood pressure = 190/78 mmHg

The client was immobilized and transported to the Emergency Department (ED).

Upon admission to the ED, the nurse reviews the client’s history and physical.

Drag the assessment findings from the choices below to complete the sentence.

The assessment findings requiring immediate follow-up include:

- Alert and oriented
- 10/10 right leg pain
- Able to move both arms and left leg
- Severe right leg bone and soft tissue damage
- Unable to move right leg

Examples of Drag & Drop Cloze in Elsevier’s learning and assessment products

Drag & Drop Cloze Example

Patient Data

History and Physical

07PM: A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client's riding helmet remained intact during the accident. After lifting the motorcycle from the client's entrapped right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:

- Temperature 98.6°F (37.1°C)
- Pulse 90 beats per minute
- Respirations 24 breaths per minute
- Blood pressure = 190/78 mmHg

The client was immobilized and transported to the Emergency Department (ED).

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- Unable to move right leg

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Drag & Drop NGN Items

Drag and Drop Rationale Example

Patient Data
History and Physical

1800: A 35-year-old client riding a motorcycle was struck by a speeding truck while passing on a narrow rural road. As a result of the accident, the client’s right leg was severely damaged by the motorcycle and the client was transported to the hospital by ambulance. After evaluation by the interprofessional health team in the ED and multiple x-ray examinations, the client was found to have several close fractures of the femur, tibia, and fibula. Large portions of skin and soft tissues were damaged, but most of the skeletal muscle of the right leg remained intact. The client was sedated for fracture reduction and immobilization with a fiberglass splint. After this procedure, the client was admitted to the acute care orthopedic unit with an IV infusion and client-controlled analgesia.

Drag and Drop Rationale Example

Patient Data
History and Physical

1800: A 35-year-old client riding a motorcycle was struck by a speeding truck while passing on a narrow rural road. As a result of the accident, the client’s right leg was severely damaged by the motorcycle and the client was transported to the hospital by ambulance. After evaluation by the interprofessional health team in the ED and multiple x-ray examinations, the client was found to have several close fractures of the femur, tibia, and fibula. Large portions of skin and soft tissues were damaged, but most of the skeletal muscle of the right leg remained intact. The client was sedated for fracture reduction and immobilization with a fiberglass splint. After this procedure, the client was admitted to the acute care orthopedic unit with an IV infusion and client-controlled analgesia.

Examples of Drag & Drop Rationale in Elsevier’s learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Drop Down NGN Items

Examples of Drop Down Cloze in Elsevier’s learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Drop Down NGN Items

Drop Down Rationale Example

<table>
<thead>
<tr>
<th>Patient Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Sheet</td>
</tr>
</tbody>
</table>

The home care nurse visits a 79-year-old client who was discharged from the hospital one week ago for treatment of heart failure. The client tells the nurse the exercise regimen of walking three times weekly was started, but the client feels extremely fatigued the day after walking. The client has avoided walking this week due to feeling too tired. The nurse gathers additional data and documents the flowsheets.

1100: Vital signs:
- temperature: 98.6°F (37.0°C)
- pulse 68 beats per minute, respirations 20 breaths per minute
- pulse oximetry (SpO2): 97% on room air
- blood pressure: 112/68 mmHg

1100: Nursing assessment:
- Lung sounds clear bilaterally
- no peripheral edema
- Sleeping well with 2 pillows for head elevation
- Up to bathroom to void once during the night

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

The nurse selects response because

- a. advises the client to reduce the level of exercise
- b. informs the client to maintain the exercise regimen
- c. instructs the client to check the amount of weight gained before exercising

KEY  ○ correct answer  ○ incorrect answer

Examples of Drop Down Rationale in Elsevier's learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Drop Down NGN Items

**Drop Down in Table Example**

**Patient Data**

History and Physical

09/08: A client who is 32 weeks pregnant visits the primary health care provider for the monthly OB visit. On assessment, the client is found to be hypertensive and has 1+ protein in the urine. The client has gained 10 pounds over the past 4 weeks and has 1+ pitting edema in both feet and ankles. The physician recommends that the client be hospitalized for expectant management.

**KEY**

- correct answer
- incorrect answer

**Drop Down in Table Example**

**Patient Data**

History and Physical

09/08: A client who is 32 weeks pregnant visits the primary health care provider for the monthly OB visit. On assessment, the client is found to be hypertensive and has 1+ protein in the urine. The client has gained 10 pounds over the past 4 weeks and has 1+ pitting edema in both feet and ankles. The physician recommends that the client be hospitalized for expectant management.

**KEY**

- correct answer
- incorrect answer

**Examples of Drop Down In Table in Elsevier’s learning and assessment products**

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Introduction To The New NGN Test Items

Examples: Matrix/Grid NGN Items

Matrix Multiple Response Example

Patient Data

History and Physical

6:09 AM A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client's riding helmet remained intact during the accident. After lifting the motorcycle from the client's entrapped right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The only visible injury was severe bone and soft tissue damage of the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:
- Temperature: 98.8°F (37.3°C)
- Pulse: 90 beats per minute
- Respiration: 24 breaths per minute
- Blood pressure: 110/78 mmHg

The client was immobilized and transported to the Emergency Department (ED).

Upon admission to the ED, the nurse reviews the pre-hospital documentation. Click to indicate which assessment finding is most likely associated with each of the listed client's health problems. Each column must have at least one, but may have more than one, response option selected.

<table>
<thead>
<tr>
<th>Assessment Finding</th>
<th>Neurovascular Compromise</th>
<th>Deep Vein Thrombosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg pain</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Leg swelling</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Decreased pedal pulse</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Skin pallor</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Skin warmth</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

KEY
• correct answer
• incorrect answer

Examples of Matrix Multiple Response in Elsevier's learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.

Matrix Multiple Choice Example

Patient Data

History and Physical

10:00 AM A 25-year-old client riding a motorcycle was struck by a speeding truck while passing on a narrow rural road. As a result of the accident, the client's right leg was severely damaged by the motorcycle and the client was transported to the hospital by ambulance. After evaluation by the interprofessional health team in the ED and multiple x-ray examinations, the client was found to have several closed fractures of the femur, tibia, and fibula. Large portions of skin and soft tissues were damaged, but most of the skeletal muscle on the right leg remained intact. The client was sedated for fracture reduction and immobilization with a fiberglass splint. After this procedure, the client was admitted to the acute care orthopedic unit with an IV infusion and client-controlled analgesia.

The nurse on the orthopedic unit reviews the admission history and physical in preparation to care for the client. For each assessment finding click to indicate whether it is most likely associated with injury or immobility. Each row must have only one response selected.

<table>
<thead>
<tr>
<th>Assessment Finding</th>
<th>Injury</th>
<th>Immobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Right leg swelling</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Neurovascular</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

KEY
• correct answer
• incorrect answer

Examples of Matrix Multiple Choice in Elsevier's learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Part II. Preparing for the NGN: Steps for the RN and LPN/LVN Rollout Plans

Introduction To The New NGN Test Items

Examples: Extended Multiple Response NGN Items

Multiple Response Select All That Apply

**Patient Data**

**History and Physical**

A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client’s riding helmet remained intact during the accident. After lifting the motorcycle from the client’s entangled right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The only visible injury was severe bone and soft tissue damage of the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:

- Temperature: 98.4°F (37.4°C)
- Pulse: 90 beats per minute
- Respiration: 24 breaths per minute
- Blood Pressure: 130/79 mmHg

The client was immobilized and transported to the Emergency Department (ED).

Upon admission to the ED, the nurse reviews the pre-hospital documentation.

Which of the following client findings require immediate follow up? Select all that apply.

- BP 126/78 mmHg
- Respiration: 24 breaths per minute
- Alert and oriented x 3
- 10/10 pain in right leg
- Unable to move right leg
- T 98.4°F (37.4°C)
- Severe bone and soft tissue damage of right leg

**Key**

- Correct answer
- Incorrect answer

Examples of Multiple Response Select All That Apply in Elsevier's learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.

Multiple Response Select N

**Patient Data**

**History and Physical**

A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client’s riding helmet remained intact during the accident. After lifting the motorcycle from the client’s entangled right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The only visible injury was severe bone and soft tissue damage of the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:

- Temperature: 98.4°F (37.4°C)
- Pulse: 90 beats per minute
- Respiration: 24 breaths per minute
- Blood Pressure: 130/79 mmHg

The client was immobilized and transported to the Emergency Department (ED).

Upon admission to the ED, the nurse reviews the pre-hospital documentation.

Which 3 client assessment findings require immediate follow up?

- BP 110/78 mmHg
- Respiration: 24 breaths per minute
- Alert and oriented x 3
- 10/10 pain in right leg
- Unable to move right leg
- T 98.4°F (37.4°C)
- Severe bone and soft tissue damage of right leg

**Key**

- Correct answer
- Incorrect answer

Examples of Multiple Response Select N in Elsevier's learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Extended Multiple Response NGN Items

Multiple Response Grouping Example

Patient Data
History and Physical

0706c A 25-year-old client riding a motorcycle was struck by a speeding truck. The client was thrown into a ditch with the motorcycle landing on the right leg. The client's riding helmet remained intact during the accident. After lifting the motorcycle from the client's entrapped right leg, first responders at the scene found the client to be alert and oriented x 3, and able to move both arms and left leg. The client is unable to move the right leg. The only visible injury was severe bone and soft tissue damage of the right leg. The client states that pain is a 10/10 on a 0 to 10 pain intensity scale.

Vital signs at scene:
- temperature 98.6 °F (37.1 °C)
- pulse 100 beats per minute
- respirations 24 breaths per minute
- blood pressure 136/78 mmHg

The client was immobilized and transported to the Emergency Department (ED).

Upon admission to the ED, the nurse reviews the pre-hospital documentation.

For each body system, click to specify the pre-hospital documentation that requires immediate follow-up. Each body system may support more than one notation. Each category must have at least one response selected.

<table>
<thead>
<tr>
<th>Body System</th>
<th>Pre-hospital Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurological</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>alert and oriented x 3</td>
</tr>
<tr>
<td>-</td>
<td>10/10 right leg pain</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>able to move both arms and left leg</td>
</tr>
<tr>
<td>-</td>
<td>unable to move right leg</td>
</tr>
<tr>
<td>Integumentary</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>right leg was entrapped under the motorcycle</td>
</tr>
<tr>
<td>-</td>
<td>severe bone and soft tissue damage of the right leg</td>
</tr>
</tbody>
</table>

Examples of Multiple Response Grouping in Elsevier’s learning and assessment products

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Examples: Stand-Alone Items

**Bow-tie Item**

**Patient Data**

Nurses' Notes

The nurse in the birthing room performs an initial assessment on a newborn and documents the assessment data in the nurses' notes.

**0800:** A newborn of 43 weeks gestation born via vaginal delivery, Apgar score at 1 minute = 3, Newborn limp, skin color bluish, respiratory rate 80 bpm, grunting during breathing with nasal flaring, Lacks cry with minimal response to gentle slap on soles. Nails and umbilical cord stained a yellow-green color. Blood glucose 10 mg/dL (2.2 mmol/L). Profuse scalp hair. Length 23 in (58.42 cm), weight 5.5 lbs (approximately 2500 g). SpO₂ – 90% on RA

**KEY**

- correct answer
- incorrect answer

**Examples of Bow-tie Item in Elsevier's learning and assessment products.**

**Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.**
Examples: Stand-Alone Items

The evening shift nurse reviews the flow sheets and morning laboratory results of a 54-year-old client who had an abdominal aortic aneurysm repair 24 hours ago. The client has an IV infusion at a rate of 125 mL/hr, unchanged for the last 12 hours.

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

**Trend Item**

Examples of Trend Item in Elsevier’s learning and assessment products.

Question delivery options may appear differently for this item working within Elsevier digital offerings with NGN item types. Contact your Elsevier Education consultant to learn more.
Test-Taking Strategies for Student Success

- The complexity of client care in healthcare practice has increased, requiring critical thinking and reasoning in the decision-making process to make clinical judgments.
- The new test items on the NCLEX are embedded in case studies and represent real-world scenarios that measure clinical judgment, which requires deeper thinking.
- Current NCLEX test items are viewed as knowledge items; students have been guided to use knowledge and certain test-taking strategies to answer these current test items.
- For current items, students focus only on the information in a test question so that they do not “read into the question”; this strategy is not one that promotes the thinking process necessary to answer NGN items.
- With NGN items, students need to think about the complex clinical scenario presented and focus on more than what is presented to make clinical judgments.
- Refer to the Test-Taking Strategies for Knowledge and NGN Items table below that differentiates between current items and NGN items.

Test-Taking Strategies for Current Stand-alone (Knowledge) and CJ NGN Items

<table>
<thead>
<tr>
<th>Test-Taking Strategy</th>
<th>Current “Stand-alone” Items</th>
<th>CJ Test Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Requires knowledge but superficial learning may be sufficient</td>
<td>Requires knowledge and deep learning</td>
</tr>
<tr>
<td>Clinical Judgment</td>
<td>Requires some clinical judgment skills but for a single focus of content</td>
<td>Requires clinical judgment and thinking about how to use knowledge in complex situations</td>
</tr>
<tr>
<td>Prioritizing Client Needs</td>
<td>Requires the skill of prioritizing but for a single situation; use of strategies such as airway, breathing and circulation (ABCs), Maslow’s Hierarchy of Needs, and the nursing process with assessment being the first step are usually helpful</td>
<td>Requires the skill of prioritizing but for multiple thinking situations occurring at one time; strategies used for knowledge questions are not helpful in these complex situations because of the multiple situations occurring with the client</td>
</tr>
<tr>
<td>Evidence-Based Solutions</td>
<td>Requires using knowledge about evidence-based practice but for a single focus of content</td>
<td>Requires using knowledge about evidence-based practice but also connections need to be made between many concurrent situations that are occurring with the client</td>
</tr>
</tbody>
</table>
Test-Taking Strategies for NGN Test Items

- Both unfolding cases and stand-alone items present complex client scenarios that require thinking and making connections about multiple situations occurring at one time.
- Students need a structured method to link knowledge and logical thinking to make connections and clinical judgments.
- Although multiple situations may be occurring at one time requiring thinking and making connections, concepts in the test item can be examined with a structured approach that guide logical thinking processes for answering items correctly.
- Helping students create and use a structured and logical thinking process as a test-taking strategy is essential to answer NGN items correctly.
- Constructing tables that examine the concepts of an item are a helpful test-taking strategy for NGN items.
- See the box below for an example of a test-taking strategy for an NGN item.

Example NGN Item and Test-Taking Strategy

1200: A 68-year-old client presents to the emergency department (ED) reporting numbness and tingling of the left side of the face and the left arm that started 2 hours ago. The ED nurse performs a focused assessment and notes focal neurological deficits on the left side of the body. The ED physician orders a stat computed tomography (CT) scan of the brain, which confirms ischemic stroke affecting the middle cerebral artery. The ED nurse assesses vital signs. The client has no known past medical history and does not take any medications on a routine basis.

- Complete a swallow screen
- Allow thickened liquids only
- Administer fibrinolytic therapy
- Obtain an electronic infusion pump
- Perform a cardiovascular assessment
- Insert an indwelling urinary catheter
- Administer IV antihypertensive medication
- Perform frequent neurological assessments

History and Physical

<table>
<thead>
<tr>
<th>Nurses' Notes</th>
<th>Flow Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 97.5° F (36.4° C), HR 98 BPM, RR 20 bpm, BP 152/84mmHg, SpO₂ 96% RA</td>
<td></td>
</tr>
</tbody>
</table>
Example NGN Item and Test-Taking Strategy, cont.

Rationale:

An ischemic stroke is caused by a blockage of a cerebral or carotid artery. Multiple interventions are needed for the client experiencing a stroke in order to ensure safety. The client with an ischemic stroke may experience impaired swallowing as a complication of the stroke. The nurse needs to complete a swallow screen per facility protocol, to determine any impairments with swallowing. This action will prevent complications such as pneumonia from aspiration. The nurse needs to keep the client NPO (nothing by mouth) until the appropriate diagnostic testing is completed, such as video fluoroscopic swallow study usually performed by a speech-language pathologist; therefore, thickened liquids would not be given at this time until this work-up has been done. The nurse would anticipate a prescription to administer fibrinolytic therapy. This is the standard of practice for clients experiencing ischemic strokes that meet specified criteria. Exclusionary criteria include greater than 4.5 hours from onset of symptoms, older than 80 years, anticoagulant use, ischemic injury greater than one-third of the brain, significant neurological impairment, and history of both stroke and diabetes mellitus. This client does not meet any of these exclusionary criteria and therefore would be considered a candidate for fibrinolytic therapy. To safely administer this therapy, the nurse needs to use an electronic infusion pump and double check the dose with another licensed nurse.

A cardiovascular assessment is important to assess for heart murmurs, dysrhythmias such as atrial fibrillation, and hypertension. With an ischemic stroke, a blood pressure of approximately 150/100mmHg is needed to maintain cerebral perfusion. With a blood pressure of 152/84mmHg, an IV antihypertensive medication would not be indicated. For a client receiving fibrinolytic therapy, invasive tubes such as indwelling urinary catheters should not be placed for at least 24 hours or until the client is stable to prevent bleeding. Frequent neurological assessments per facility protocol are important for a client with ischemic stroke, and for clients receiving fibrinolytic therapy, to detect further clinical deterioration early on.

Test-Taking Strategy: Note the question is asking about nursing actions to plan care for the client experiencing an ischemic stroke. Think about the scenario and the potential effects of these interventions on the health problem presented. Look at each option provided and make an association with the information presented in the medical record, as illustrated in the table below.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Potential Effects on Ischemic Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete a swallow screen</td>
<td>Ensure safety in the event of dysphagia as a complication of the stroke</td>
</tr>
<tr>
<td>Allow thickened liquids only</td>
<td>Is unsafe and could result in aspiration; need to wait until further work-up and consultation is done</td>
</tr>
<tr>
<td>Administer fibrinolytic therapy</td>
<td>Would promote a better outcome for a client with ischemic stroke meeting criteria</td>
</tr>
<tr>
<td>Obtain an electronic infusion pump</td>
<td>Needed to safely administer fibrinolytic therapy</td>
</tr>
<tr>
<td>Perform a cardiovascular assessment</td>
<td>Important information such as heart sounds and blood pressure are needed to monitor for complications for a client with ischemic stroke</td>
</tr>
<tr>
<td>Insert an indwelling urinary catheter</td>
<td>No indication that this is necessary and could pose a risk for urinary tract infection</td>
</tr>
<tr>
<td>Administer IV antihypertensive medication</td>
<td>A BP of 150/100mmHg is needed to maintain cerebral perfusion; BP is not high enough for an IV antihypertensive medication</td>
</tr>
<tr>
<td>Perform frequent neurological assessments</td>
<td>Assists in detecting clinical deterioration early</td>
</tr>
</tbody>
</table>

The correct options are those that ensure safety, monitor for complications or clinical deterioration, or promote a better outcome of care. The options that are unsafe and could result in additional complications or that do not have the data to support the interventions are the incorrect options.
Explore Options for Electronic Testing of the NGN Test Item Types

- Begin to discuss the plan for which NGN Test Items will be incorporated into course exams.
- Plan a meeting with the informational technology (IT) department to identify current platforms being used in the college or university and if these platforms will support the use of NGN item types and their scoring. Involve IT department as a resource in making decisions.
- Seek administrative support to explore electronic platform options for NGN item type testing.

Scoring the NGN Item Types

**Scoring Rules:**

There are three scoring rules identified by the NCSBN that will be used to score some current NCLEX and new NGN items.

1. **0/1 Scoring Rule**
   - Applied when the test-taker is instructed to choose a specific number of responses
   - Earn 1 point for a correct response
   - Earn 0 points for incorrect responses
   - Total score = sum of all correct responses

2. **+/− Scoring Rule**
   - Applied when the test-taker is instructed to choose an unspecified number of responses
   - Allows the test-taker to over- or under-respond
   - Earn points (+1) for selecting correct information
   - Lose points (-1) for selecting incorrect information
   - Maximum points = number of correct options
   - Minimum points = 0
   - There are no negative scores

3. **Rationale Scoring Rule**
   - Test-taker must have a full understanding of paired information
   - Concepts require justification through a rationale
   - Both X and Y must be correct to earn a point
   - Max points: dyad is 1pt
   - Dyad examples:
     - ✓ A nurse must do X because of Y
     - ✓ A client has X as evidenced by Y
   - Max points: triad is 2pts
   - Triad examples:
     - ✓ A nurse must do X because of Y and Z
     - ✓ A client has X as evidenced by Y and Z
## NGN Types, Scoring Rule, Points

<table>
<thead>
<tr>
<th>Type</th>
<th>Scoring Rule</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highlight</strong></td>
<td>+/- Scoring Rule</td>
<td>Earn points (+1) for selecting correct information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lose points (-1) for selecting incorrect information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum points = N keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minimum points = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No negative scores</td>
</tr>
<tr>
<td>Highlight In Text</td>
<td>+/- Scoring Rule</td>
<td>Earn points (+1) for selecting correct information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lose points (-1) for selecting incorrect information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum points = N keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minimum points = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No negative scores</td>
</tr>
<tr>
<td>Highlight In Table</td>
<td>+/- Scoring Rule</td>
<td>Earn points (+1) for selecting correct information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lose points (-1) for selecting incorrect information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum points = N keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minimum points = 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No negative scores</td>
</tr>
<tr>
<td><strong>Drag &amp; Drop</strong></td>
<td>0/1 Scoring Rule</td>
<td>Earn 1 point for a correct response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Earn 0 points for incorrect responses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sum is across all targets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum score = Number of targets</td>
</tr>
<tr>
<td>Drag &amp; Drop Cloze</td>
<td>0/1 Scoring Rule</td>
<td></td>
</tr>
<tr>
<td>Drag &amp; Drop Rationale</td>
<td>Rationale Scoring Rule</td>
<td>Both X and Y must be correct to earn a point</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum points: dyad 1pt; triad 2pts</td>
</tr>
<tr>
<td><strong>Drop Down</strong></td>
<td>0/1 Scoring Rule</td>
<td>Sum is across all drop downs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max score = Number of drop downs</td>
</tr>
<tr>
<td>Drop Down Cloze</td>
<td>0/1 Scoring Rule</td>
<td></td>
</tr>
<tr>
<td>Drop Down Rationale</td>
<td>Rationale Scoring Rule</td>
<td>Both X and Y must be correct to earn a point</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum points: dyad 1pt; triad 2pts</td>
</tr>
<tr>
<td>Drop Down In Table</td>
<td>0/1 Scoring Rule</td>
<td>Sum is across all drop downs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum score = Number of drop downs</td>
</tr>
</tbody>
</table>
### NGN Types, Scoring Rule, Points, cont.

<table>
<thead>
<tr>
<th>Type</th>
<th>Scoring Rule</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Matrix/Grid</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matrix Multiple Response</td>
<td>+/- Scoring Rule</td>
<td>No negative score per column; Sum of the points per column is the item's total score; Maximum score = N keys</td>
</tr>
<tr>
<td>Matrix Multiple Choice</td>
<td>0/1 Scoring Rule</td>
<td>Earn 1 point for the correct response; Earn 0 points for the incorrect response; The score over the rows is added to get the total score of the item; Maximum score = Number of rows</td>
</tr>
<tr>
<td><strong>Extended Multiple Response</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Response Select All That Apply</td>
<td>+/- Scoring Rule</td>
<td>Earn points (+1) for selecting correct information; Lose points (-1) for selecting incorrect information; Maximum points = number of correct options; Minimum points = 0; No negative scores</td>
</tr>
<tr>
<td>Multiple Response Select N</td>
<td>0/1 Scoring Rule</td>
<td>Earn 1 point for each correct response; Earn 0 points for any incorrect response</td>
</tr>
<tr>
<td>Multiple Response Grouping</td>
<td>+/- Scoring Rule</td>
<td>No negative score per grouping; Sum of the grouping points is the item's total score; Max score = N keys</td>
</tr>
<tr>
<td><strong>Stand-Alone Items</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bow-Tie</td>
<td>0/1 Scoring Rule</td>
<td>There will be 2 answer options for the left well, 2 answer options for the right well, and one option for the middle well making the max possible points 5; Earn 1 point for each correct response; Earn 0 points for any incorrect response</td>
</tr>
<tr>
<td>Trend</td>
<td>Scoring rule depends on the item type used</td>
<td></td>
</tr>
</tbody>
</table>
Part II.
Preparing for the Next-Generation NCLEX® (NGN)

Semester 3/4: Readiness for the NGN

Semester 3/4 of the rollout plan focuses on assessment and determining readiness for the NGN.

View the rollout plans with all the phases for RN and PN/VN programs

Curriculum Approach

- Continue with activities outlined in Semester 2 using more complex clinical scenarios.
- Begin to gradually include new NGN test item formats on course exams but as graded items.
- In course exams, start by including item types which students will find the most familiar and most comfortable.
- Gradually increase the inclusion of NGN items over the last two semesters of the nursing program. In the final semester course exams, include three unfolding cases, each with six cognitive skill NGN questions, and two to three bow-tie and two to three trend items. Again, these should be graded items.
- Standardized testing course to course and end-of-program testing is important for assessment and determining readiness for NCLEX.

Final Preparation

- Encourage students to self-assess and identify their specific strengths and weaknesses with regard to content areas and test plan areas.
- From the start of the program, students should be using the NCLEX test plan to identify activities that will be tested; encourage students to continue to use the test plan blueprint as a study guide for final NCLEX preparation.
- Guide students to access resources such as the Candidate Bulletin on the NCSBN website at www.ncsbn.org to familiarize themselves with the exam.
- Encourage students to practice test questions in preparation for NCLEX, both current items since they are still going to be on the exam, and case studies and NGN items.
- Encourage students to attend an NCLEX review course prior to taking the NCLEX.
References


Part III. References and Resources

Resources

You can find all of Elsevier’s NGN articles, recordings, and resources at https://evolve.elsevier.com/education/expertise/next-generation-nclex/

- Preparing for the Next Generation NCLEX® (NGN): A Systematic Approach for RN Programs
- Preparing for the Next Generation NCLEX® (NGN): A Systematic Approach for PN/VN Programs
- Next Generation NCLEX®: Preparing Practice-Ready Nurses
- Writing Effective Next Generation NCLEX® (NGN) Items
- Getting Ready for the Next-Generation NCLEX® (NGN): How to Shift from the Nursing Process to Clinical Judgment in Nursing
- Getting Ready for the Next Generation NCLEX® (NGN): Frequently Asked Questions
- Thinking Not Doing: How Changes Give Opportunity to Focus on Clinical Judgment
- Preparing for Next Generation NCLEX® (NGN) Test Items: A Best-Practice Approach Across the Curriculum
- Using Graphic Organizers to Develop Clinical Judgment in Prelicensure Nursing Students
- Using the Send-a-Problem Activity for Didactic Learning
- Using Case Studies to Develop Clinical Judgment and Ensure Next Generation NCLEX® (NGN) Success
- Higher-Cognitive-Level Test Questions: A Starting Point for Creating Next Generation NCLEX® (NGN) Test Items
Digital Resources

Discover how our products best support your students for the NCLEX

Build Knowledge

Elsevier helps students cultivate content mastery throughout the curriculum with engaging technology that complements our market-leading textbooks to ensure students both learn and understand the key nursing concepts that form the foundation for their success. Competence with the procedures and skills specific to their role as nursing professionals develops through a combination of theory, observation, interactive technology, and real-world practice.

Products that build knowledge with enduring Elsevier content:
- Sherpath
- Nursing new editions
- Browse by course area

Apply Clinical Judgment

Elsevier digital solutions enable you to bring clinical judgment concepts into the classroom and lab. Products such as HESI Case Studies, SimChart®, and Simulation Learning System create an environment that allows students to safely practice making clinical judgments.

Products that are designed to observe how students are processing information and demonstrating clinical judgment when making patient care decisions:
- SimChart
- Simulation Learning System (SLS)
- Shadow Health®
- SLS with Virtual Reality
- HESI Case Studies

Assess & Review

HESI assessments are backed by more than 20 years of research that point to the proven validity of our exams. Our experts are focused on aligning with NCSBN to create items delivered in the same valid, reliable, and secure manner you have relied upon for ensuring students are ready for the NCLEX.

Products that were created evaluate how well students are understanding key concepts and using their clinical judgment skills:
- HESI
- HESI® Compass™
- Review & NCLEX Exam