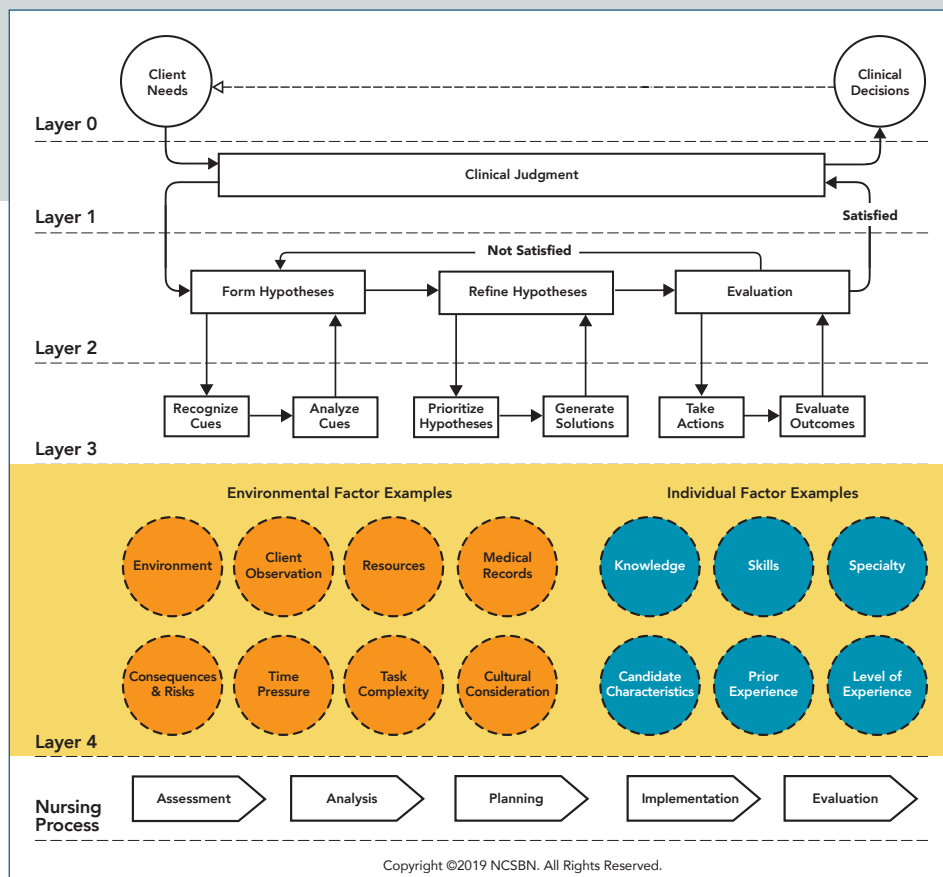


Next Generation NCLEX® NEWS

Layer 4 of the NCSBN Clinical Judgment Measurement Model (NCJMM)

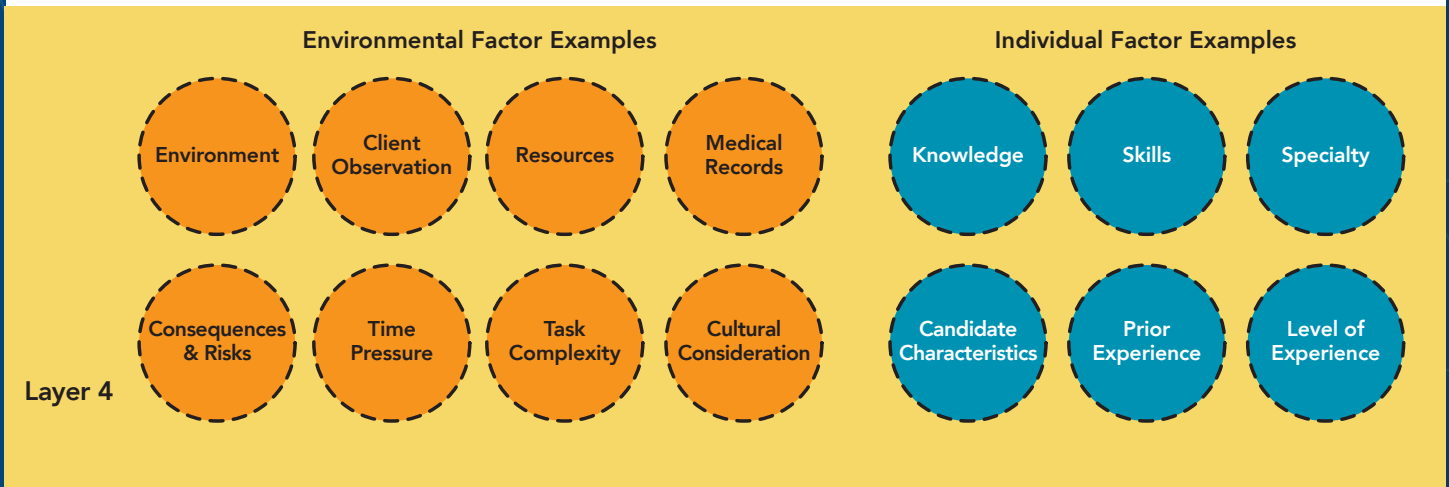


The Next Generation NCLEX® News is a quarterly publication that provides the latest information about the research being done to assess potential changes to the NCLEX Examinations.

As detailed in other [newsletters and publications](#), the **NCSBN Clinical Judgment Measurement Model (NCJMM)** provides a critical foundation for the Next Generation NCLEX (NGN). Our [Spring 2020 newsletter](#) helped illustrate Layer 3 of the model through the presentation of an NGN Case Study. This newsletter takes a similar approach in highlighting Layer 4, the conditioning factors—environmental and individual—that influence the nurse’s ability to think critically and make a clinical decision.



Layer 4 is used to “set the stage” when building the client scenario for the unfolding case study. The conditioning factors include, but are not limited to, the client’s environment, client observations, time pressure cues and medical record cues.



The following case study shows how the Layer 4 conditioning factors are integrated into items and scenarios.

Scenario and Recognize Cues Item

In this example, the four tabs are labeled Health History, Nurses’ Notes, Vital Signs and Laboratory Results. Other case studies may use different tab headings to present other types of information (e.g., Medications). Callouts have been added to highlight the inclusion of Layer 4 elements.

Case Study Screen 1 of 6

Health History Tab:

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|---|---------------|-------------|--------------------|
| <p>Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels lightheaded. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.</p> | | | |

Medical Record cue: Health History

➤ Drag the assessment findings that require immediate follow-up to the box on the right.

| Assessment Findings | Assessment Findings That Require Immediate Follow-up |
|--|--|
| productive cough | |
| BP 90/50, P 116, RR 24 | |
| intermittent left shoulder pain | |
| ECG showing normal sinus rhythm | |
| slightly diminished breath sounds on the left | |
| T 97.8° F (36.6° C), O2 saturation 98% on room air | |
| Hgb 9 g/dL (19.0 x 109/L), HCT 27% (0.27), WBC 19,000/mm3 (19.0 x 109/L) | |
| tenderness upon palpation and dullness to percussion over the abdomen | |

Continued on next page

**Case Study Screen
1 of 6**

Nurses' Notes Tab:

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Time Pressure cues: pale, diaphoretic, breath sounds

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|----------------|---|-------------|--------------------|
| | <p>Patient appears pale and slightly diaphoretic. Large amount of bruising noted along the left torso and over the left upper quadrant (LUQ) of the abdomen. Patient is guarded and there is tenderness upon palpation and dullness to percussion over the abdomen. Slightly diminished breath sounds on the left, productive cough noted. Electrocardiogram (ECG) shows normal sinus rhythm.</p> | | |

Environmental and Resources cues: Acute care setting

Vital Signs Tab:

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Time Pressure cues: Vital Signs

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|----------------|---------------|---|--------------------|
| | | <p>Vital signs:</p> <ul style="list-style-type: none"> • BP 90/50 • P 116 • RR 24 • T 97.8° F (36.6° C) • O₂ saturation 98% on room air | |

Medical Record cue: Vital Signs

Laboratory Results Tab:

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Time Pressure cues: Hgb, HCT

| Health History | Nurses' Notes | Vital Signs | Laboratory Results | | | | | | | | | | | | |
|------------------------------|---|--|--|-----------------|--------|-----------------|------------------|------------------------------------|--|------------------|------------|--|------------------------------|---|--|
| | | | <table border="1"> <thead> <tr> <th>Laboratory Test</th> <th>Result</th> <th>Reference Range</th> </tr> </thead> <tbody> <tr> <td>Hemoglobin (Hgb)</td> <td>9 g/dL (19.0 x 10⁹/L)</td> <td>Male: 13.2–17.3 g/dL (132–173 g/L) Female: 11.7–15.5 g/dL (117–155 g/L)</td> </tr> <tr> <td>Hematocrit (HCT)</td> <td>27% (0.27)</td> <td>Male: 39%–50% (0.39–0.50) Female: 35%–47% (0.35–0.47)</td> </tr> <tr> <td>White blood cell count (WBC)</td> <td>9,000/mm³ (19.0 x 10⁹/L)</td> <td>5,000–10,000/mm³ (5–10 x 10⁹/L)</td> </tr> </tbody> </table> | Laboratory Test | Result | Reference Range | Hemoglobin (Hgb) | 9 g/dL (19.0 x 10 ⁹ /L) | Male: 13.2–17.3 g/dL (132–173 g/L) Female: 11.7–15.5 g/dL (117–155 g/L) | Hematocrit (HCT) | 27% (0.27) | Male: 39%–50% (0.39–0.50) Female: 35%–47% (0.35–0.47) | White blood cell count (WBC) | 9,000/mm ³ (19.0 x 10 ⁹ /L) | 5,000–10,000/mm ³ (5–10 x 10 ⁹ /L) |
| Laboratory Test | Result | Reference Range | | | | | | | | | | | | | |
| Hemoglobin (Hgb) | 9 g/dL (19.0 x 10 ⁹ /L) | Male: 13.2–17.3 g/dL (132–173 g/L) Female: 11.7–15.5 g/dL (117–155 g/L) | | | | | | | | | | | | | |
| Hematocrit (HCT) | 27% (0.27) | Male: 39%–50% (0.39–0.50) Female: 35%–47% (0.35–0.47) | | | | | | | | | | | | | |
| White blood cell count (WBC) | 9,000/mm ³ (19.0 x 10 ⁹ /L) | 5,000–10,000/mm ³ (5–10 x 10 ⁹ /L) | | | | | | | | | | | | | |

Medical Record cue: Laboratory Results

In this scenario, the client's care environment is an acute care setting. Other examples may be an outpatient clinic, community health center, or post-anesthesia care unit, among others. The candidate is expected to know that resources change from one care setting to another. The candidate has visibility into client findings within a medical record, such as a history, vital signs and laboratory results. There are time pressure cues and activities that require completion in a timely manner, which affects the nurse's care of the client. Those time pressure cues are another example of an Environmental Factor.

Continued on next page

Analyze Cues

Task complexity, another Environmental Factor in Layer 4, requires the candidate to take other variables into consideration. The candidate's knowledge is utilized throughout each step of the NCSBN Clinical Judgment Measurement Model (NCJMM) taking into consideration any competencies mastered, the candidate's fundamental knowledge obtained, and any work in a specific care setting during the candidate's training. These are some of the Individual Factors in Layer 4.

Case Study Screen 2 of 6

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|---|---------------|-------------|--------------------|
| <p>Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels lightheaded. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.</p> | | | |

**Individual Factor:
Knowledge of Medical Conditions**

The nurse is reviewing the client's health history and medical record.

➤ Drag the assessment findings that require immediate follow-up to the box on the right.

| Potential Issues | Risk to the Client |
|---------------------------|--------------------|
| stroke | |
| hemothorax | |
| bowel perforation | |
| splenic laceration | |
| pulmonary embolism | |
| abdominal aortic aneurysm | |

Continued on next page



“The candidate’s knowledge is utilized throughout each step of the NCSBN Clinical Judgment Measurement Model.”

Prioritize Hypotheses

The behaviors that are considered in Prioritize Hypotheses include prioritization of care and addressing client conditions using client observation cues. This can include prioritizing actual client issues or potential client issues, as well as prioritization of care (e.g., addressing the client's airway and breathing first to prevent respiratory deterioration). Other Layer 4 conditioning factors that could be included in a client scenario include, but are not limited to, additional time pressure or medical record cues.

Case Study Screen 3 of 6

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Health History
Nurses' Notes
Vital Signs
Laboratory Results

Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels lightheaded. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.

Environmental cue: Client Observation cues

The nurse is reviewing the client's health history and medical record.

➤ Drag the assessment findings that require immediate follow-up to the box on the right.

The client is at highest risk for developing followed by the client's

- Select...
- abdominal pain
- respiratory status
- laboratory results

Time Pressure cue: airway

Generate Solutions

The candidate requires knowledge of treatments and interventions that could be incorporated into the plan of care to move the client toward a goal or outcome. In this item, the candidate must have knowledge of the treatments and interventions associated with splenic laceration.

Case Study Screen 4 of 6

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Health History
Nurses' Notes
Vital Signs
Laboratory Results

Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels lightheaded. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.

Individual cue: Candidate Knowledge

The nurse is speaking with the physician regarding the treatment plan for the client who was just diagnosed with a splenic laceration and a left-sided hemothorax.

➤ For each potential order, click to specify whether the potential order is anticipated, nonessential, or contraindicated for the client.

| Potential Intervention | Anticipated | Nonessential | Contraindicated |
|--|-----------------------|-----------------------|-----------------------|
| echocardiogram | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| intravenous fluids | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| abdominal ultrasound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| preparation for surgery | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| serum type and screen | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| insertion of a nasogastric (NG) tube | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| administration of prescribed pain medication | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Environmental cues: Resources available

Continued on next page

Take Action

In this item, the Layer 4 conditioning factors include using client observation cues to link the pathophysiology to nursing interventions for a client who requires surgery. The candidate needs to utilize knowledge and skills to identify the appropriate actions a nurse would take.

Case Study Screen 5 of 6

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|---|---------------|-------------|--------------------|
| <p>Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels lightheaded. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.</p> | | | |

Environmental cue: Client Observation

Individual cue: Candidate skills

➤ The nurse has been asked to prepare the client for immediate surgery. Which of the following actions should the nurse take? Select all that apply.

- Mark the surgical site.
- Provide the client with ice chips.
- Obtain surgical consent from the client.
- Perform a medication reconciliation.
- Insert a peripheral venous access device (VAD).
- Inform the client about the risks and benefits of the surgery.
- Assess the client's previous experience with surgery and anesthesia.
- Ask the client's parents to wait in the waiting room while you discuss the plan of care with the client.

Evaluate Outcomes

In this step, the candidate must indicate if the client's clinical course is progressing as expected. Again, Layer 4 conditioning factors include knowledge and experience with client observations, time pressure cues (perioperative, up to and including postoperative Day #3), and medical record. In this case study, by postoperative Day #3, the client should be ambulating with minimal assistance; this is good progress at this time. However, the client's pain is not being adequately managed because the client is not using the incentive spirometer and is instead taking a maximum dose of pain medication via patient-controlled analgesia (PCA) device hourly.

Case Study Screen 6 of 6

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

| Health History | Nurses' Notes | Vital Signs | Laboratory Results |
|---|---------------|-------------|--------------------|
| <p>Client is post-op day #3 after a splenectomy and is able to ambulate in the corridor 3 times daily with minimal assistance. The client has clear breath sounds with a left chest tube in place attached to a closed-chest drainage system. Tidal volume of the water chamber noted with deep inspiration. The client is refusing to use the incentive spirometer stating it causes left-sided chest pain. The client is utilizing prescribed patient-controlled analgesia (PCA) device maximally every hour and continues to have intermittent nausea with some vomiting. Adequate urine output. Abdominal surgical incision site with dressing is clean, dry, and intact with no erythema, edema or drainage noted to site.</p> | | | |

Environmental cue: Client Observation

Individual cue: Prior Experience in clinical setting

➤ Click to highlight the findings on the left that would indicate the client is not progressing as expected.

Progress Notes

Client is post-op day #3 after a splenectomy and is able to ambulate in the corridor 3 times daily with minimal assistance. The client has clear breath sounds with a left chest tube in place attached to a closed-chest drainage system. Tidal volume of the water chamber noted with deep inspiration. The client is refusing to use the incentive spirometer stating it causes left-sided chest pain. The client is utilizing prescribed patient-controlled analgesia (PCA) device maximally every hour and continues to have intermittent nausea with some vomiting. Adequate urine output. Abdominal surgical incision site with dressing is clean, dry, and intact with no erythema, edema or drainage noted to site.

Continued on next page

Summary

Using Environmental and Individuals Factors from Layer 4 of the [NCJMM](#) contributes to the authenticity of NGN case studies, not only by adding specificity but by also allowing for the variety of situations and settings that entry-level nurses will encounter in practice. Unlike the Layer 3 elements, which are directly assessed by NGN items and have specific locations within an [NGN Case Study](#), the Layer 4 elements are contextual and can appear anywhere within an item set, often multiple times.

NGN Resources

For more information regarding the NGN project, please visit the [NCSBN website](#) and our [Frequently Asked Questions](#), which address common questions from candidates and educators. The [NGN Resources](#) page includes past publications of the NGN News. The newsletter is published quarterly and provides the latest information about the work to assess potential changes to the NCLEX Examinations. [NGN Talks & Videos](#) houses short NGN videos on topics related to the NGN.



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