Teaching Clinical Judgement and Decision-Making: A Cognitive Processing Model for the Education of Entry-Level Nurses

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Disclosure

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Presentation Outline

• Nursing Clinical Judgment
• Conceptualizing Clinical Judgment
• Proposed Pedagogical Model
• Sample Clinical Scenario and Task Model
• Additional Research
• Discussion and Conclusion
Nursing Clinical Judgment

• Nursing clinical judgment is an iterative decision making process that uses 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.
Conceptualizing Clinical Judgment

Individual Factors:
- Education
- Experience
- Knowledge
- Communication
- Emotions and perceptions
- Professional orientation
- Consequences and risks

Environmental Factors:
- Task complexity
- Time pressure
- Distractions
- Interruptions
- Professional autonomy

Diagram:
- Recognize Cues
  - Evaluate Outcomes
  - Generate Hypotheses
  - Judge Hypotheses
    - Take Action
Proposed Pedagogical Model
Sample Clinical Scenario

An 8-year-old client with a history of diabetes presents to the emergency room with his mother, who reports that the child has not been feeling well for the last two days. She states he has a low-grade temperature, diarrhea, and a poor appetite. Today, the child reports he is feeling dizzy and that his head hurts. The mother also reports that he is refusing to eat or drink anything. Client vital signs upon arrival are pulse—162 beats/minute, respirations—26 breaths/minute, blood pressure—78/42 mmHg, temperature—100.3°F orally and blood serum glucose—75mg/dL. The client is admitted to the hospital, and an intravenous line is placed with 0.9% normal saline infusing at 50mL/hr. The nurse notes that the child is responsive to questions but appears lethargic. The mucous membranes appear dry, extremities are cool, and capillary refill is 3-4 seconds.

The nurse re-evaluates the client after two hours from the initial admission. The child is awake and talking, extremities remain cool, and capillary refill is 2-3 seconds. The client is asking to drink something. Client vital signs are pulse—152 beats/minute, respirations—22 breaths/minute, blood pressure—82/46 mmHg, temperature—100.2°F orally. Laboratory values: electrolytes, within normal limits; blood serum glucose, 80mg/dL.
# Task Model

<table>
<thead>
<tr>
<th>Cognitive Operation</th>
<th>Factor Conditioning</th>
<th>Expected Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recognize Cues</strong></td>
<td>Environmental Cues:</td>
<td>• Recognize abnormal vital signs</td>
</tr>
<tr>
<td></td>
<td>• Set location to emergency room</td>
<td>• Recognize symptoms of dehydration</td>
</tr>
<tr>
<td></td>
<td>• Show the presence of parent</td>
<td>• Identify the history of diabetes</td>
</tr>
<tr>
<td></td>
<td>Patient Observation Cues:</td>
<td>• Hypothesize dehydration</td>
</tr>
<tr>
<td></td>
<td>• Show age to 8-10</td>
<td>• Hypothesize diabetes</td>
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<tr>
<td></td>
<td>• Show dehydration symptoms (e.g., dry mucous membranes appear, cool extremities, cap refill 3-4 seconds)</td>
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<tr>
<td></td>
<td>• Show/Imply lethargy</td>
<td></td>
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<tr>
<td></td>
<td>Medical Record Cues:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Show dehydration symptoms (e.g., a lower-grade temperature, diarrhea, a poor appetite)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Show/Imply history of diabetes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Show/Imply vital signs</td>
<td></td>
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<tr>
<td></td>
<td>Time Pressure Cue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Set time pressure to varying with onset of symptoms and current lethargy</td>
<td></td>
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<tr>
<td><strong>Analyze Cues</strong></td>
<td>• Require knowledge of dehydration symptoms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Require knowledge of diabetes symptoms</td>
<td></td>
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<tr>
<td><strong>Prioritize Hypotheses</strong></td>
<td>• Give vital sign monitors as resources</td>
<td>• Prioritize dehydration</td>
</tr>
<tr>
<td></td>
<td>• Set time pressure to vary with vital signs</td>
<td>• Address dehydration</td>
</tr>
<tr>
<td><strong>Generate Solutions</strong></td>
<td>• Require knowledge of dehydration treatment and intervention</td>
<td>• Avoid glucose</td>
</tr>
<tr>
<td></td>
<td>• Require knowledge of diabetes treatment and intervention</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluate Outcomes</strong></td>
<td>Experience:</td>
<td>• Check vital signs</td>
</tr>
<tr>
<td></td>
<td>• Require experience of administering isotonic fluid</td>
<td>• Check lethargy</td>
</tr>
<tr>
<td></td>
<td>Patient Observation Cue:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Show patient awaking and talking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Imply «Set vital signs to varying with action»</td>
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</tr>
</tbody>
</table>
Additional Research: Pilot Study

• Does clinical judgment require subject matter knowledge?

• Hypothesized causes of faulty clinical judgment
  – Errant decision making
  – Insufficient subject matter knowledge

• How to disentangle sources of errors?
55 Subdomains

Factor 1: Content Area

Factor 2: Item Response Format

Factor 3: Item Assessment

Knowledge

Cue Recognition

Judging Options

Clinical Actions

Outcome Evaluation

Clinical Judgment

55 Subdomains

Multiple Choice

Multiple Response

270 Items

3,100 Examinees

Knowledge

Clinical Judgment

Pilot Study: Methods
Pilot Study: Results

![Graph showing probability correct response for different clinical judgment contents: Cue Recognition, Outcome Evaluation, Judging Options, and Clinical Action. Each bar represents the probability with error bars indicating variability.]
Pilot Study: Results (cont.)

![Bar Chart]

**Item Response Format**

- **Multiple Choice**
  - Clinical: 0.6
  - Judgment: 0.7
  - Knowledge: 0.7

- **Multiple Response**
  - Clinical: 0.2
  - Judgment: 0.2
  - Knowledge: 0.3
Discussion and Conclusions

• The proposed cognitive model offered a systematic way to construct clinical scenarios for training purposes.
• Clinical scenarios may be constructed to emphasize different aspects of the clinical judgment processes.
• Preliminary findings from the pilot study suggested that the relationship between knowledge and clinical judgment is asymmetrical.

Thank You