
Diagnostic Reasoning in Telephone Triage



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Objectives

At the completion of this presentation, the participant will be able to:

- consider the process used in decision making in uncertain conditions and how it is impacted by the nurse's clinical knowledge base
 - recognize the appropriate role of decision support tools in decision making
 - identify measures which will improve quality and safety of telephone triage
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Telephone Triage



- Description:
 - A component of telephone nursing practice that focuses on assessment, prioritization, and referral to the appropriate level of care.
- Definition:
 - An interactive process between nurse and client that occurs over the telephone and involves identifying the nature and urgency of client health care needs and determining appropriate disposition.

Nursing Process



- Assess
 - Data collection (Subjective & Objective)
- Diagnose
 - Conclusion (Triage category)
- Outcomes
 - What do you hope to accomplish?
- Plan
 - What needs to be done (collaboratively)
- Intervention or Implementation
 - How will it be done (think continuity!)
- Evaluate
 - How will you know if your patient *doesn't* get better?

Types of Decision Making

- **Pattern Recognition**
 - ABCD problem
 - Immediate response behavior
- **Focused Decision Making**
 - Focused (specific to problem)
 - Limited problem solving (where/when to be seen)
- **Deliberative**
 - Deliberate problem solving
 - Need significant amount of information

Decision Making in Conditions of Uncertainty

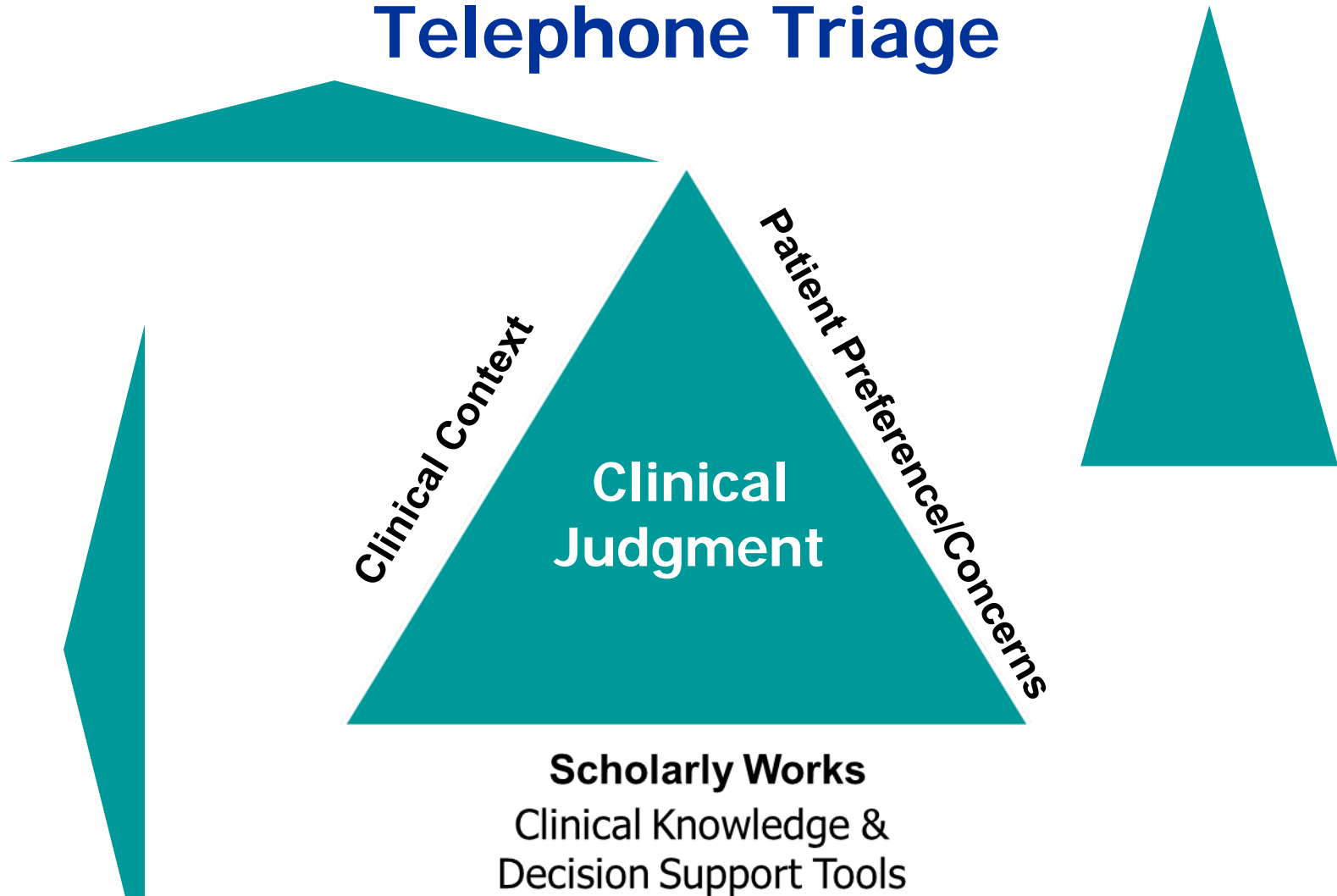
Airway/ Severe Dyspnea

Abdominal Pain/Headache

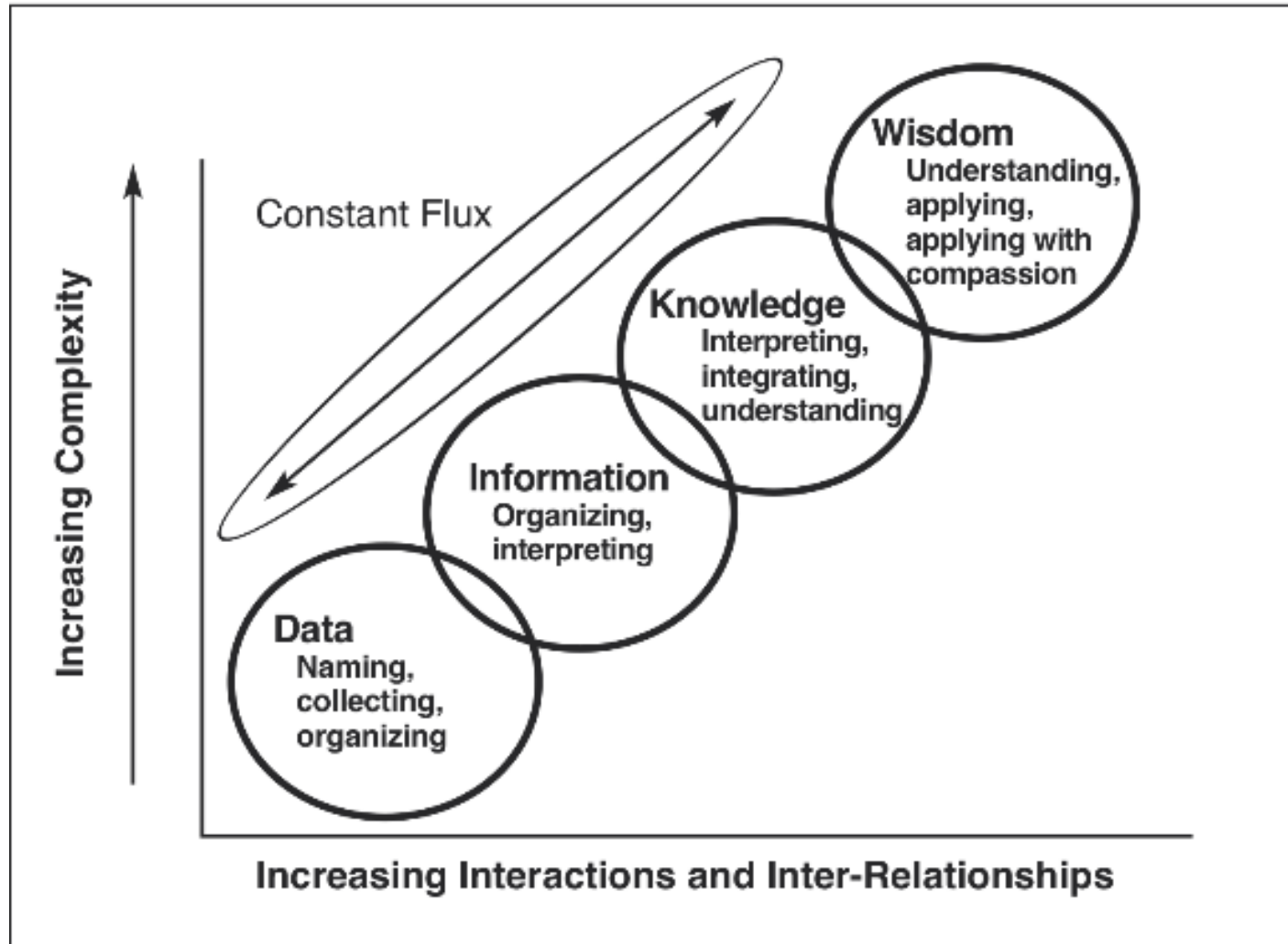
Minor/Vague/Chronic

Characteristic	EMERGENT <i>Life threatening</i> Pattern Recognition Immediate Response	URGENT <i>Potentially life threatening</i> Focused Limited Problem Solving	NON-URGENT <i>Not life threatening</i> Deliberative Deliberate Problem Solving
ACUITY/URGENCY	High	Moderate	Low
ACCURACY	Perfect	Highest % of error	Middle
TIMING	Shortest (<2 min 93% of time)	Longer	Longest
TRIGGER	Symptoms only	Hypothesis (R/O Diagnosis)	Whole situation
PROCESS	Little deliberation Or problem solving	Information seeking Clarifying	Options/Alternatives Negotiation
COMMENT	Rules of thumb Intuition / Gut	Most complex Greatest demand on knowledge base	Much Reasoning Holistic

Elements of Decision Making in Telephone Triage



Data to Wisdom Continuum



Source: Nelson (2002). Reprinted with permission.

Telephone Triage



- "...telephone triage is one of the most sophisticated and potentially high-risk forms of nursing practiced today." (p IX)

Nursing Process



- Assess
 - Data collection (Subjective & Objective)
- Diagnose
 - Conclusion (Triage category)
- Outcomes
 - What do you hope to accomplish?
- Plan
 - What needs to be done (collaboratively)
- Intervene
 - How will it be done (think continuity!)
- Evaluate
 - How will you know if your patient doesn't get better?

Why Hypotheses are Formulated

- Allows “clumping” of information to aid with short-term memory



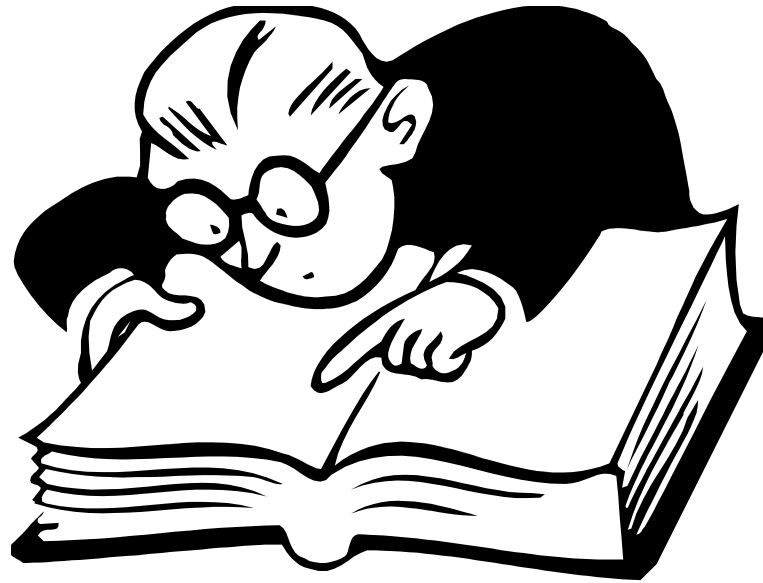
- Information for decision making comes from long-term memory (education and experience)
- Encourages a systematic review of a system or disease process

Diagnostic Reasoning Process: Four Major Activities

- Attending to initially available cues
- Activating hypotheses which might explain the presenting symptoms
- Collecting data to rule-out, “rule-in”, or refine the hypotheses
- Use deductive reasoning to eliminate and settle on one hypothesis**

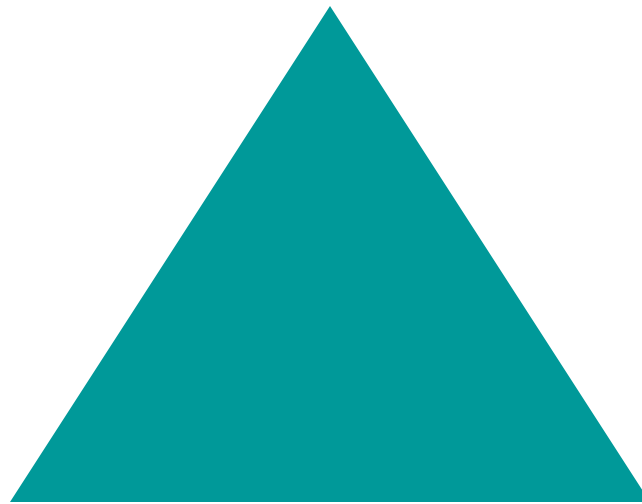
** In TT, seek highest risk, not most likely**

DECISION SUPPORT TOOLS



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- "... there are aspects of the professional expertise and reasoning of nurses that resist being transformed into rules that can be embodied in so-called experts systems..."

Greatbatch et al. (2005), pg 826-7



In fact...

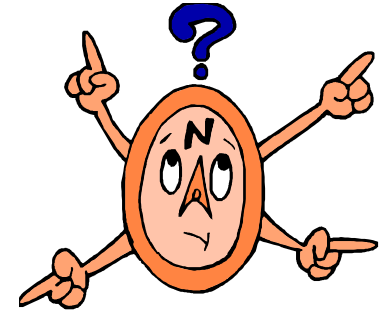
NURSES **DO** DEVIATE!

- Explicitly

- By not using a protocol
- By formally deviating from the recommended course of action

- Implicitly

- By navigating the software in such a way as to reach the desired outcome
- By how the recommendations are couched



Checklist Manifesto

Gawande (2009)

We need checklists, but perhaps the checklist we need is for

- The nursing process and critical elements within each step
 - Assessment (subjective and objective)
 - Nature/urgency/issues (what are we treating)
 - Goal of care (what is to be accomplished?)
 - Plan (what should be done?)
 - Intervention (what and how was it actually done?)
 - Evaluation (how do we know it met the goal?)
- Basic telephone triage skills and competencies

Implications for Practice

- Refined hiring practices
 - Best educated
 - Most experienced (years, diversity, life)
 - Formalization
 - Specialized training
 - Program design so TT nurses are resourced and supported
 - Reevaluate role and design of decision support tools
 - Development (open ended with room for flexibility and individualization)
 - Utilization (important *adjunct* to nursing judgment)
 - Further research and discourse (on all levels)
 - Recognize need to discuss and teach diagnostic reasoning
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References

- Croskerry P (2009). A universal model of diagnostic reasoning. *Academic Medicine* 84(8), 1022-1028.
- Edwards B (1994). Telephone triage: how experienced nurses reach decisions. *Journal of Advanced Nursing*, 19(4), 717-24.
- Ernesater A, Winblad UI, Engstrom M, Holmstrom I (2012). Malpractice claims regarding calls to Swedish telephone advice nursing: What went wrong and why? *Journal of Telemedicine and Telecare* 18: ss 379-383.
- Gawande A (2009). *The Checklist Manifesto: Hot to get things right*. Picador: New York.
- Greenberg ME (2009). A comprehensive model of the process of telephone nursing. *Journal of Advanced Nursing* 65(12), 2621-2629.
- Greenberg ME, Espensen M, Becker C, Cartwright J (Jan/Feb, 2003). Telehealth nursing practice SIG adopts teleterms. *ViewPoint*, 8-10.
- Greenberg ME, Pyle R (2004). Achieving evidence-based nursing practice in ambulatory care. *Viewpoint*, 26(6). 1, 8-12.
- Hawkins D, Elder L, Paul R (2010). *Clinical Reasoning*. Foundation for Critical Thinking Press.
- Lee J, Alfred C, Chan A, Phillips D, (2006). Diagnostic practise in nursing: A critical review of the literature. *Nursing and Health Sciences* (8), 57-65.
- Leprohon J, Patel V (1995). Decision-making strategies for telephone triage in emergency medical services. *Medical Decision Making* 15(3), 240-53.
- Nelson R (2002). Major theories supporting health care informatics. In S.P. Englehardt & R. Nelson (Eds.), *Health Care Informatics: An Interdisciplinary Approach*. p 3-27. Mosby: St. Louis.
- Nursing World <http://www.nursingworld.org/EspeciallyForYou/What-is-Nursing/Tools-YouNeed/Thenursingprocess.html>
- Putzier DJ, Padrick K, Westfall UE, and Tanner CA (1985). Diagnostic reasoning in critical care nursing. *Heart & Lung* 14(5), 430-437.
- Radwin LE (1990). Research on diagnostic reasoning. *Nursing Diagnosis* 1(2), 70-77.
- Rutenberg C, Greenberg ME (2012). *The Art and Science of Telephone Triage: How to practice nursing over the phone*. Telephone Triage Consulting, Hot Springs.
- Sadeghi A, Barzi A, Sadeghi N, King B (2006). A Bayesian model for triage decision support. *International Journal of Medical Informatics* (75) 403-411.
- Tanner CA (2006). Thinking like a nurse: A research-based model of clinical judgment in nursing. *Journal of Nursing Education* 45(6), 204-211.
- Tanner CA, Padrick KP, Westfall UE, Putzier DJ. (1987). Diagnostic reasoning strategies of nurses and nursing students. *Nursing Research* 36(6), 358-363.
- University of Massachusetts. <http://www.umassd.edu/fycm/decisionmaking/process/> 1/5/15. UMassDartmouth.
- Wheeler S, Windt J (1993). *Telephone Triage: Theory, Practice, and Protocol Development*. TeleTriageSystems: San Anselmo.

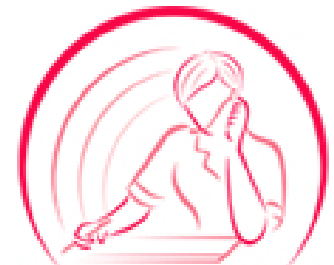
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Questions and Discussion

