

Topic 3: Clinical Reasoning

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Objectives

- By the end of this lecture, the learners will be able to describe
 1. The hypothetico-deductive model of clinical reasoning
 2. The complexity of clinical decision making process in relation to the dual process theory of thinking

Clinical Reasoning

- Is defined by Barrows and Tamblyn (1980) as:
- *‘the cognitive process that is necessary to evaluate and manage a patient’s medical problems’*
- Clinical reasoning is idiosyncratic, multi-faceted and highly complex skill, characterized by different processes that mobilize specific knowledge held in long-term memory (Schmidt et al, 1990).

Integrated model of clinical reasoning

- In clinical reasoning, Type 1 and Type 2 are not mutually exclusive (Eva, 2005)
- Elstein (2009):
- ‘When does the physician need to engage in a slow, careful logical process of hypothesis generation and testing, and when will short-cut methods like pattern recognition and recalling the solution to a previous case work just as well or better?’

Eva KW. What every teacher needs to know about clinical reasoning.
Medical Education. 2005;39(1):98-106.

Elstein A Thinking about diagnostic thinking: a 30-year perspective. Adv
Health Sci Educ Theory Pract 2009; 14:7–18.

Hypothetico-deductive model (Barrows and Tamblyn, 1980)

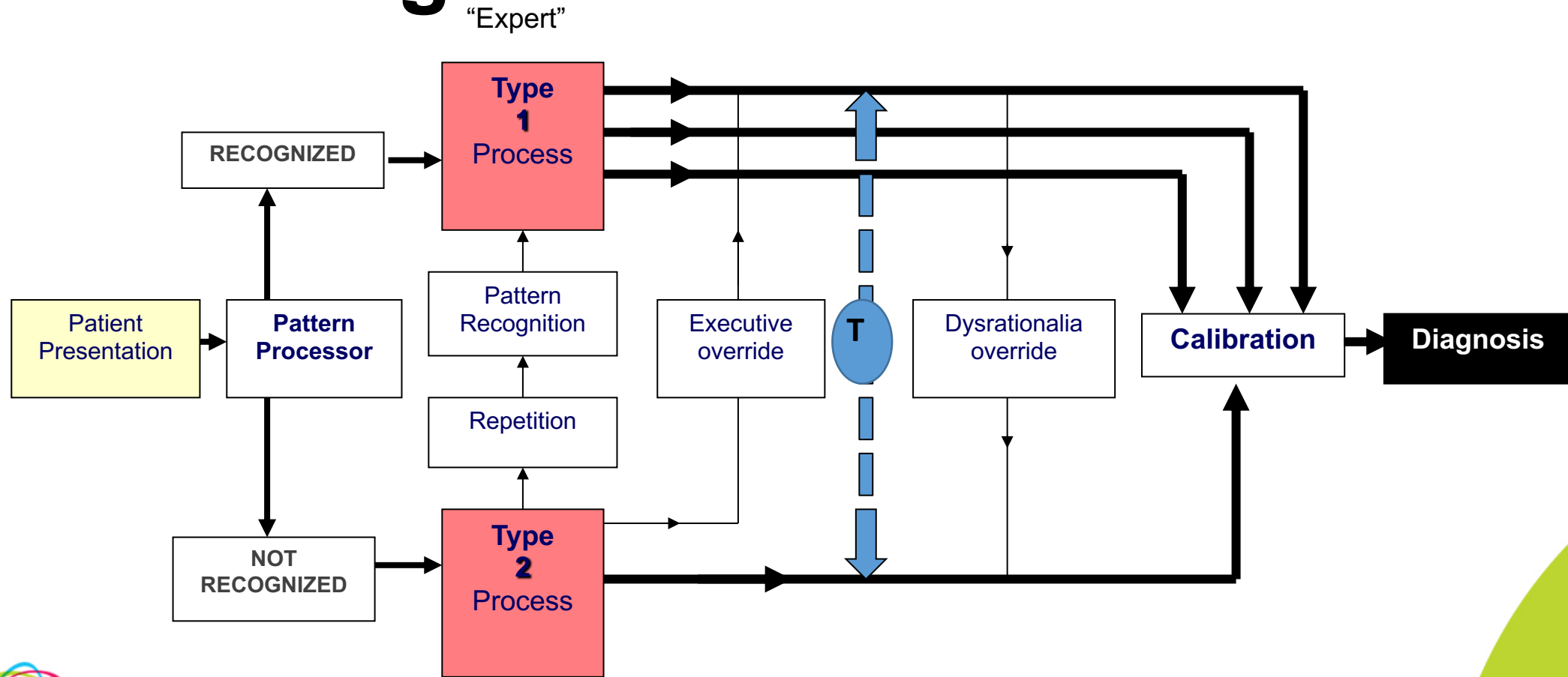
**Stage
1**

• Hypothesis generation

**Stage
2**

• Hypotheses
refinement/elimination

Complexity of Clinical Decision Making



Conclusion

- Clinical reasoning is highly complex and contextualized
- Should not lead to simplistic assumption particularly in relation to the application of DPT
- DPT, despite its limitations and potential misconceptions, is still useful in clinical reasoning for purpose of education and research

References and Further Reading

- Elstein A Thinking about diagnostic thinking: a 30-year perspective. Adv Health Sci Educ Theory Pract 2009; 14:7–18.
- Graber ML, Kissam S, Payne VL, Meyer AND, Sorensen A, Lenfestey N, Tant E, Henriksen K, LaBresh K, Singh H. Cognitive interventions to reduce diagnostic error: A narrative review. BMJ Qual Saf 2012; 21: 535e557
- Croskerry P. The importance of cognitive errors in diagnosis and strategies to prevent them. Acad Med 2003; 78:1-6.
- Evans JSBT, Stanovich KE. Dual-process theories of higher cognition: advancing the debate. Perspect Psychol Sci 2013;8(3):223-41.