

CARDIOLOGY  
2024

# Intuition vs. Evidence in Pediatric Cardiology

Discordance or Synergy?

Zvi S. Marans, MD

February 16, 2024



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# Disclosure

None



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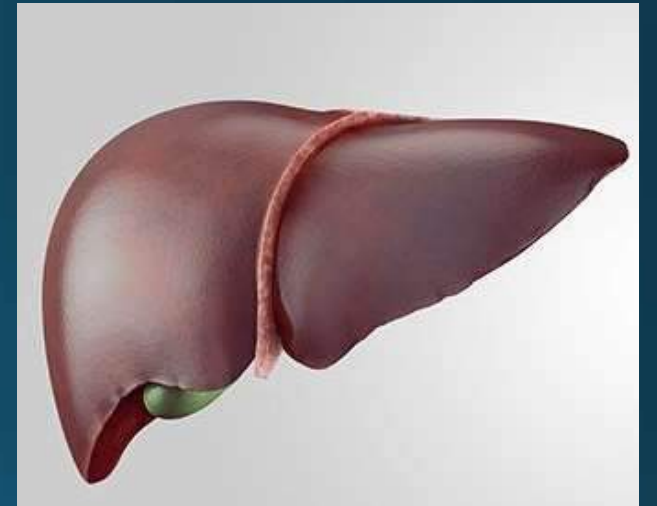
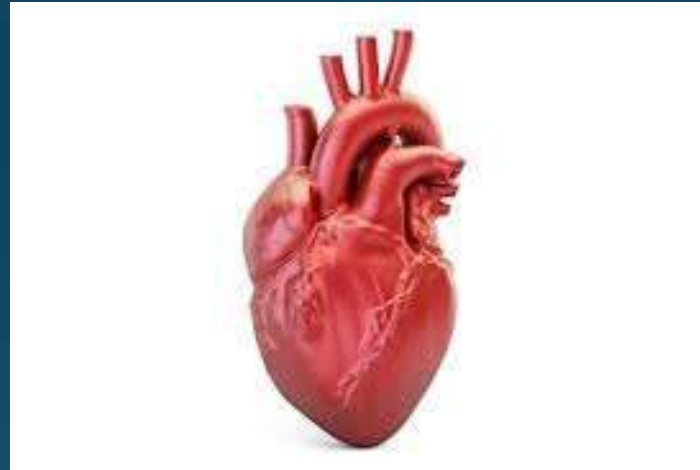
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# Clinical Intuition- Definition

The ability to assess/understand a clinical situation immediately, without the need for conscious reasoning, rational thought, or inference.

# Classical Times



# Classical Times



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# Today...



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# Intuition vs. Evidence

## 2 Cases



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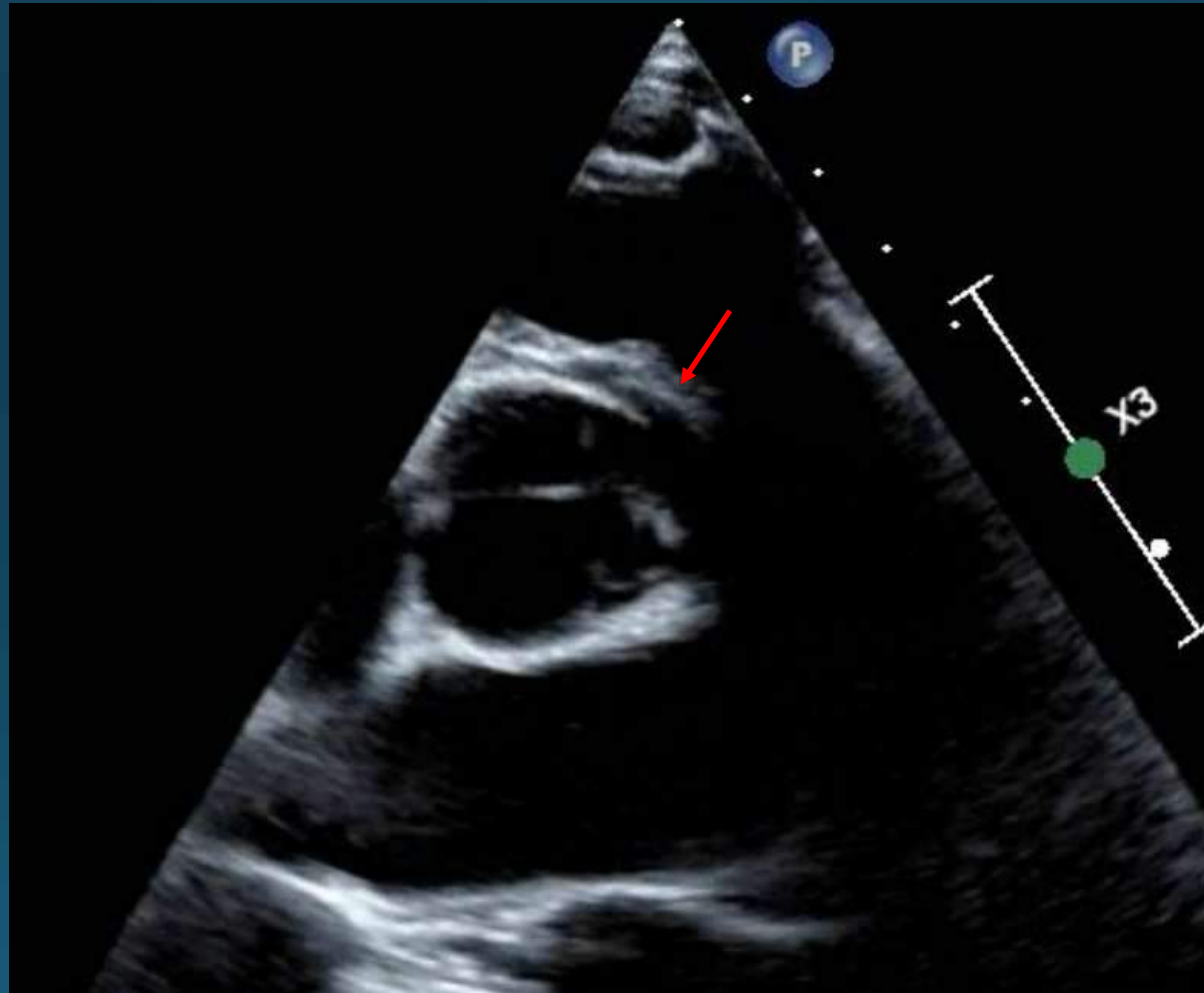
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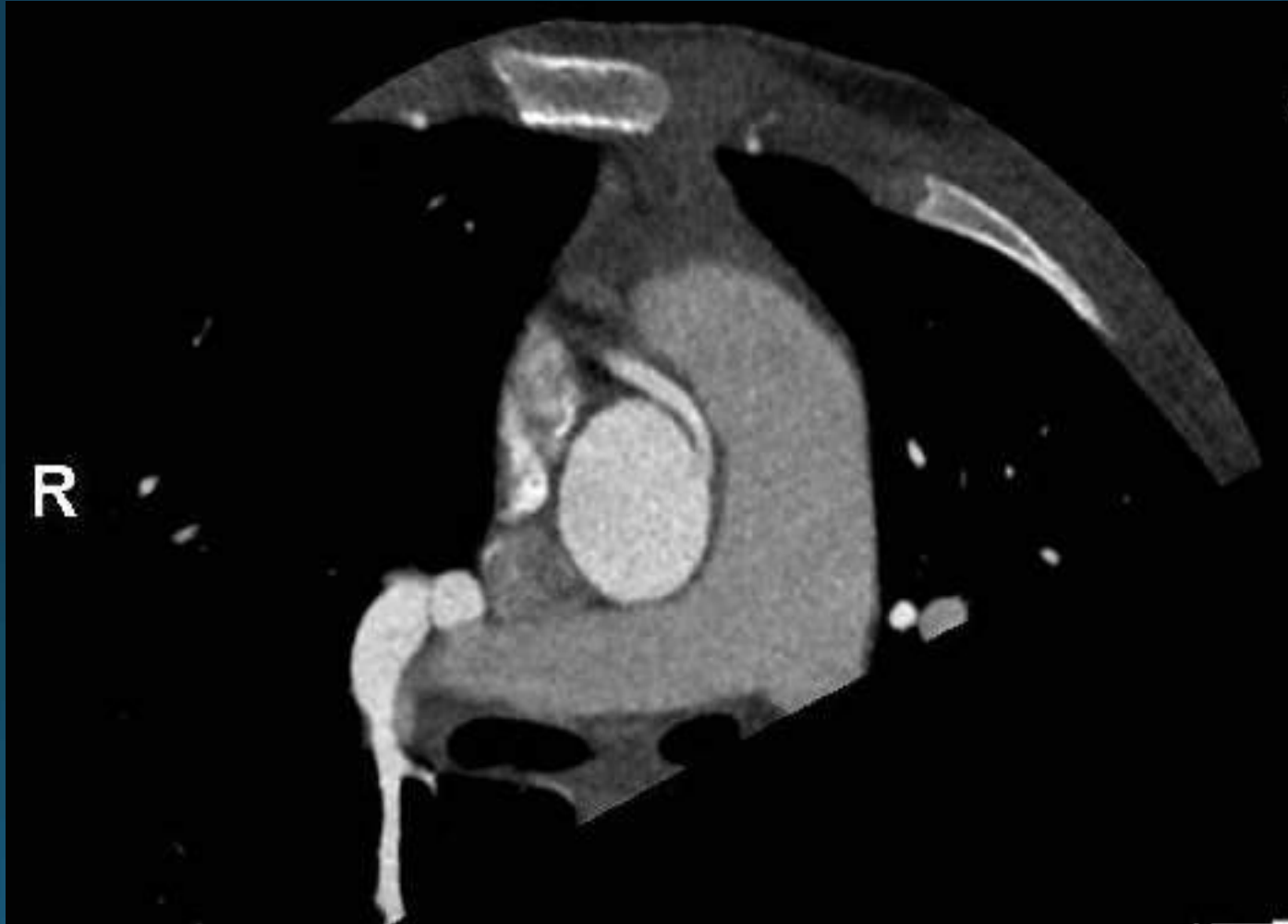
# Intuition vs.EVIDENCE

- 12 yr old girl, competitive basketball player
- SOB with exertion
- No chest pain, dizziness, syncope, palpitations
- Seen and treated by pulmonologist
- Inhalers- no significant improvement
- Normal exam, normal ECG

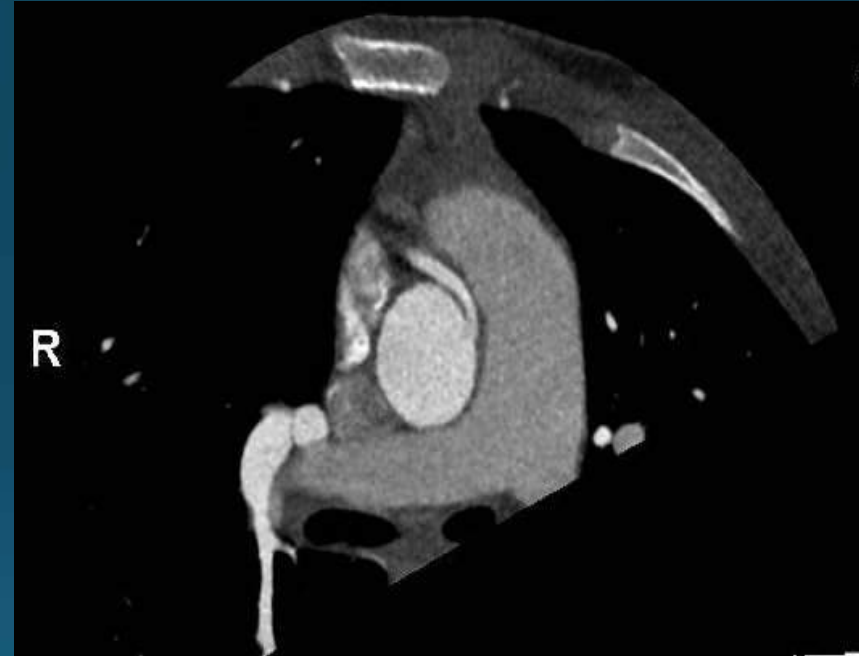
# Intuition vs. EVIDENCE



## Intuition vs.EVIDENCE



# Intuition vs. EVIDENCE



# Intuition vs.EVIDENCE

- Treadmill nuclear testing
- Reversible ischemia
- Medium sized, mild to moderate perfusion defect
- Inferoseptal, mid-to-basal

# INTUITION vs. evidence

- 3 month old, thriving, asymptomatic
- Occasional premature beats
- Monitor- 50 sec wide complex run, 250 bpm
- Presumptive diagnosis- V tach
- Electrophysiologic testing being considered



# INTUITION vs. evidence





# INTUITION vs. evidence



# INTUITION vs. evidence

- 3 month old, thriving, asymptomatic
- Occasional premature beats
- Monitor- 50 sec wide complex run, 250 bpm
- Presumptive diagnosis- V tach
- Electrophysiologic testing being considered

# Clinical Intuition- Research

DE GRUYTER

Diagnosis 2019; 6(3): 259–268

Meredith Vanstone\*, Sandra Monteiro, Eamon Colvin, Geoff Norman, Jonathan Sherbino, Matthew Sibbald, Kelly Dore and Amanda Peters

## **Experienced physician descriptions of intuition in clinical reasoning: a typology**

- 30 Internists, ER docs, family medicine with at least 5 yrs experience were interviewed
- Describe 4 different types of intuition
- Sick/not Sick; Something Not Right, Frame Shifting, Abduction



# Clinical Intuition- Research



- Using a sepsis prediction questionnaire for bacteremia in children
- 135 possible sepsis episodes with blood cultures
- 15% of the instances had a positive blood culture
- Clinicians are accurate at predicting critically ill children whose blood cultures will be negative
- Physicians frequently over-estimated presence of bacteremia

# Clinical intuition vs. Evidence-based Decision Making in Pediatric Cardiology:

## Discordance or Synergy?

# Clinical Intuition- Definition

The ability to assess/understand a clinical situation immediately, without the need for conscious reasoning, rational thought, or inference.



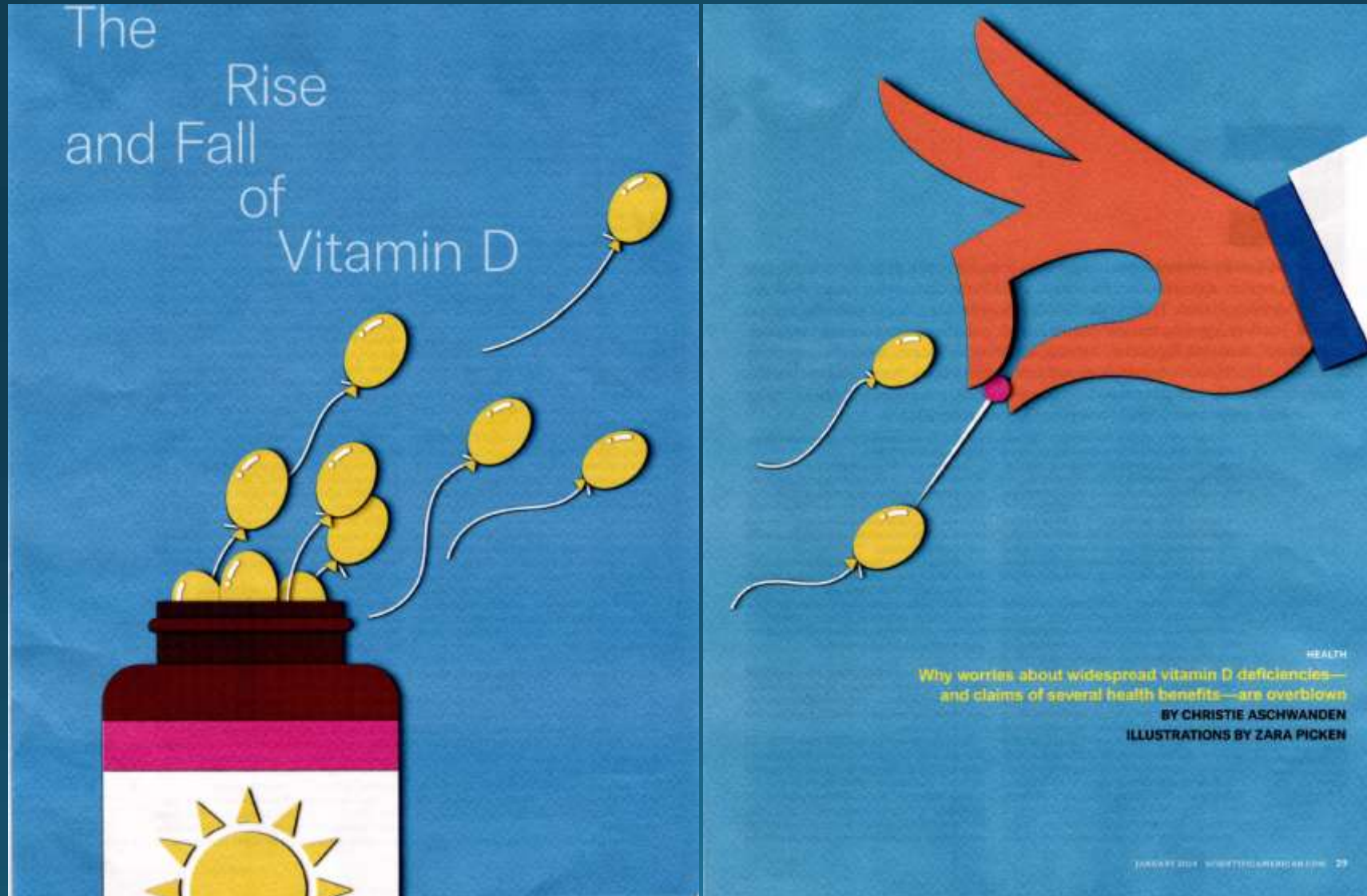
# Evidence-based Decision Making- Definition

The ability to arrive at a medical conclusion using conscious reasoning, with rational thought and inference, applied actively and intentionally, using published data.

# Evidence-based Decision Making

- Not the “perfect standard”
- The “gold standard”

# The Gold Standard?



# Clinical Intuition- Pediatric Cardiology



Progress in Pediatric Cardiology 18 (2003) 89–95

Progress  
in  
Pediatric  
Cardiology

[www.elsevier.com/locate/ppedcard](http://www.elsevier.com/locate/ppedcard)

## Decision-making in pediatric cardiology: searching for the evidence<sup>☆</sup>

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Accepted 4 January 2003



# Clinical Intuition- Pediatric Cardiology

## Abstract

The goal of evidence-based decision-making in pediatric cardiology and cardiac surgery may be difficult if not impossible to attain. This is due to the rarity, complexity and variability in the morphology and physiology of congenital heart disease. Nevertheless, constant attention to the process of searching for the evidence maximizes flexibility in decision-making and limits adherence to unproven management regimens. The long-term acceptance of prolonged bed rest for the treatment of acute rheumatic fever without significant evidence of benefit illustrates this principle. The result was unnecessary hospitalizations and restrictions on children as well as high medical cost. Much of the 'conventional wisdom' for medical and surgical treatment of congenital heart disease in the 1960s–1980s is no longer relevant. Without constant attention to evolving evidence gleaned from basic and clinical research, many of today's management pathways will not be appropriately altered and new pathways will not emerge. Analyses of treatment principles related to ventricular septal defect and discrete subvalvar aortic stenosis are presented, and questions are raised concerning other pediatric cardiac conditions where evidence-based outcome data are limited. The challenge to pediatric cardiologists and cardiac surgeons will always be to 'search for the evidence' in order to constantly reassess and adjust management pathways for children with heart disease.

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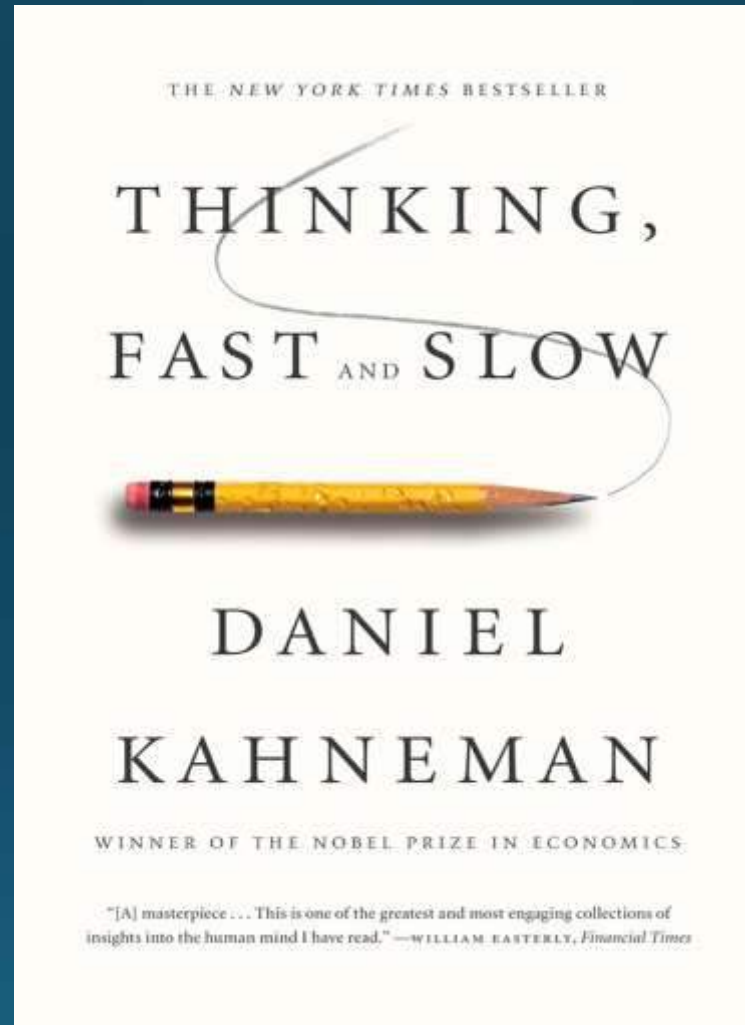
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# Clinical intuition vs. Evidence-based Decision Making in Pediatric Cardiology:

## Discordance or Synergy?

# Antagonism or Synergy?





# Clinical intuition vs. Evidence-based Decision Making in Pediatric Cardiology:

## Discordance or Synergy?

# Clinical intuition vs. Evidence-based Decision Making in Pediatric Cardiology:

# SYNERGY!

# Artificial Intelligence- Definition

The theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision making, etc. (Google's English dictionary)