Dr.V.Mahidhar Reddy

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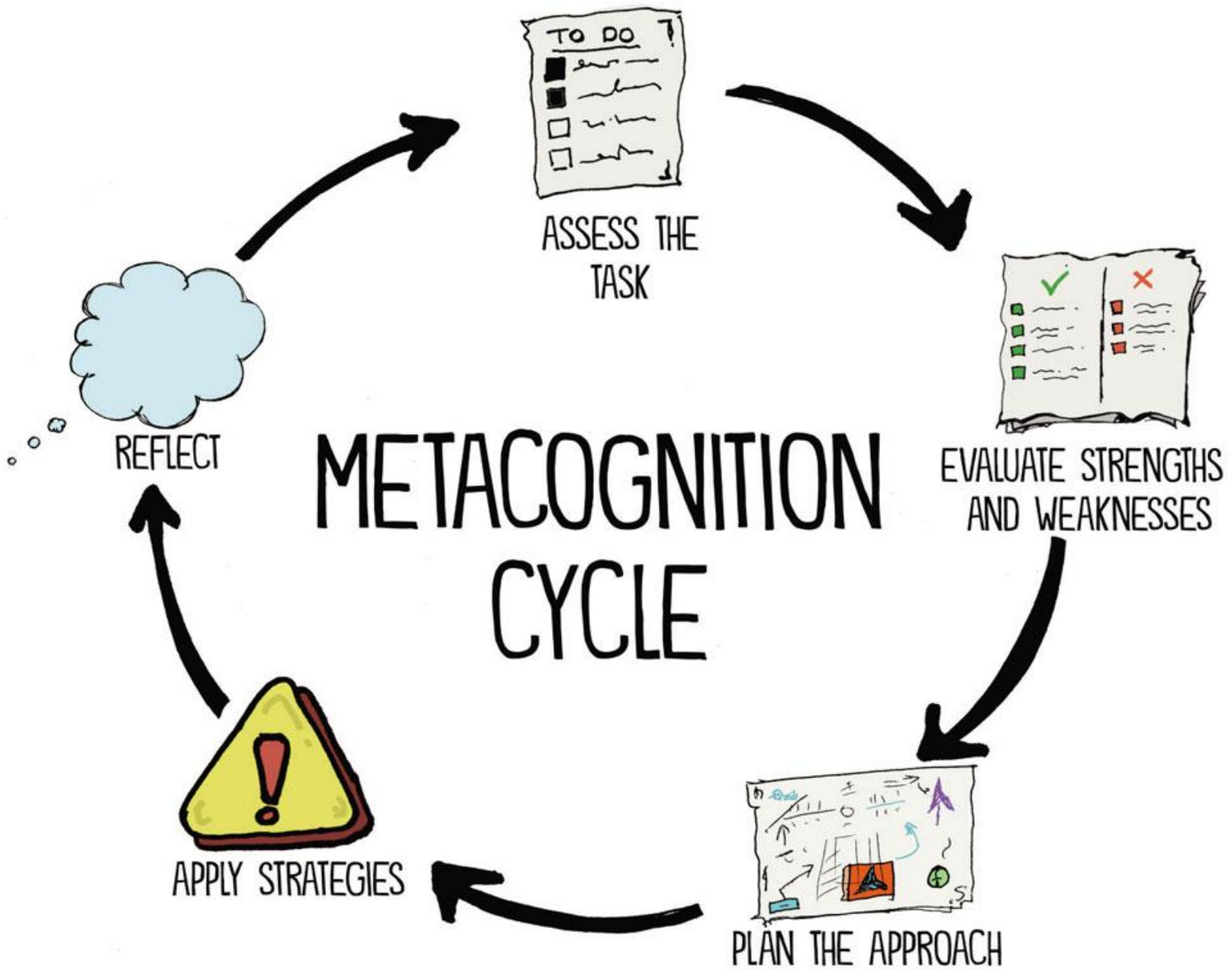
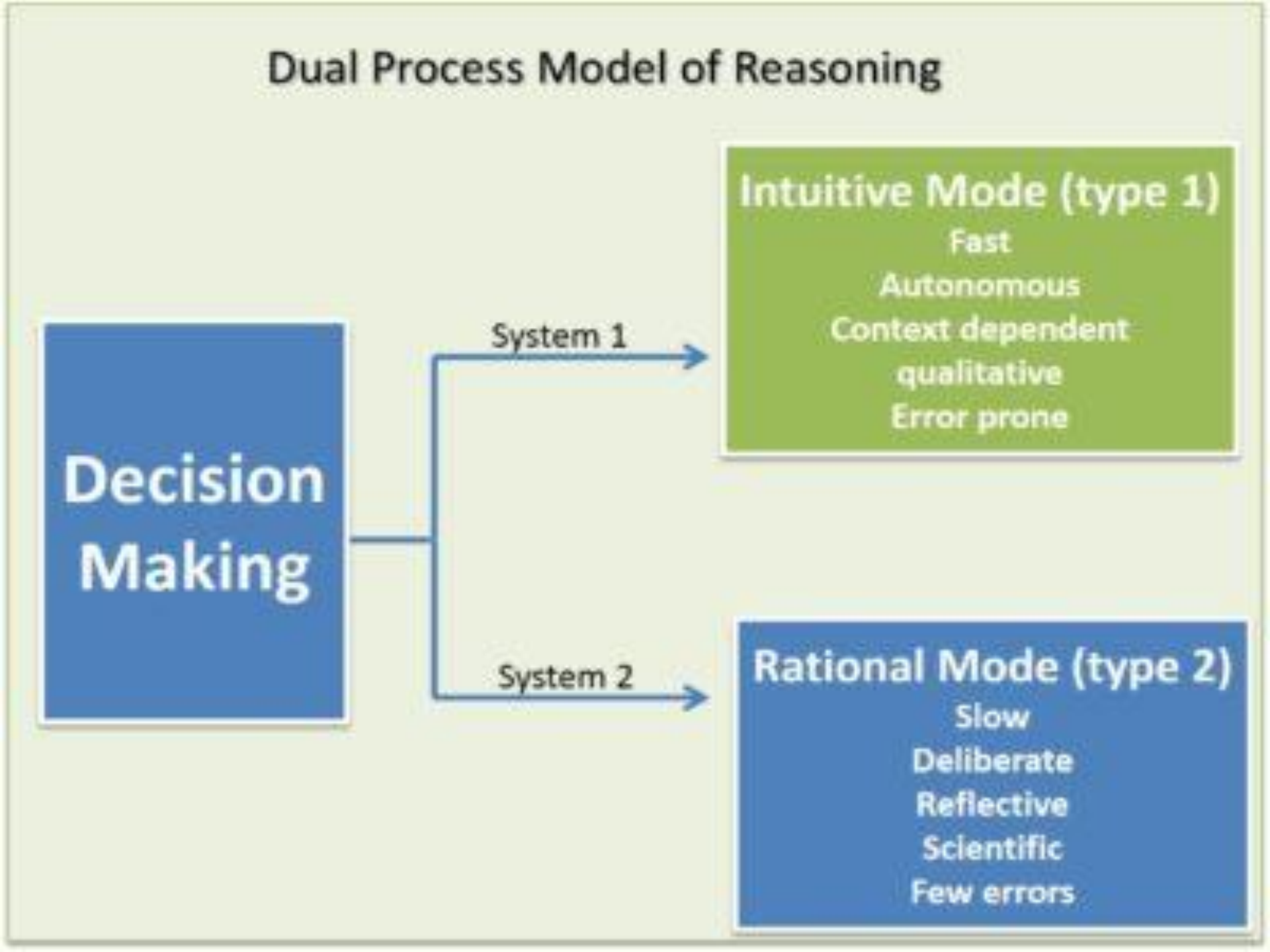
How doctors diagnose ?

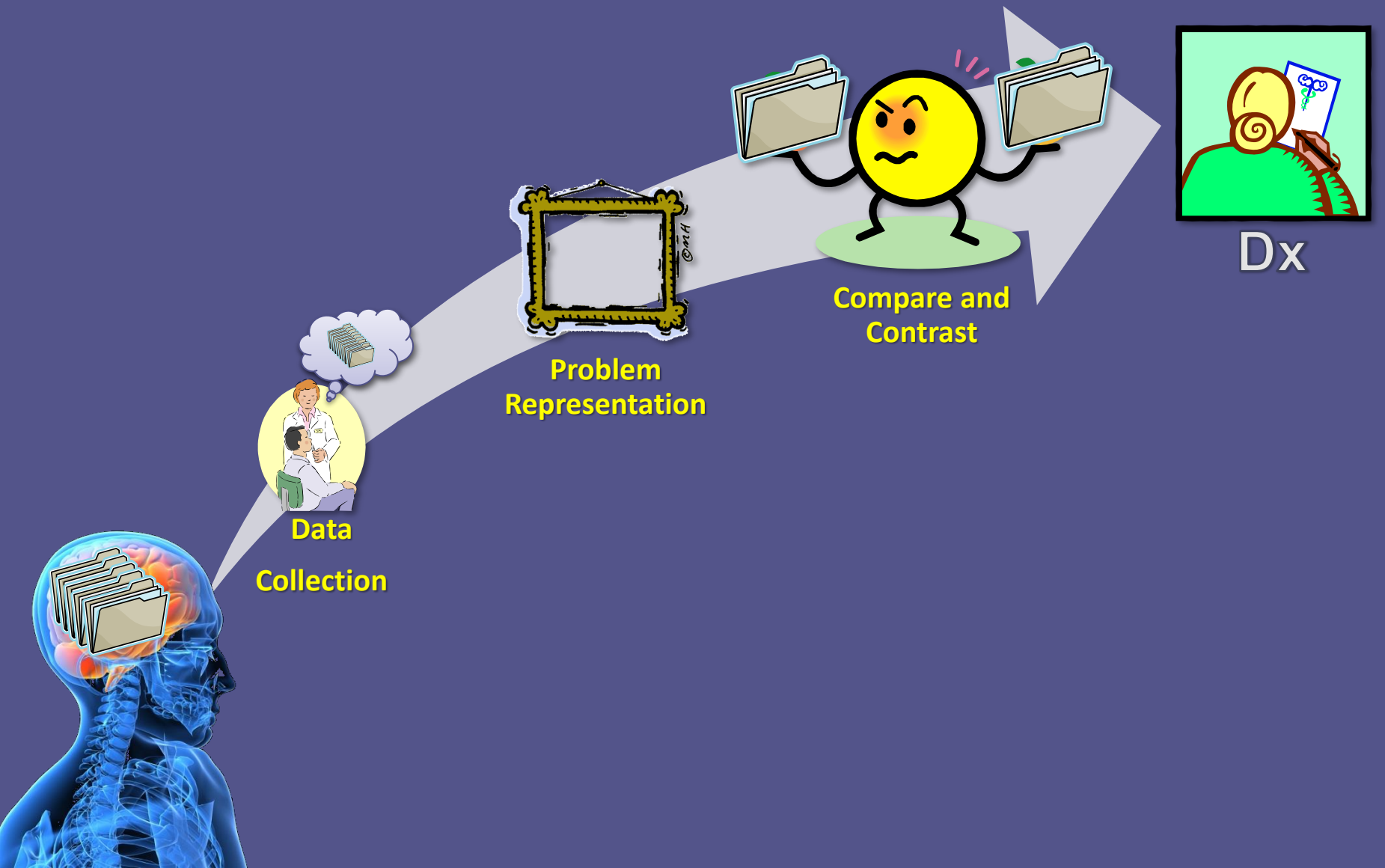
How do doctors think ?

- Exhaustive method
- Hypothesis generation
- Pattern recognition
- Metacognition


TO DO
ASSESS THE TASK
EVALUATE STRENGTHS AND WEAKNESSES
PLAN THE APPROACH
APPLY STRATEGIES
REFLECT
METACOGNITION CYCLE

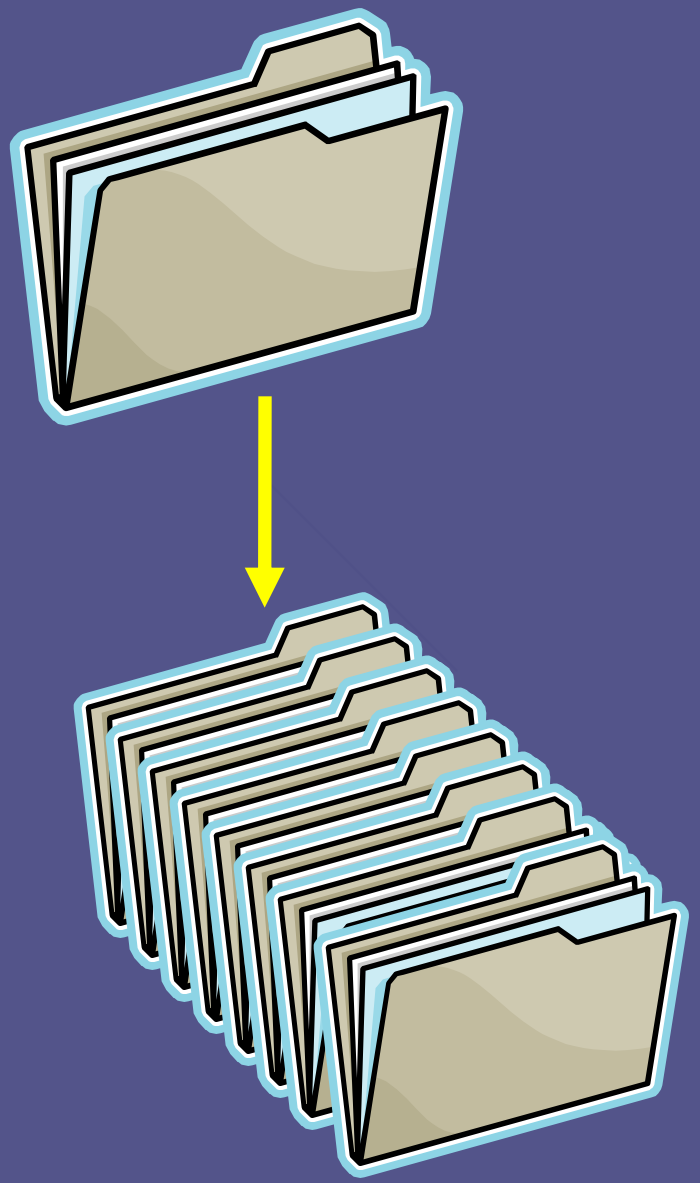

Dual Process Model of Reasoning
Decision Making
System 1
System 2
Intuitive Mode (type 1)
Fast
Autonomous
Context dependent
qualitative
Error prone
Rational Mode (type 2)
Slow
Deliberate
Reflective
Scientific
Few errors

The Clinical Reasoning Process

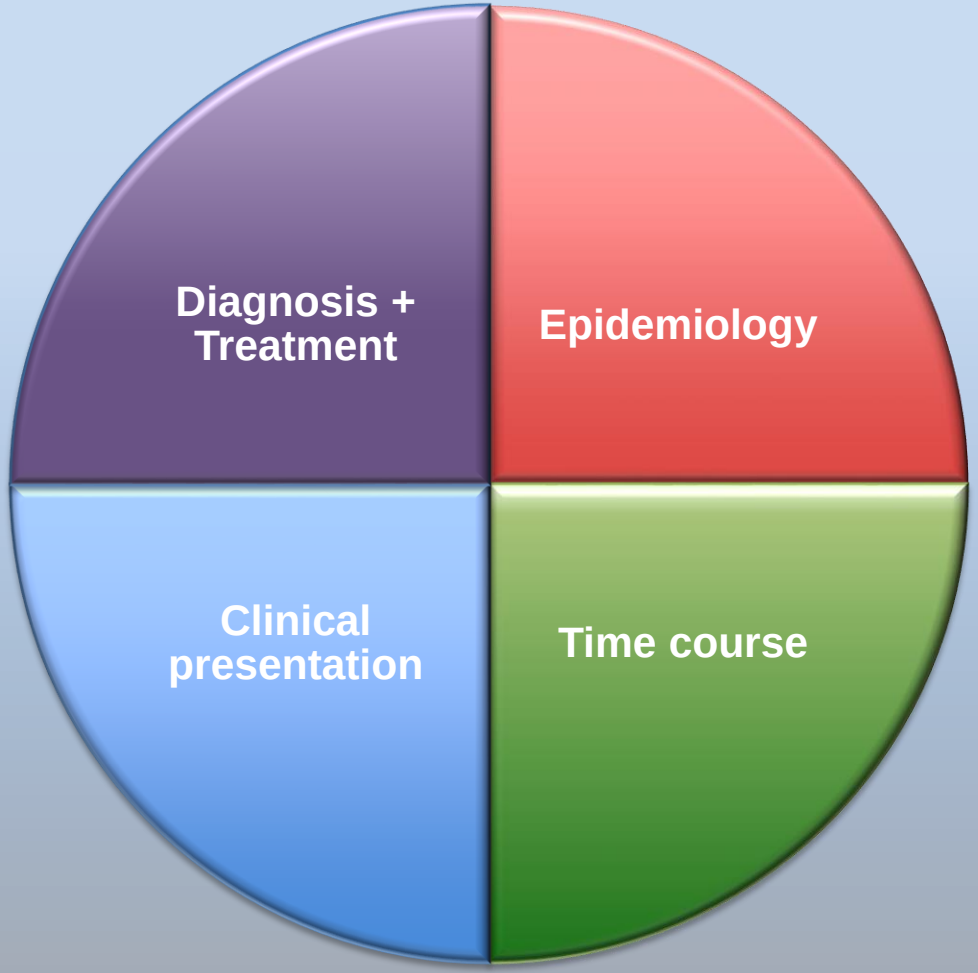


Illness Script

foundation of the clinical reasoning process



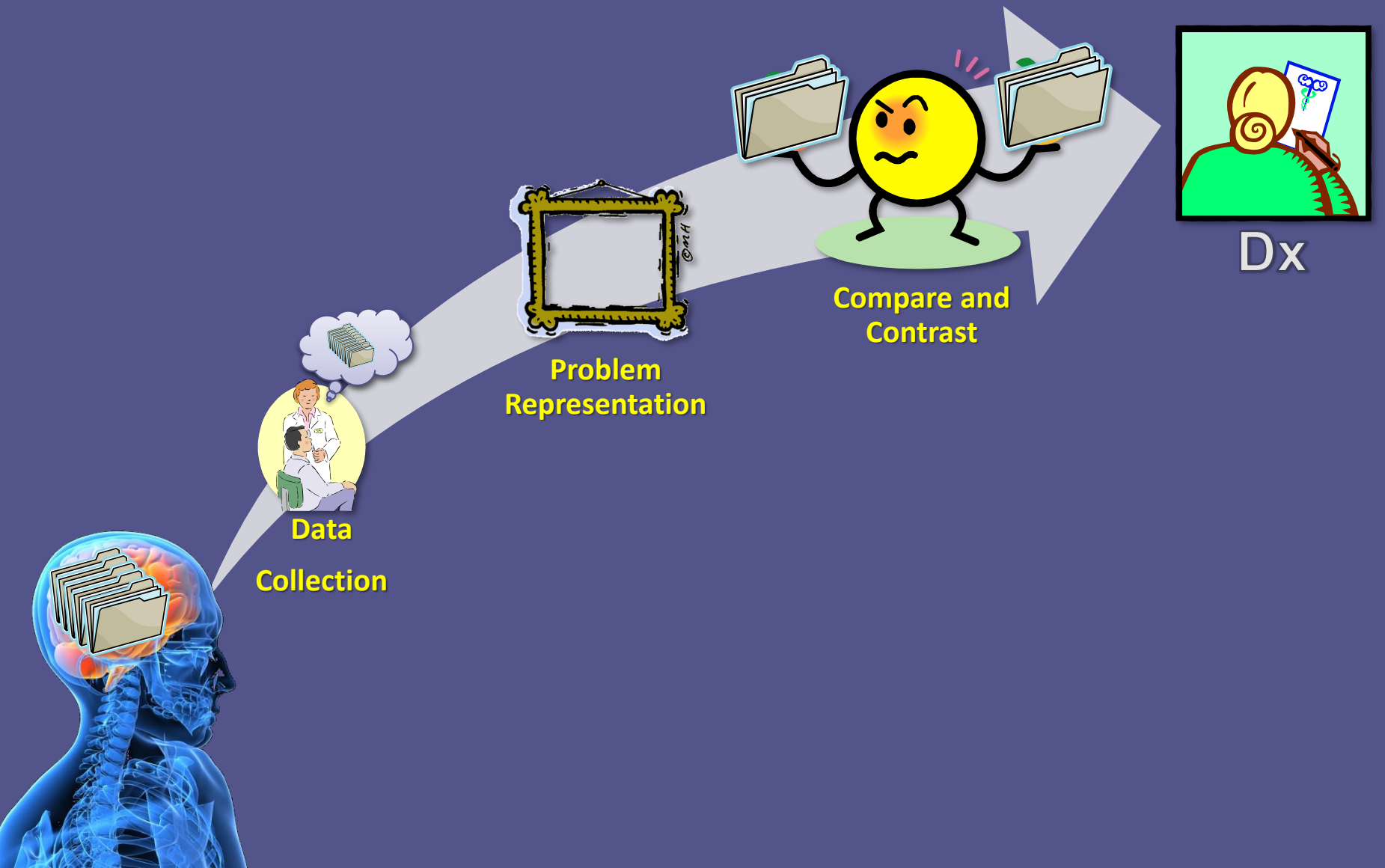
The Illness Script



Acute Mesenteric Ischemia Illness script

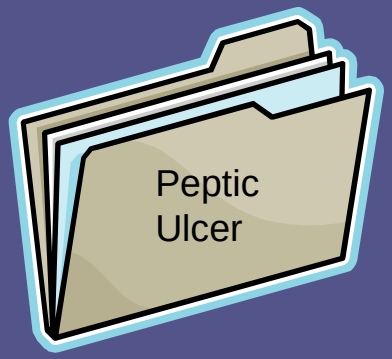
Pathophysiology	Impaired perfusion of the mesentery
Epidemiology	Atrial fibrillation, endocarditis, atherosclerosis
Symptoms/Signs	Hyperacute abdominal pain out of proportion to exam. Peritoneal symptoms in later stages
Diagnostics	Angiography: Non-invasive angiography (CT, MR) may be negative in the early phase.
Treatment	Treat the underlying cause, anticoagulation, bowel resection often necessary

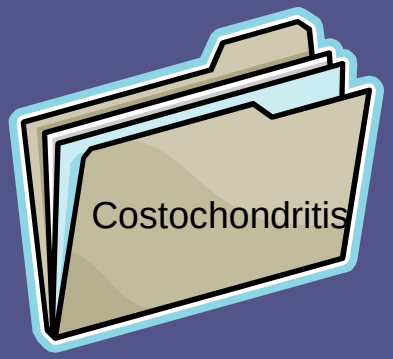
The Clinical Reasoning Process



Problem Representation

I have pain “under my right rib” “after I eat” “on and off” “for the last 2 days” “really hurts”



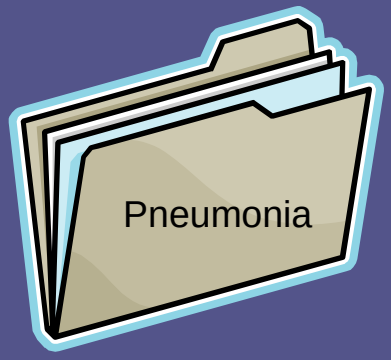


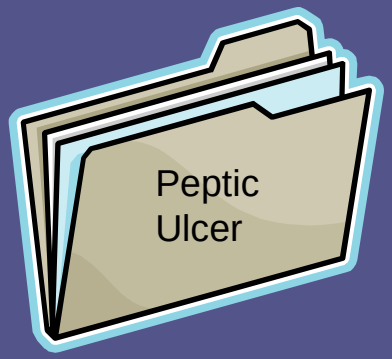
Rib pain?

Abdominal pain?

Two days?

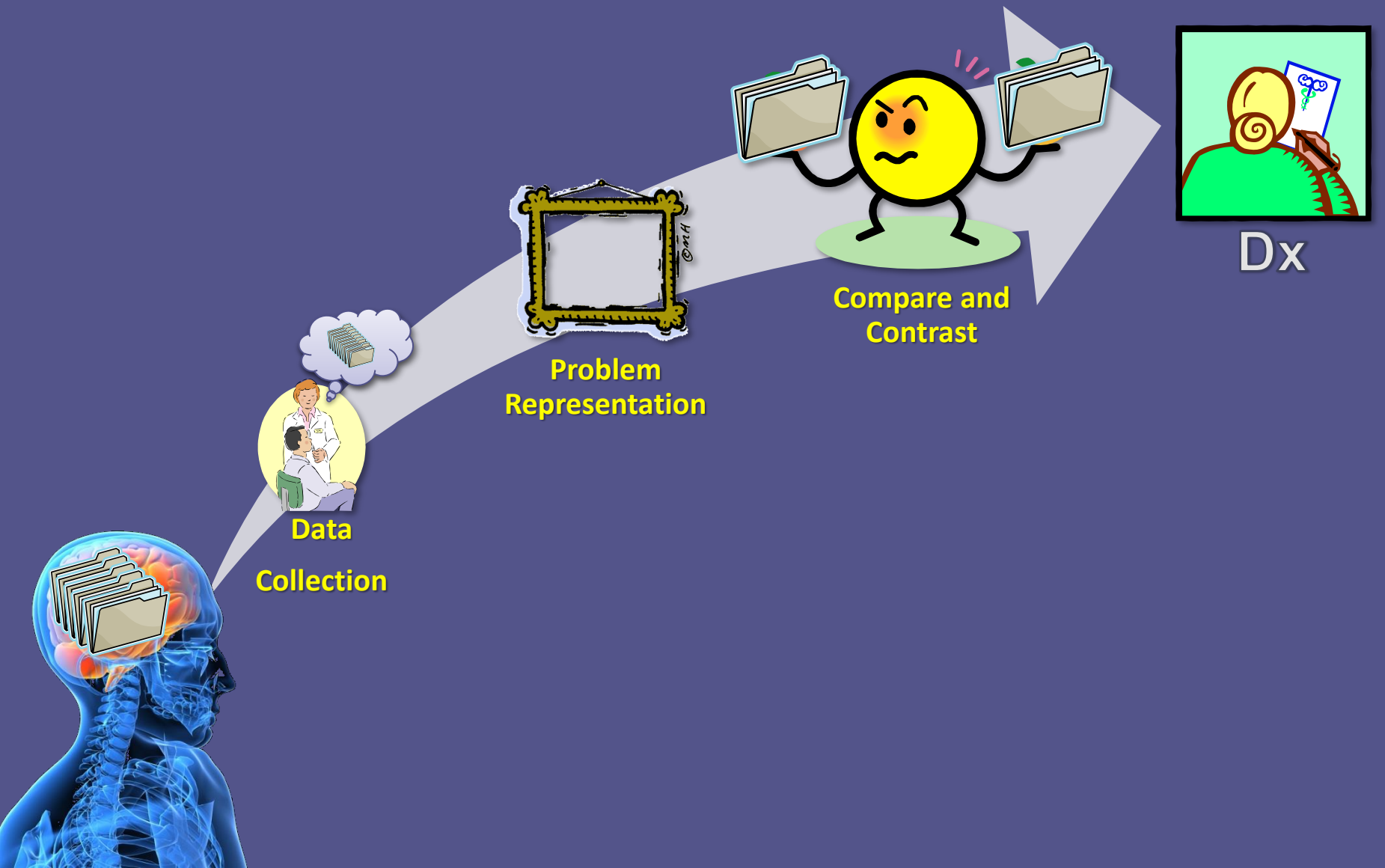
On and off pain?





Subacute, intermittent, severe, post-prandial, RUQ pain

The Clinical Reasoning Process



TAKING DECISIONS BASED on Heuristics

RULE OF
THUMB

Common Uses for Heuristics

Reduce mental effort needed to make decisions

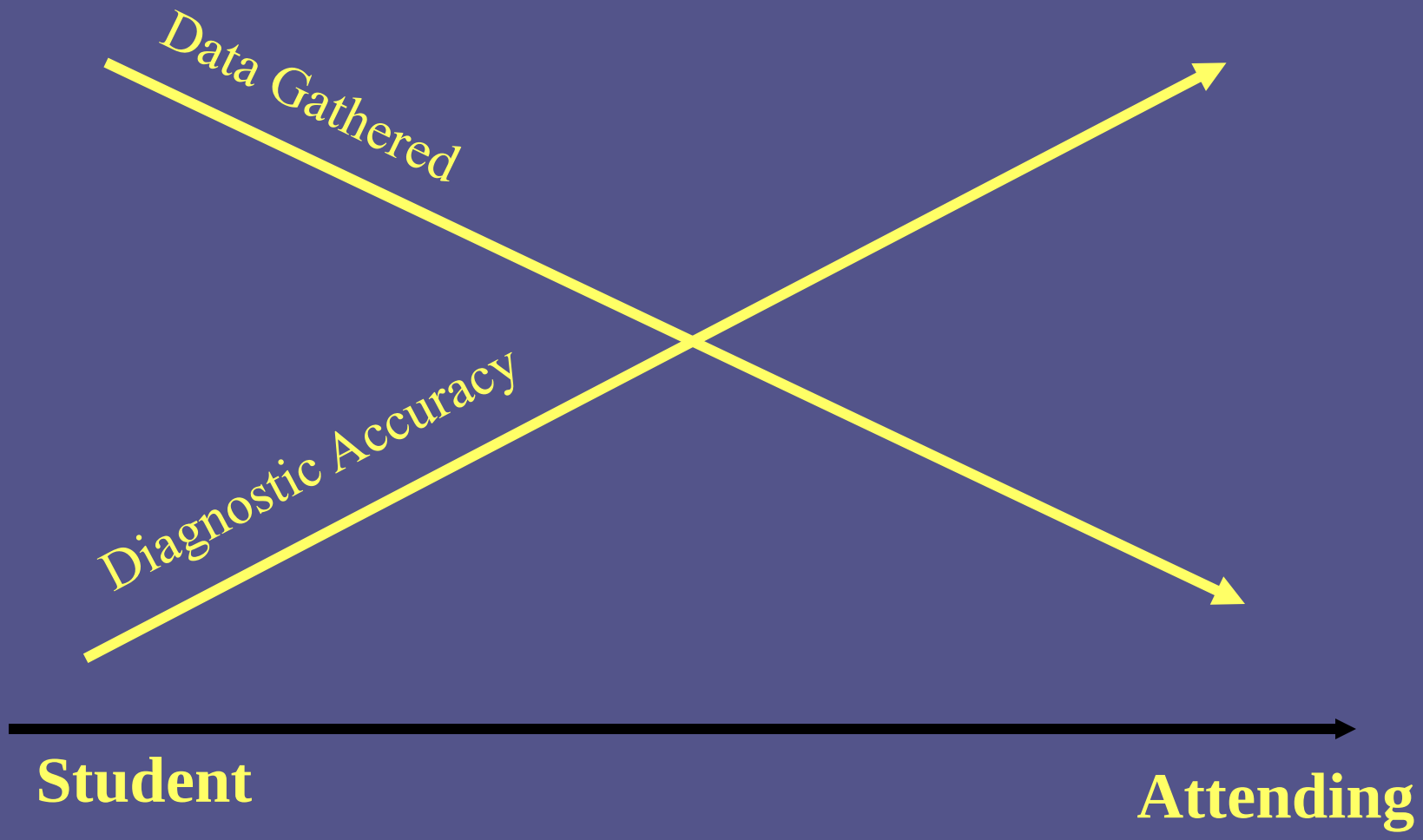
Simplify complex an difficult questions

They're a fast and accurate way to arrive at a conclusion

Help with problem-solving

well

How students diagnose ?

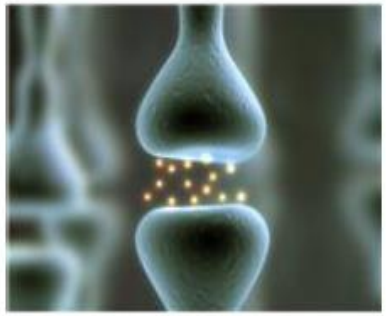

Data Gathered
Diagnostic Accuracy
Student
Attending

Strategies to follow…..

Think out aloud

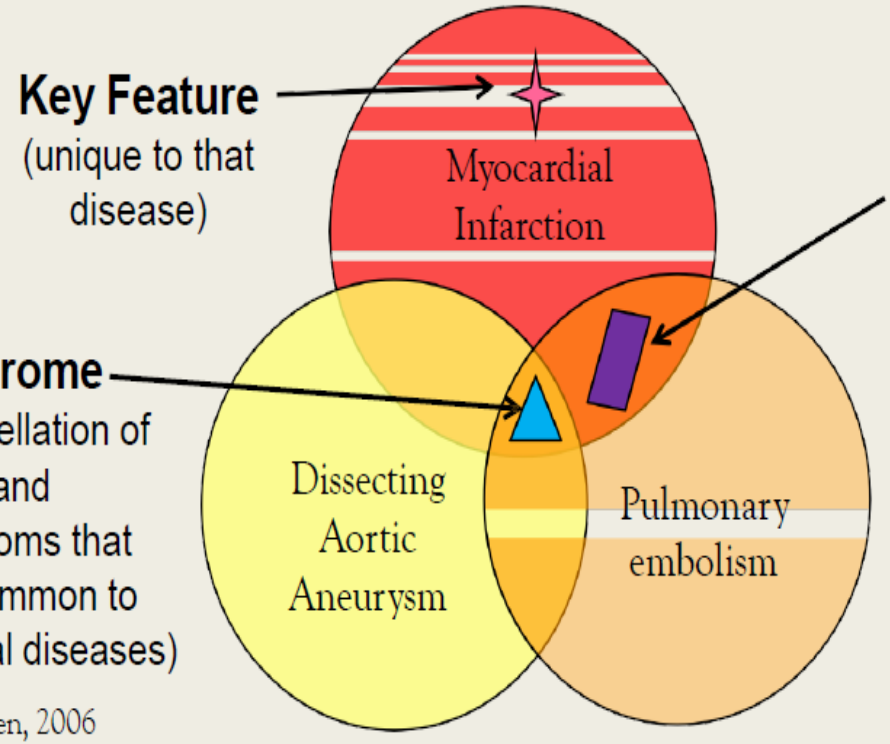
- Activate the student's prior knowledge

- Help them make connections



Identifying Differentiating & Key Features

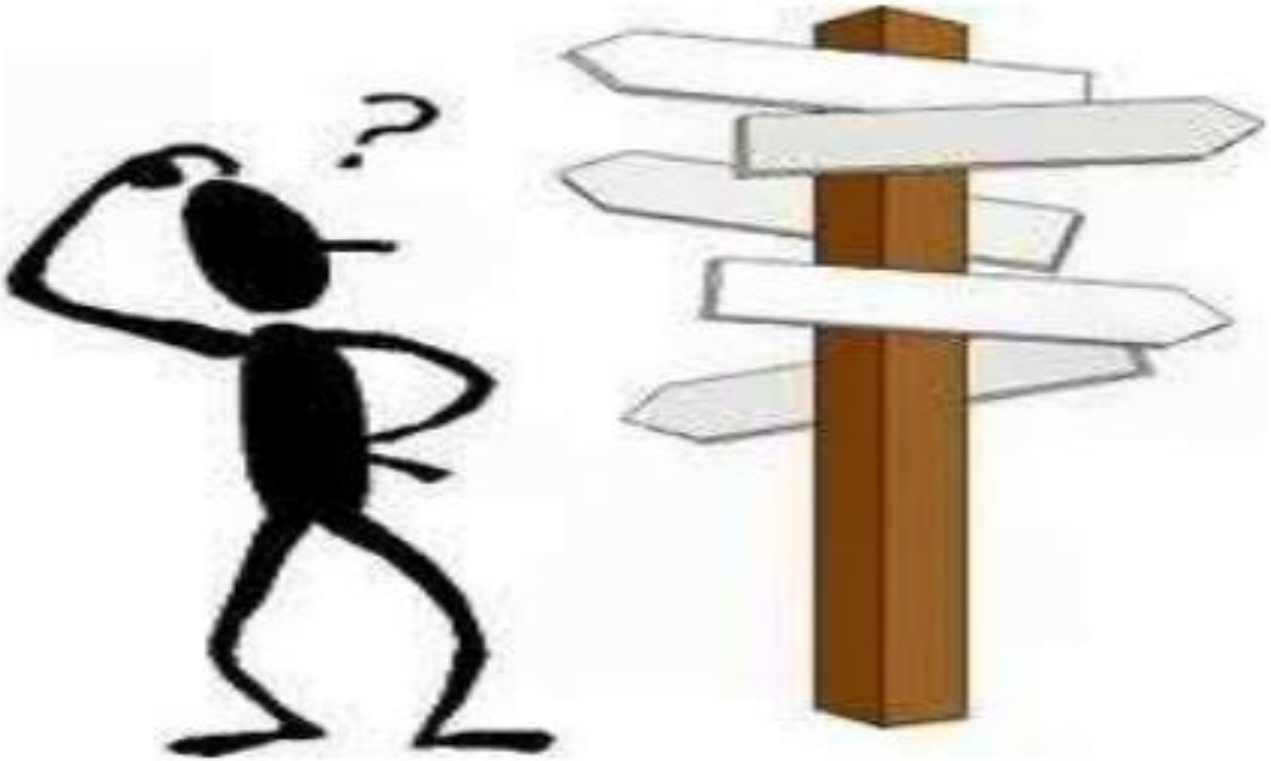
Clues or anchor points, that can help generate a differential diagnosis and distinguish between diseases with shared characteristics



Organize & interpret this information

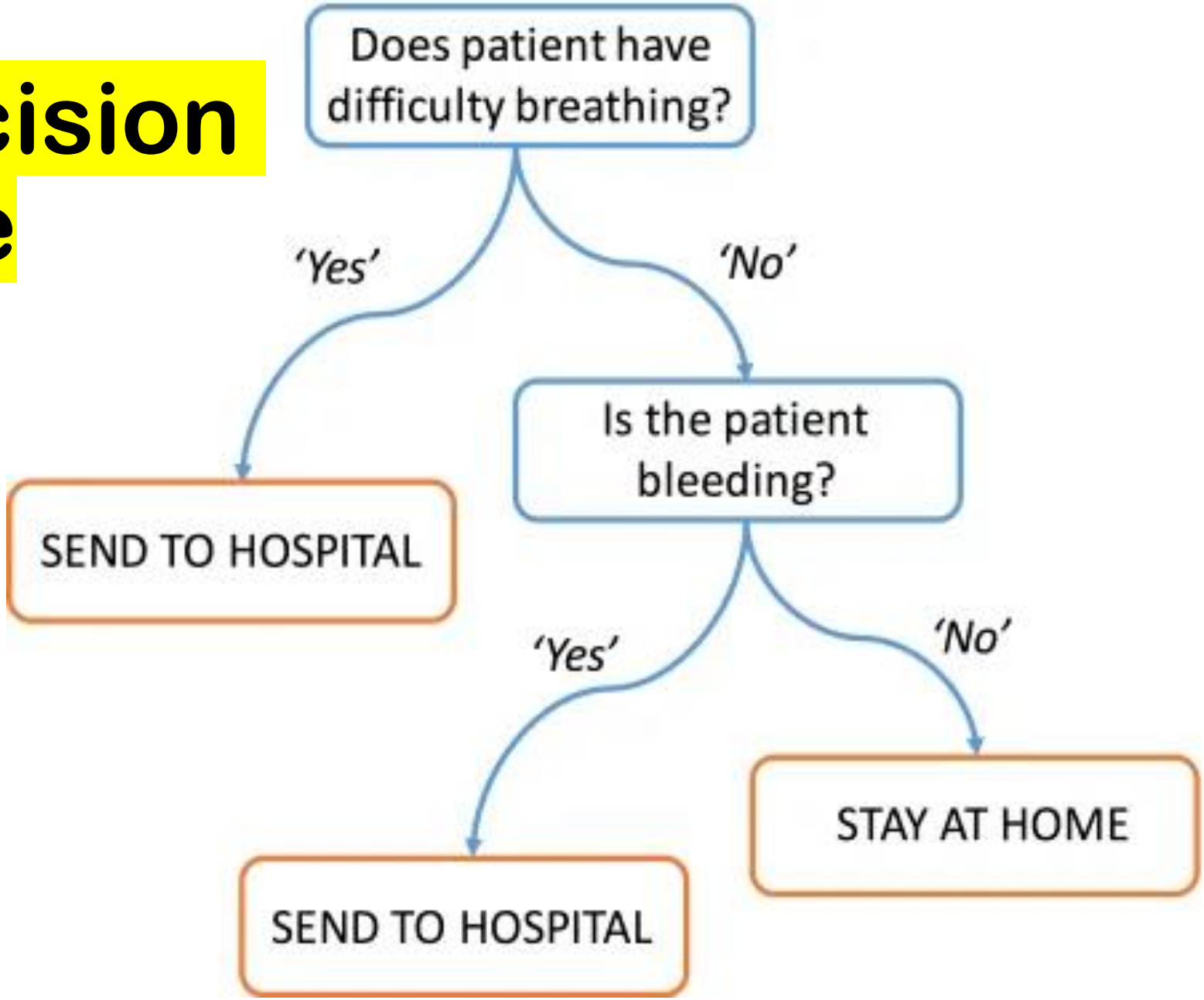
Bowen, 2006
Organizing Knowledge and Information, Dr. Catherine Lucey

Differential Diagnosis

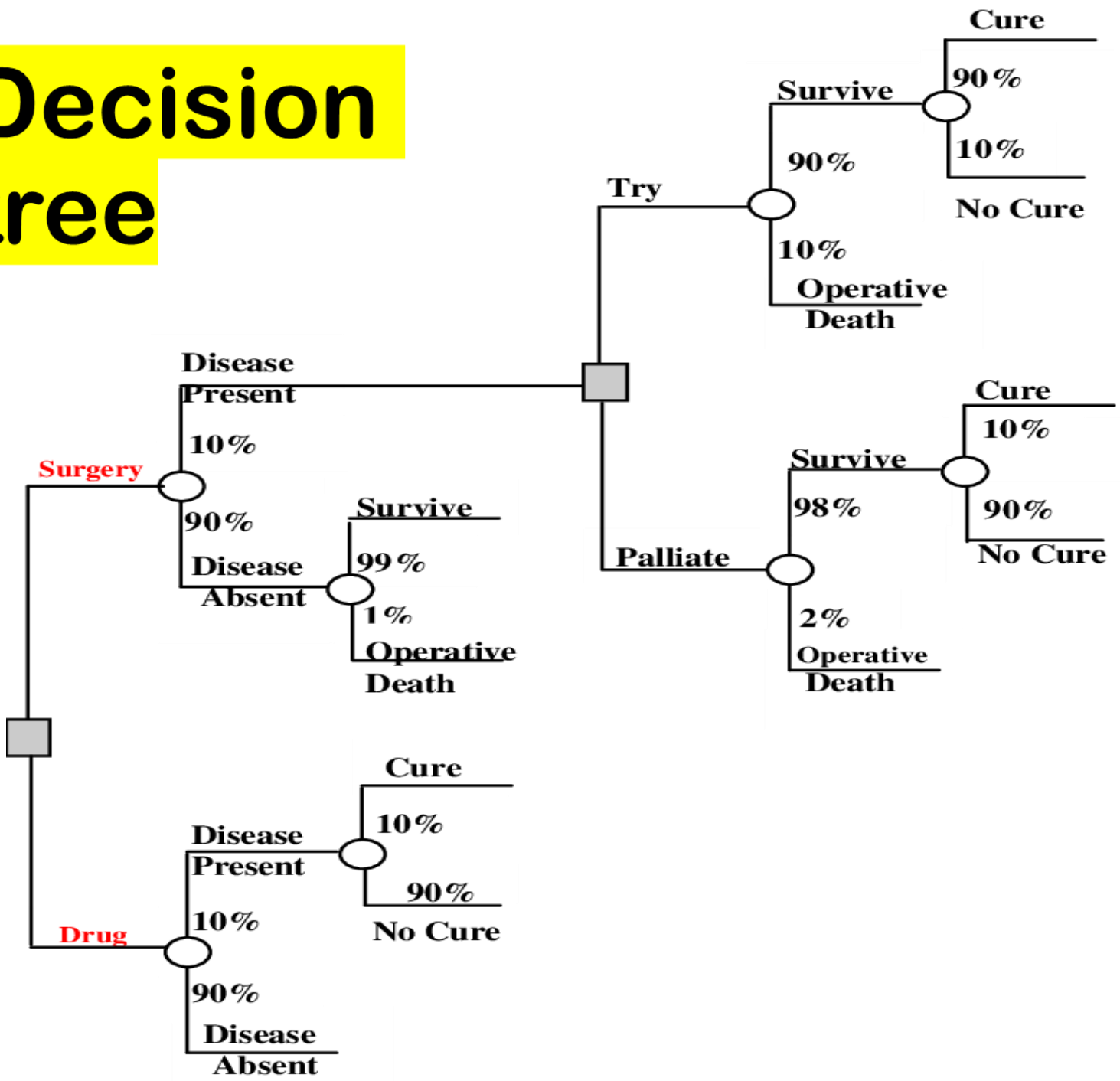


Concise summary statements

Decision tree



Decision tree



Doctor