

INCORPORATING CLINICAL REASONING INTO YOUR CLASSROOM AND CURRICULUM

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OUTLINE

- Clinical Reasoning (CR) Process
- Implementation
- Examples
- Idea exchange

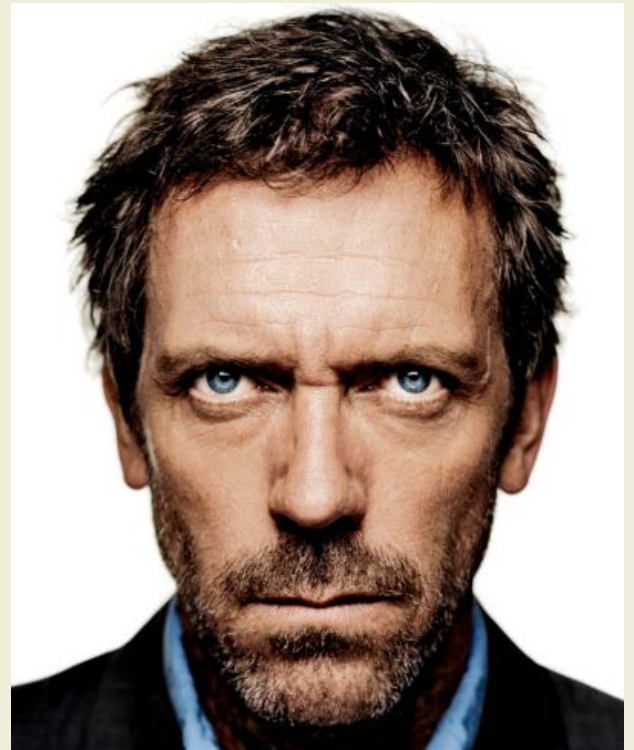


THE IMPETUS

“I taught this to them myself and they act as if they’ve ever heard it.”

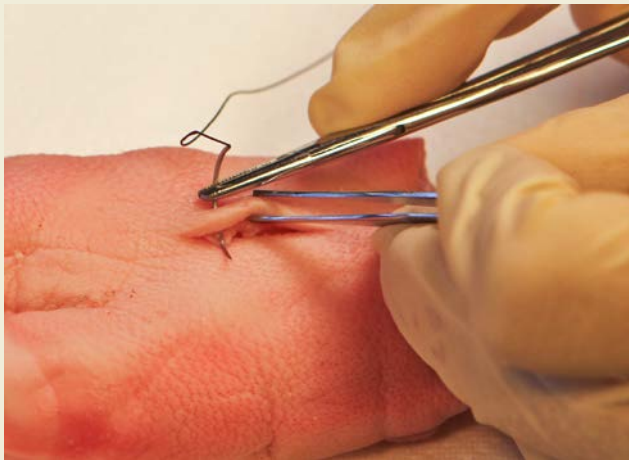
Source: Any clinical instructor

THE IMPETUS



THE APPROACH

How we learn a new physical skill?



THE APPROACH

How we learn new physical skill?

See one

Do one

Teach
one

Create the
need to know

Foundational
knowledge

Context

Model, Practice, Feedback, Assess

THE PROCESS

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

MEDICAL EDUCATION

Malcolm Cox, M.D., and David M. Irby, Ph.D., Editors

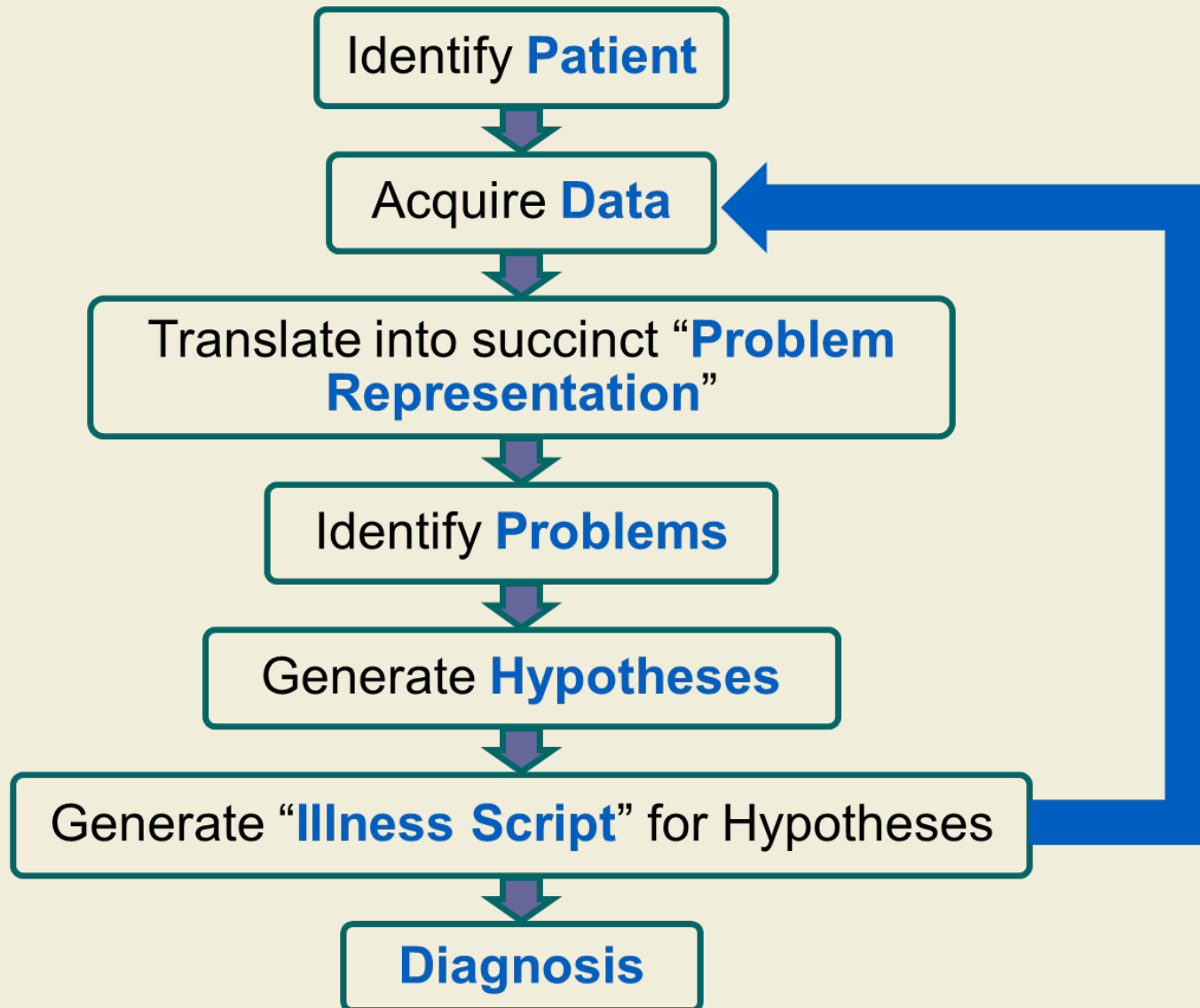
Educational Strategies to Promote Clinical Diagnostic Reasoning

Judith L. Bowen, M.D.

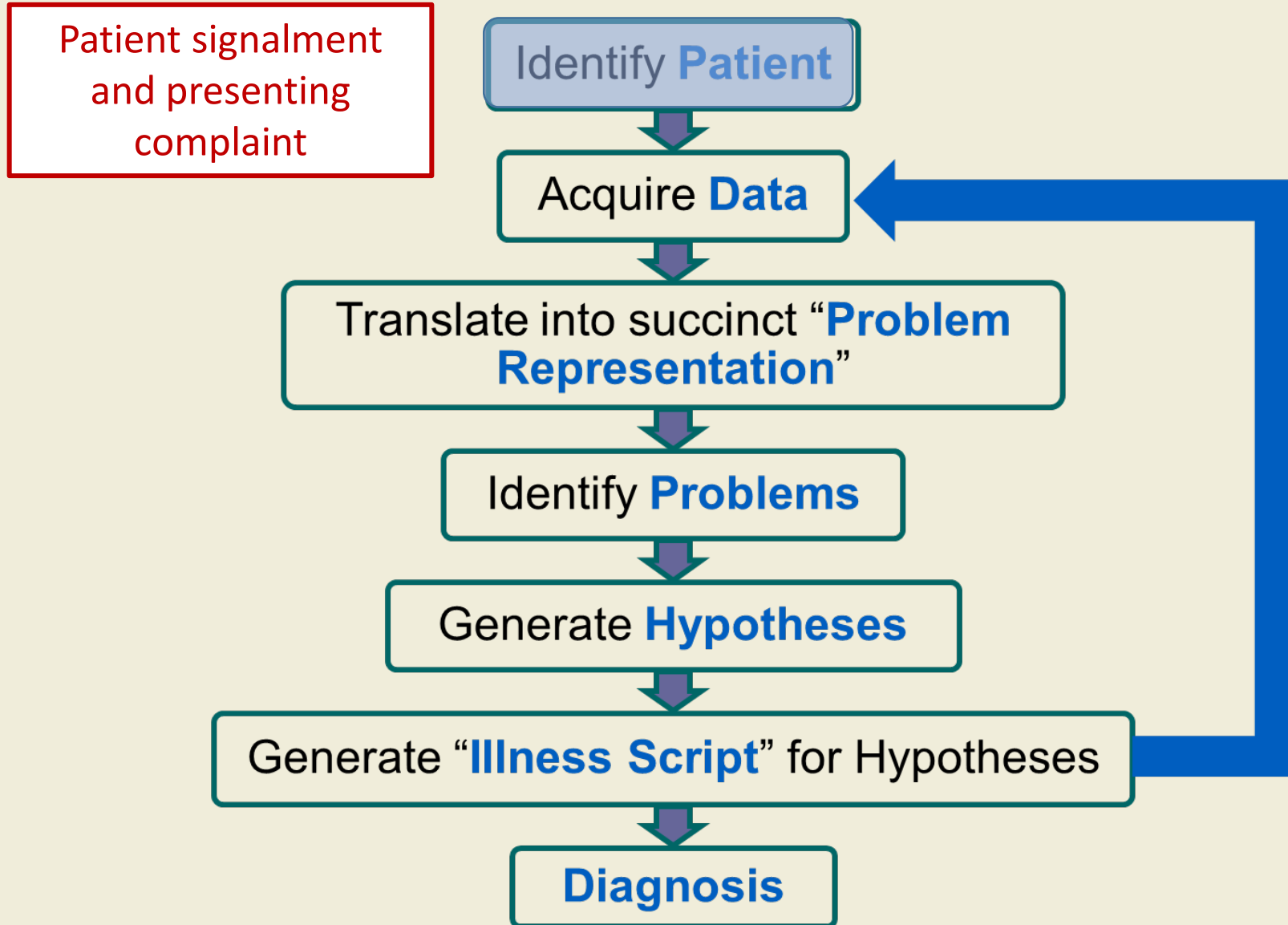
CLINICAL TEACHERS DIFFER FROM CLINICIANS IN A FUNDAMENTAL WAY. They must simultaneously foster high-quality patient care and assess the clinical skills and reasoning of learners in order to promote their progress toward independence in the clinical setting.¹ Clinical teachers must diagnose both the patient's clinical problem and the learner's ability and skill.

Bowen J (2006). *New Engl J Med*, 355;21, 2217-2225

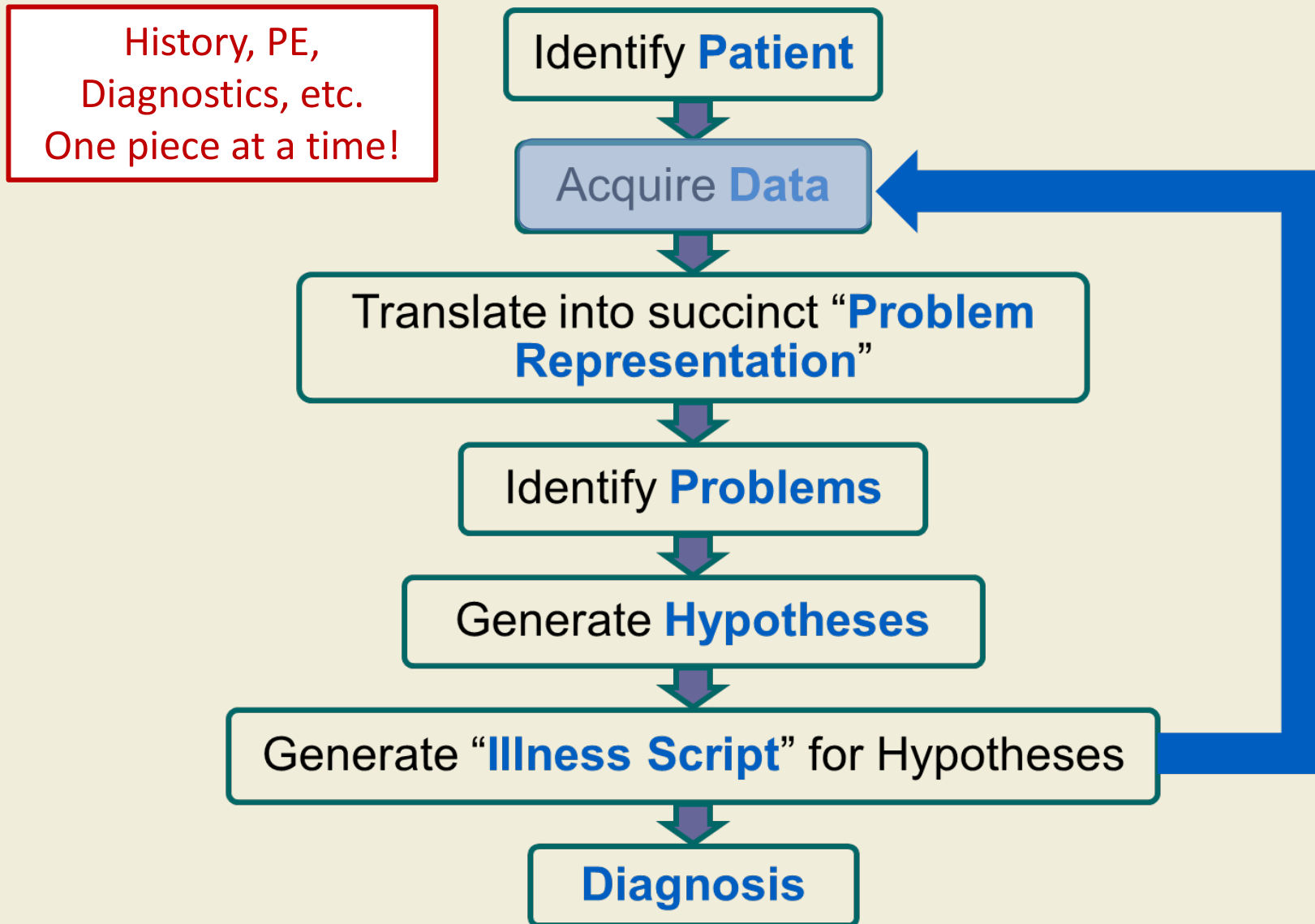
THE PROCESS



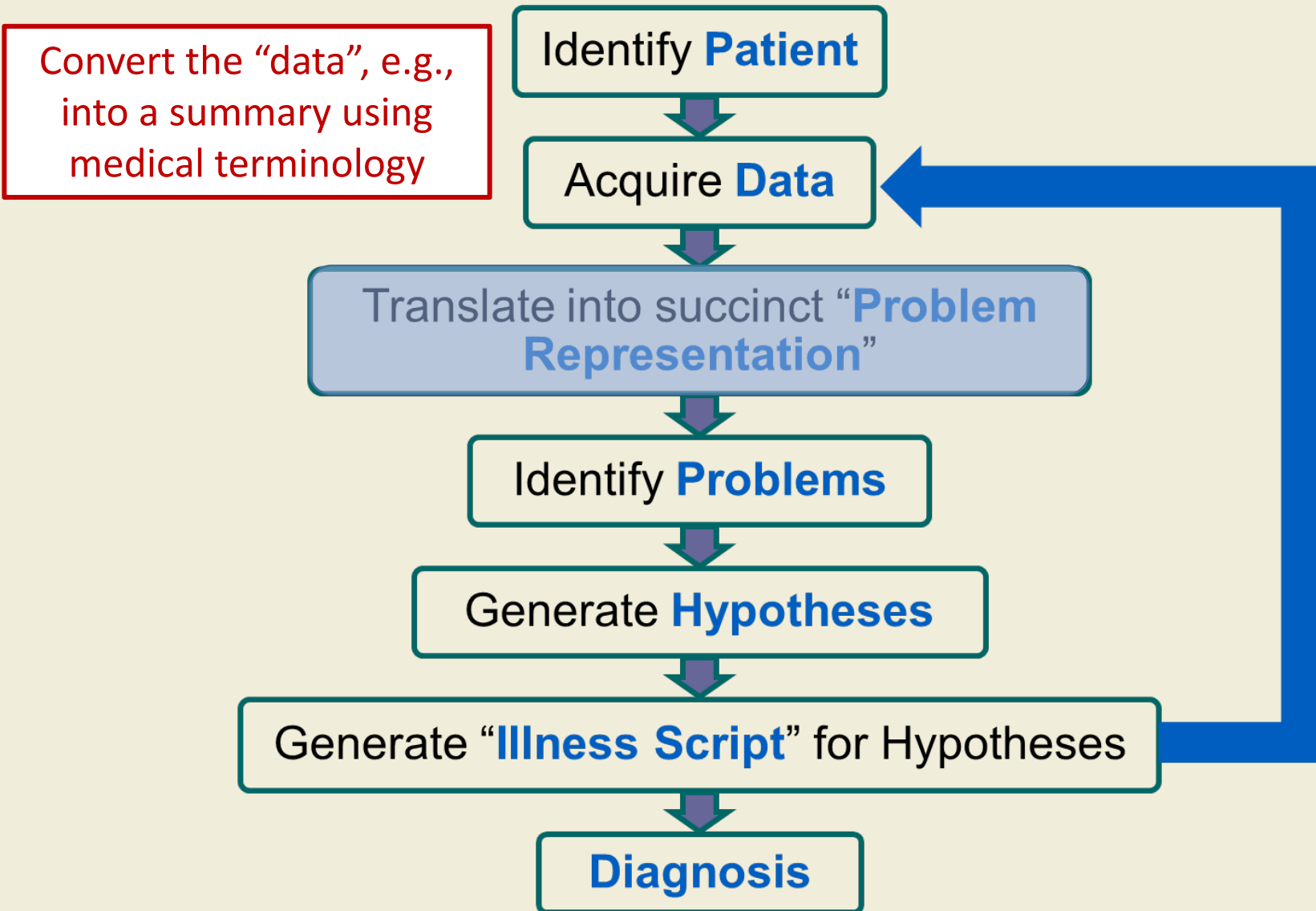
THE PROCESS



THE PROCESS

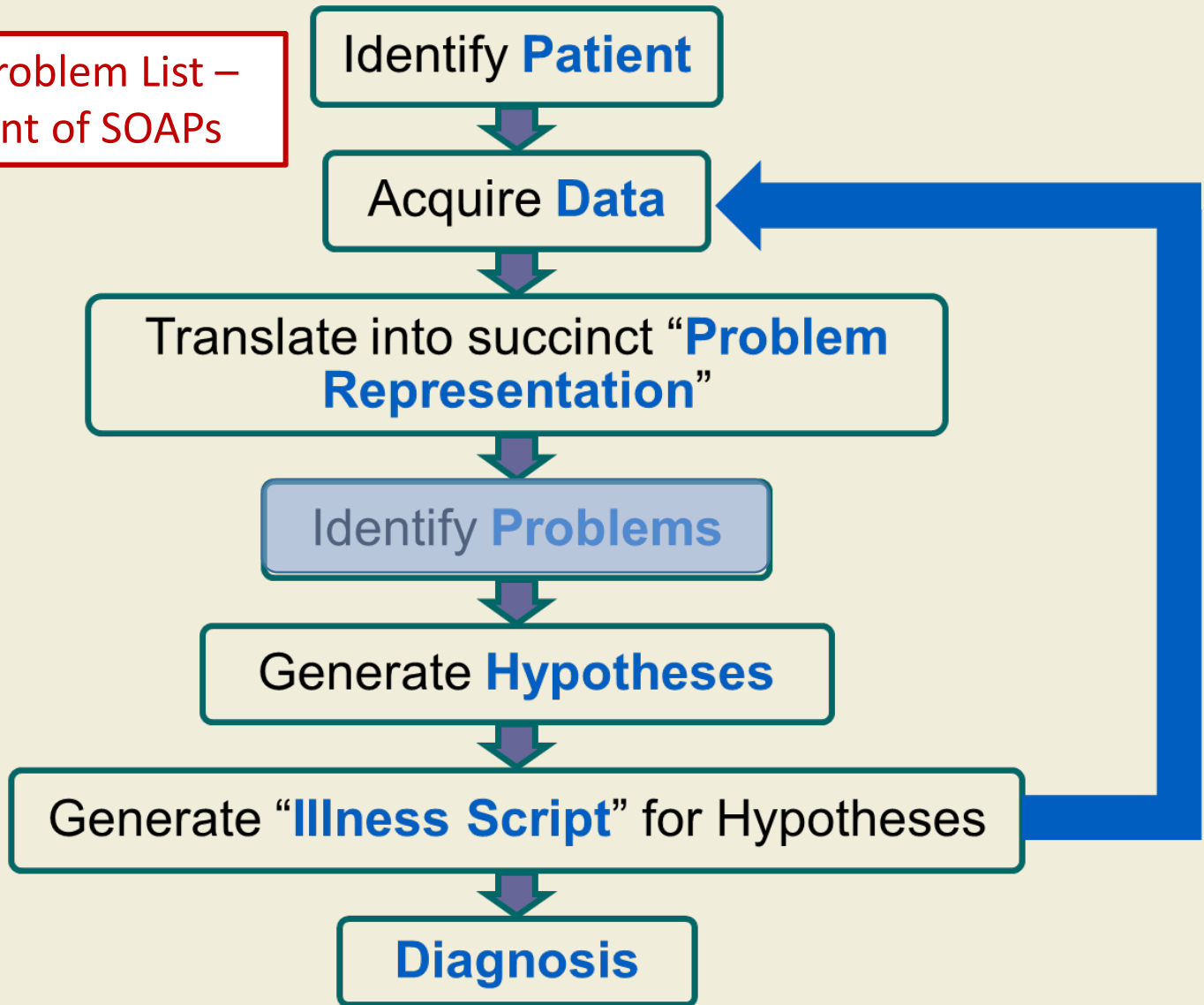


THE PROCESS



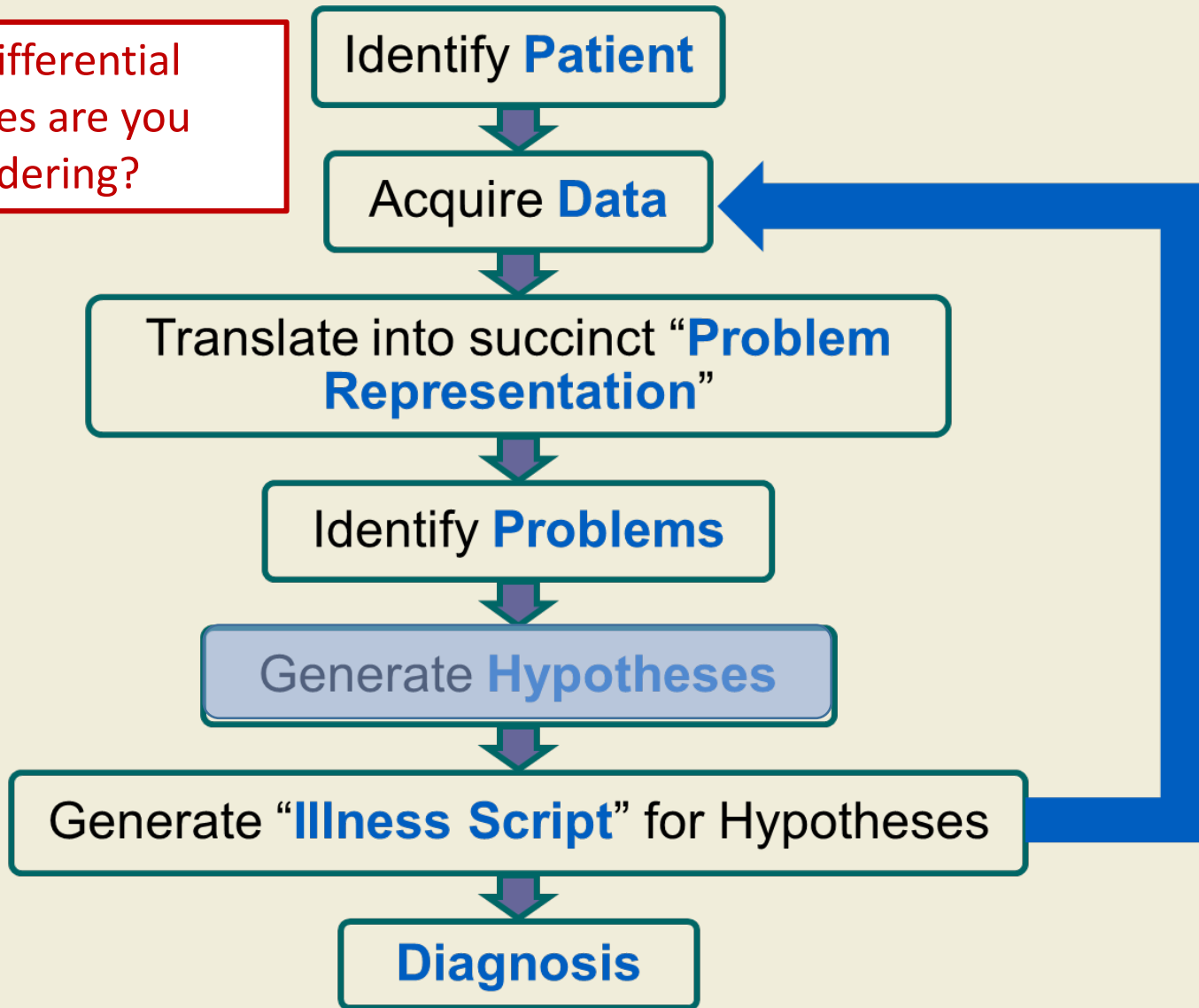
THE PROCESS

Create a Problem List –
reminiscent of SOAPs



THE PROCESS

What differential diagnoses are you considering?

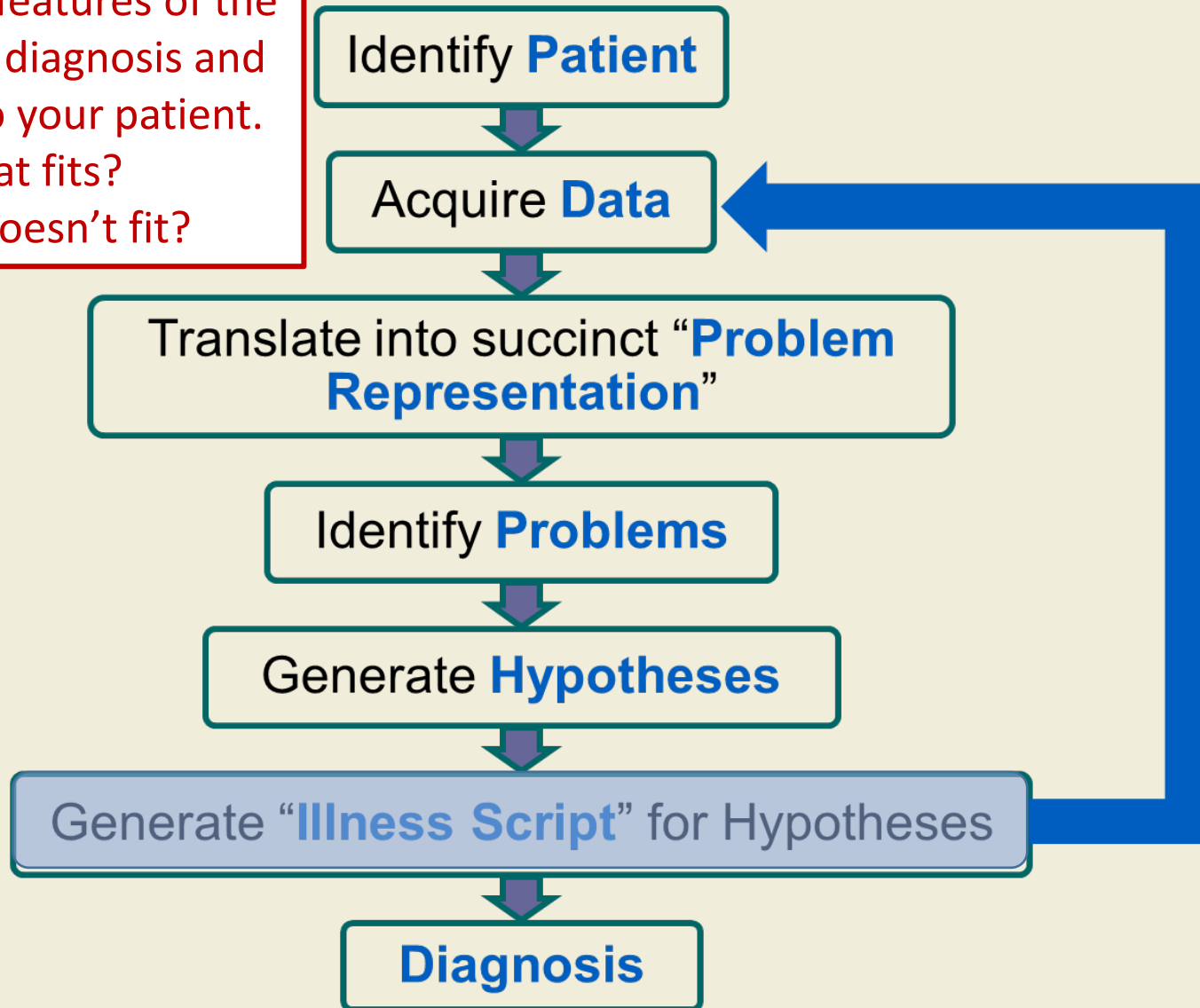


THE PROCESS

Explain the features of the differential diagnosis and compare to your patient.

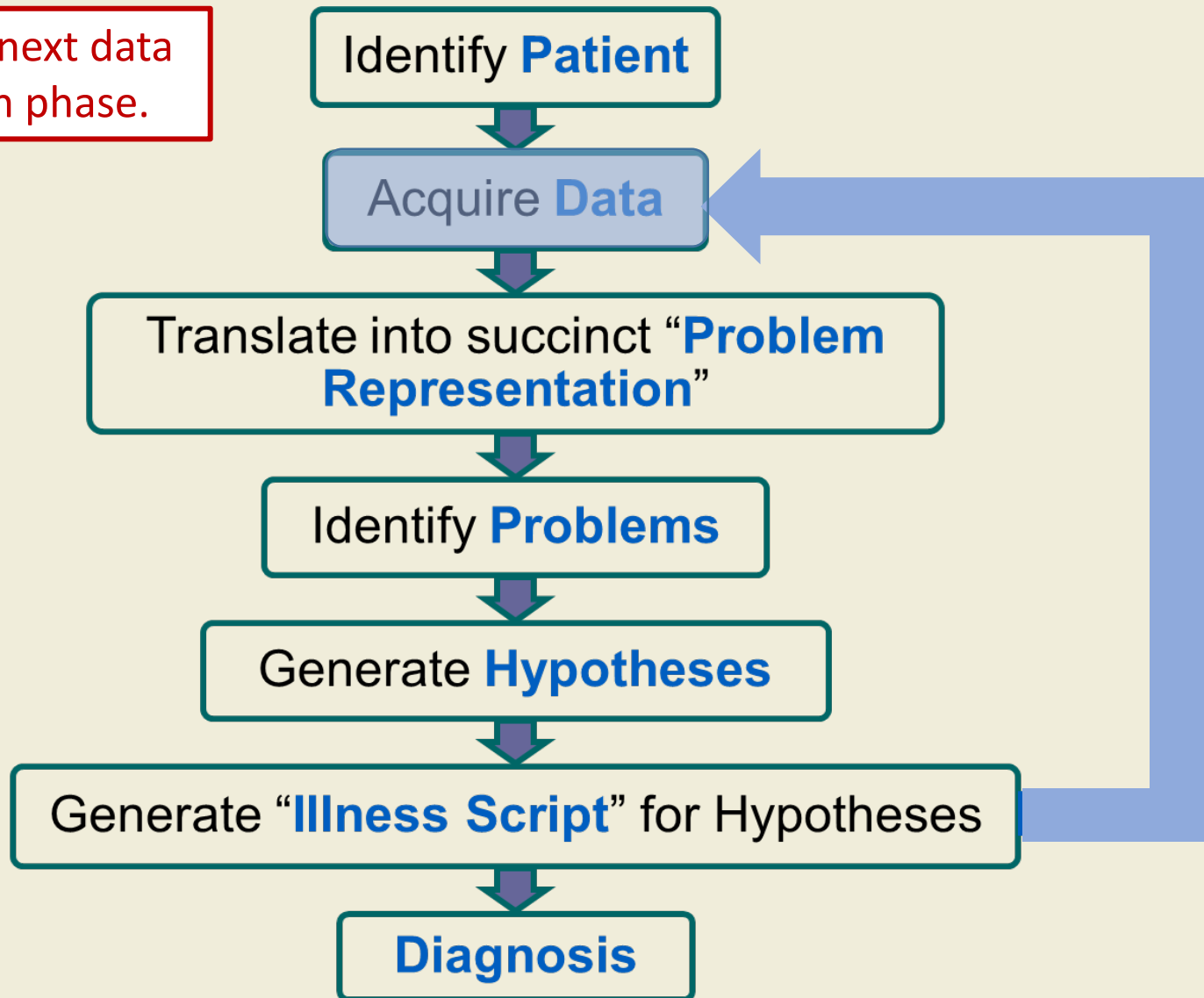
What fits?

What doesn't fit?



THE PROCESS

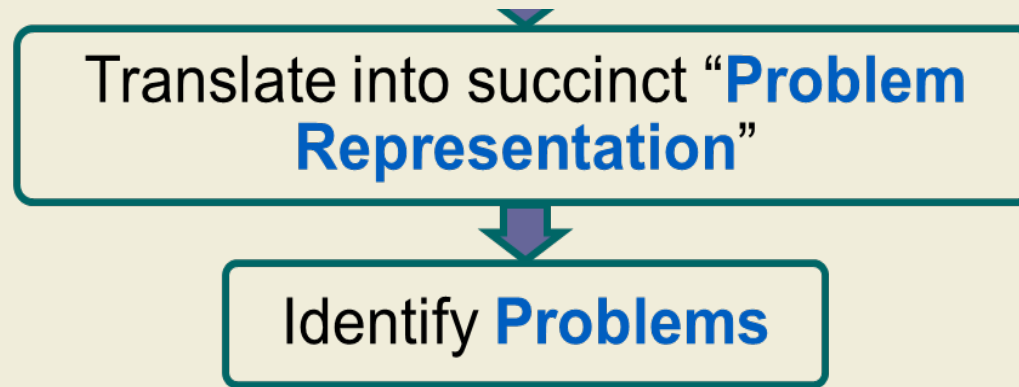
Return to next data collection phase.



PROCESS AND ANATOMICAL STRUCTURE

SEMESTER 1

- Introduce **The Process**
- **Anatomical structure(s)** featured



- **Practice** "succinct" problem representation
- **Practice** listing problems

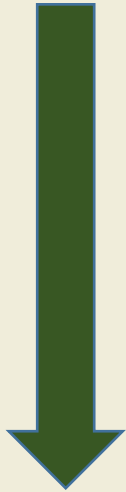
PRACTICE

SEMESTER 1

Ms. McGillacuddy brings her 2 year old, FS, German shepherd dog into the clinic. She's 35 kg on the scale in the lobby: "This is Gertie and I'm super worried about her because she's been barfing up some icky brown stuff for about 3 days. She seems exhausted, just lying around, not interested in her walks. She hasn't even been greeting me when I get home. Her diet isn't any different. I feed her only the very best: Zappo's Canine Grub. I'm sure you know it. She does get some treats, especially when my roommate has Cheetos –they're Gertie's favorite. But yesterday, she didn't eat her Zappo's and even refused a Cheeto. What can you do for her, doc?!"

PRACTICE

Problem Representation



Problem List

A 2 year old, FS, German shepherd dog, weighing 35 kg, presents for a 1 week history of vomiting, lethargy and inappetence, which progressed to anorexia yesterday. No change has been made to her commercial diet.

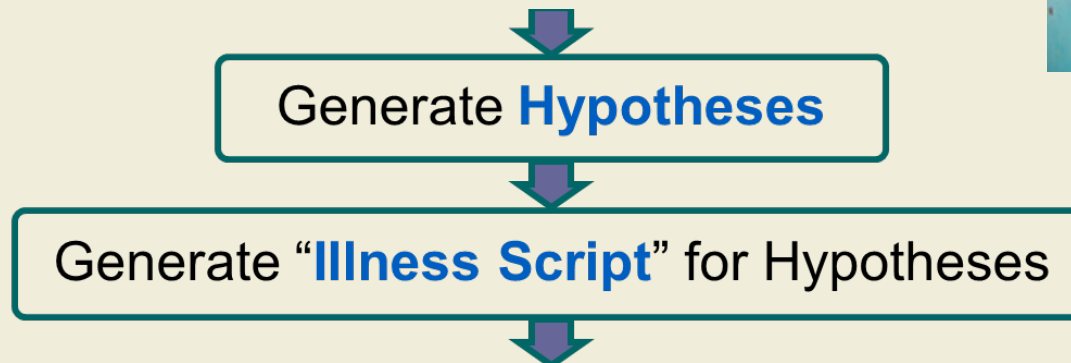
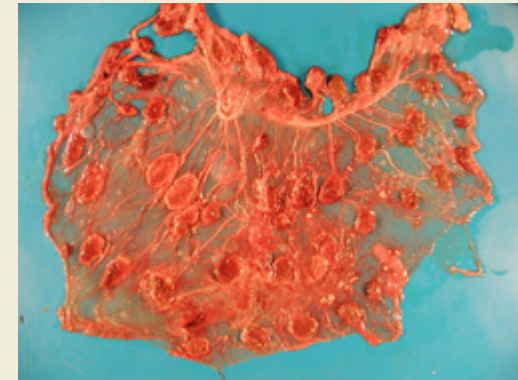
- Vomiting
- Lethargy
- Anorexia

PROCESS AND ANATOMICAL STRUCTURE

SEMESTER 3

- Define and model **medical errors**
- Show **application**

Q fever



- **Model process** with **incorporation** of medical errors

MODEL ("SHOW ONE") AND PRACTICE

SEMESTER 3

Rodney, the ferret presents with
hypoglycemia



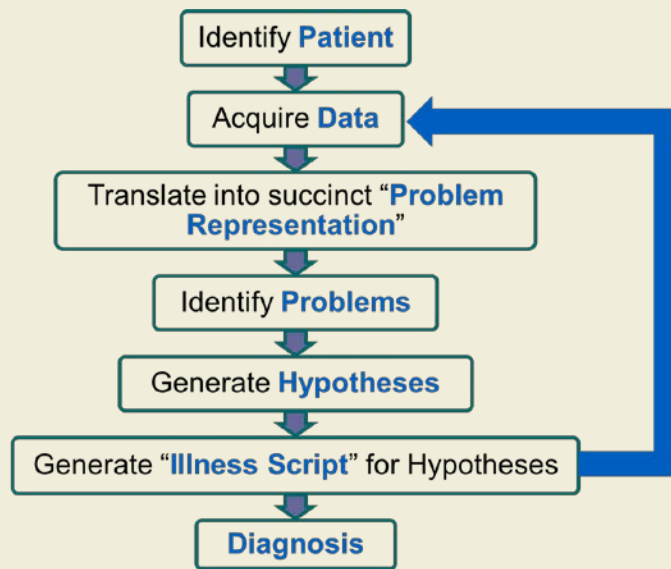
Larry, the llama, presents with
tetraparesis

Medical Error:
Premature closure

ANATOMICAL STRUCTURE AND PRACTICE

SEMESTER 4

- Introduce **reasoning strategies**



- **Practice** the process with deliberate 'stopping points'
- **Test** their clinical reasoning

ASSESS

SEMESTER 4

A prison in Boston with an outbreak of diarrhea affecting 20% of the prison population.



1. Write a **problem representation**.
2. Indicate what steps are next in **The Process**.
3. Decide which data points are most **relevant**.
4. Identify a **reasoning error** made in the case.
5. Write an **Illness Script**, e.g., justify a hypothesis we provide

CREATING, APPLYING, TEACHING, ASSESSMENT

SEMESTER 6



Teams create cases and compete to solve them using The Process.

mesocestoides

dermatofibrosis

Opisthorcus felineus

phosphofructokinase
deficiency

osmotic fragility syndrome

CLINICAL REASONING CURRICULUM

14 HOURS TOTAL

	Year 1	Year 2	Year 3
Fall	3 hours	3 hours	1 hour
Spring	--	5 hours	2 hours
Capstone	Summer cases	Summer cases	Cases

Beg

Borrow (permanently)

Steal (outright)

Sacrifice

THE FINAL INGREDIENTS?

WHAT ELSE MAKES IT SUCCESSFUL

- Adopt a foundational Process
- Identify 'open' areas in the curriculum
- Target anatomical structures of The Process:
 - Define Model
 - Practice
 - Context
 - Assess the "process" and "anatomical structures"
- Assess Clinical Reasoning

Mandate and Buy-In

Exhausted after a long day of clinical reasoning...

