

## Critical Thinking—Application to the Clinical Setting

### Distinguishing Normal from Abnormal/Identifying Signs and Symptoms

Recognizing abnormal data (signs and symptoms) is the first step of identifying a problem. Look at signs and symptoms as red flags” that prompt you to suspect health problems. Early detection means early intervention.

Ask the questions:

- How does my patients information compare to normal standards for someone’s age, lifestyle and disease process. BP higher as the person ages; athlete has a low HR
- Is my pt taking any medications that change the normal function? HR, BP, bowels
- How does my patient’s current information compare with the previously collected data?  
BASELINE

#### EXAMPLE

Place an “S” next to the data below that are signs or symptoms of a possible problem. Place an “O” if it’s neither a sign nor a symptom. Place a question mark if you need more information to decide. For each question mark you placed, explain what else you want to know before you decide whether the information is abnormal.

\_\_\_?\_\_\_ Temp of 99.6° F.—*how was this temp taken?*

\_\_\_S\_\_\_?\_\_\_ Bilateral pulmonary rales —*what do the patients lungs sound like when he is in a usual state of health? Clear with cough? Copious or few?*

\_\_\_?\_\_\_ Someone tells you she rarely sleeps more than 3 hours at a time—*why? Normal for her? Is she tired all day; mother of a newborn?*

\_\_\_S\_\_\_ Someone’s nasogastric drainage has turned from brown to red.

\_\_\_O\_\_\_?\_\_\_ Someone’s abdominal incision is slightly red around the sutures.—*could be a “?” Fever? Drainage? Warm to touch?*

\_\_\_O\_\_\_ A 2 year old is inconsolable when his mother leaves the room.

\_\_\_S\_\_\_ Someone with no health problems has developed ankle edema.

\_\_\_?\_\_\_ Someone tells you that they bathe only once every other week—*bathing practices on this culture?*

\_\_\_S\_\_\_?\_\_\_ Someone on kidney dialysis never urinates

\_\_\_S\_\_\_?\_\_\_ Pulse of 54 per minute.

### Distinguishing Relevant from Irrelevant (what is important)

Deciding what information is pertinent to understanding the situation and what information is immaterial. You will be faced with lots of information—lessen the clutter in you brain with unnecessary facts. This is a difficult novice skill. “EVERYTHING IS IMPORTANT”. Try this...

1. Very important for you to know the classic signs of a disease to decipher if something is relevant---read about the medical diagnoses first.
2. List the abnormal data that you read from your text and then find results in the chart
3. Could there be a connection between various abnormal data?

**EXAMPLE**

You assess Mrs Clark, a 32 year old diabetic who is in for a routine visit. When you ask how the new diet is going, she breaks down into tears, saying, "I'm never going to be able to do this!" Consider the following data, decide its possible relevance to the problem with sticking to the diabetic diet, and mark whether you think it's relevant and why.

1. Diagnosed with diabetes 2 months ago *Relevant—it takes time to adjust to a diabetic regime; is she motivated? Any support system? Does she know others who have diabetes?*
2. Vital signs within normal limits--*irrelevant*
3. Complains of constipation—*may be relevant if the new diet is causing constipation*
4. Married with three school-age children—*maybe relevant since she has to cook for a family; also increased temptation; also relevant if the husband was the chef in the family*
5. Loves to cook.—*relevant—could be used to her advantage and yours in teaching*
6. Has always been 50 pounds overweight—*relevant because her caloric intake will need to be even less*
7. Allergic to aspirin--*irrelevant*

**Clustering Related Clues (Data)**

Grouping data together in such a way that it helps you see relationships among the data.

**EXAMPLE**

Read the following scenarios and then answer the questions that follow  
It's 11 AM and you just admitted Mr. Nelson, a 41 year old businessman who has acute abdominal pain. He's never been in the hospital and tells you he hates everything about hospitals. He's been vomiting for 2 days and unable to keep any food down. His abdomen is distended and he has no bowel sounds. He is scheduled to go to the operating room at 2 pm for emergency exploratory surgery. He tells you he's worried because his brother died in the hospital after a car accident. Suddenly he doubles over and says, "Oh God, this is really getting worse!" You take his vital signs, and they are as follows: T 101 P 132 R 32 BP 140/80. These signs are the same as those taken one hour ago.

1. Cluster the information that will help you determine Mr. Nelson's **physical status.**
  - Age 41
  - Acute abd. pain
  - Vomiting for 2 days;
  - abd distention,
  - no bowel sounds,
  - scheduled for OR at 2pm---3 hours to wait;
  - pain suddenly getting worse;
  - V/S unchanged
2. Cluster the information that will help you determine Mr Nelson's **human or life responses.**
  - 41 year old businessman
  - Hates hospitals

- Scheduled to go to OR at 2pm (3 hours to wait---this is difficulty psychologically)
- Worried because brother died in a hospital after a car accident

## Making inferences (Drawing Valid Conclusions)

Logical opinions based on interpreting subjective and objective data

### Data

Frowning

White blood cell count = 14,000 (norm < 10,000)

Deaf

### Corresponding deduction

- Worried?
- Possible infection
- Will need other methods of communication due to the hearing deficit

If you draw incorrect deductions, your judgment will be flawed. Avoid making inferences based on only one cue. Once you make an inference, verify whether it's correct by gathering more information and looking for additional cues. **DON'T JUMP TO CONCLUSIONS BEFORE YOU GATHER DATA—DO DISCUSS YOUR CONCLUSIONS WITH YOUR INSTRUCTOR TO HELP YOU VALIDATE YOUR THOUGHTS**

### EXAMPLE:

Make an inference about each of the following data (begin your inference by writing “**I suspect this information indicates...**”).

1. Temp of 102°F for 3 days—*infection of some sort (PLAN: will need to call MD-possible orders for Tylenol, antibiotics, culture)*
2. A mother tells you she can't afford prenatal care—*financial problems (PLAN: brainstorm financial support; insurance; people to help)*
3. A diabetic is 100 pounds overweight and says his blood sugar is always out of control, even though he watches his food intake and takes his insulin regularly.—*trouble sticking to his diet; incorrect insulin being given or poor absorption of insulin; when is the patient taking his insulin as related to the time he is eating; caloric intake (PLAN: need more information—might need teaching and reinforcement of teaching; may need to discuss insulin with MD; may need a 3-day calorie count to monitor his intake)*
4. A 5 year old child whose mother told you he broke his leg falling down the stairs keeps looking at his mother before answering any of your questions.—*that the child wants his mother's approval or he is afraid. (PLAN: be cautious; watch behavior)*
5. A grandmother who is usually alert and active in her church presents with an unkept appearance and seems a bit confused.—*probably some medical reason for the grandmother's confusion (PLAN: encourage grandmother to make a doctors appointment)*