

Arriving at a Medical Diagnosis

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Disease Names - Essential Diagnostic Labels

- For thousands of years, physicians have recorded observations and studies about their patients.
- In accumulating these facts, they have recognized patterns of pathological structure and function.
- When these categories were distinctive, they were termed diseases and given specific names.

Two Meanings of “Diagnosis”

- The name of the patient’s disease or state of altered function is termed “diagnosis” or “a diagnosis”
 - In this instance, diagnosis is a name
- The act of searching for or determining the patient’s disease is commonly referred to as “a diagnosis” or “the making of a diagnosis”
 - In this instance, diagnosis is a process
- The word diagnostician is rarely used

The Diagnostic “Four Step”

- Step 1 – Acquisition of Facts
- Step 2 – Evaluation of Facts
- Step 3 – Listing of Hypotheses
- Step 4 – Choosing Between Hypothesis – also known as Differential Diagnosis (DD)

Step 1 – Acquisition of Facts

- The medical history gives a chronology of the symptoms
- Symptoms are subjective
 - They are reported by the patient
- The physical examination discloses physical signs
 - Physical signs are objective

Step 2 – Evaluation of Facts

- As new facts are acquired, you will repeatedly tests these facts for accuracy, reliability, and relevance to the patient’s problem.
- You must judge if the facts have been colored by the patient’s emotions.
- You must question the motives that may lead to distortion.
- You must conclude if the items are relevant or trivial to the identification of the patient’s disease.

Step 3 – Listing of Hypothesis

- The provider accumulates a list of diseases suggested by the diagnostic clues taken from the history, the physical examination and the laboratory and other tests
 - Disease 1 has clues a, b, c, d
 - Disease 2 has clues b, c, f, g
 - Disease 3 has clues a, d, g
 - Disease 4 has clues b, c, g, h
- To be a useful clinician, the information must be reorganized in the following manner:
 - clue a suggests disease 1, 3
 - clue b suggests disease 2
 - clue c suggests disease 2
 - clue d suggests disease 1, 2, 3, 4
 - clue e suggest disease 2, 3
 - Etc.
- This means that the clinician must devise and memorize lists of diseases with common manifestations that are key signs or key symptoms.
 - Examples of lists:
 - Causes of dyspnea are...
 - Causes of fever are...
 - Causes of joint pain are...
 - Etc.
- In the four-step sequence of diagnosis, the lists of hypotheses are derived from the diseases called to mind by their key signs and symptoms.

Step 4 - Choosing Between Hypotheses

- Each disease in the list of hypotheses is considered in turn and it's manifestations are matched with the patients
- Initial comparisons may eliminate some items from the list and retain others
- The chronology of patient's signs and symptoms is compared with that of the suspected disease
- Some diseases will be excluded by the duration
 - Example – a five year cough would not be attributed to lung cancer, since this diagnosis is fatal in one year
- From the list that survives the testing, one chooses as *the diagnosis* the disease whose attributes coincide more closely with the patients
- If a good fit is not found, the clinician resumes the search for more signs and symptoms

- In selecting the diagnosis from the list of the hypotheses, start first with one single disease to explain all the patient's manifestations rather than explain them by the coincidence of several diseases
 - This is called the law of parsimony
 - For example, if a patient has dilated heart, hepatomegaly, ascites and pedal edema, the single likely diagnosis would be cardiac failure – which is more likely than heart disease producing enlargement and cirrhosis with hepatomegaly

“When you hear hooves, don’t think about zebras”



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