

Week 1

Differential Diagnosis: process involves using clinical reasoning to distinguish between two or more conditions that share similar signs or symptoms

- Begins as a list of common and uncommon diagnoses that are relevant to the patient's chief complaint or specific symptom.
- A thorough list of potential diagnoses based on the patient's presenting symptoms must be developed and narrowed based on subjective, objective, and diagnostic data
- The subjective history and review of systems are the first steps in gathering data to narrow the potential differentials, followed by the physical examination
- During the HPI, a series of directed, open-ended questions are asked to gain information about the complaint using the OLD CARTS mnemonic (**O**nset, **L**ocation, **D**uration, **C**haracter, **A**ggravating factors, **R**elieving factors, **T**iming, and **S**everity).
- Findings from the focused PE are used to narrow down the list of potential diagnoses.
- If the diagnosis cannot be finalized based on data from the subjective history and physical examination, diagnostic testing is utilized to assist in determining the correct diagnosis.
- ALL diagnostic tests have false-positive and false-negative results. There are NO perfect tests.

Diseased individuals who test positive are true positives and non-diseased individuals who test negative are true negatives.

- An individual with a false positive will likely have further testing, which may lead to: exposure to potentially invasive tests, fear about having these tests, increased healthcare costs, being labeled with an inaccurate diagnosis, receiving inappropriate treatment.

Diseased individuals who test negative are false-negatives and non-diseased who test positive are false-positives.

- An individual with a false-negative who has a potentially treatable disease may become sicker or die because the disease is not detected and treatment is delayed.

Positive Predictive Value is the percentage of diseased individuals out of those who test positive. (Proportion of patients with a positive test who have the disease)

- Positive predictive value increases with prevalence; thus, low prevalence value yields a low positive predictive value and implies a high false-positive rate

Negative Predictive Value is the percentage of non-diseased people out of those who tested negative

- Negative predictive value is inversely correlated with prevalence
- Negative predictive value decreases with prevalence, and sensitivity/specificity do not vary.

Predictive values depend on the prevalence of disease in the population.

Pretest probability is the chance the patient has the disease, estimated before the results of the test are known.

- It is based on the probability of the suspected disease given the patient's symptoms or clinical context
- If the pretest probability is high, diagnostic testing may be warranted to clarify or confirm a diagnosis

Specificity: proportion of 'test negative' of total without the disease; the number of true negatives over all negatives.

Sensitivity is the proportion of patients with the disease that have a positive result; it is the number of true positives divided by the total number of patients who have the disease.

Complete Blood Count (CBC)

- Used to obtain data in evaluating a variety of disorders such as anemia, infection, or leukemia
- Measures red blood cells, white blood cells, hemoglobin, hematocrit, and platelets
- Check platelet count for unexplained bruising
- Check CBC with differential for neutrophil shift in suspected infection for fever
- Check RBC, Hgb and Hct for anemia if patient c/o fatigue
- Check WBC for inflammation or possible cancer if patient has unexplained weight loss