

Which of the following sentences is incorrect about screening tests:

- a) Screening is usually applied to asymptomatic people.
- b) Specificity is the probability of correctly classifying a healthy person.
- c) Sensitivity is the proportion of those tested who are correctly classified by the test.
- d) The ultimate objective of screening tests is to reduce mortality and morbidity.
- e) A screening test must be accurate, which means to be reliable and valid.

Answer: C

A test that is unreliable cannot be valid:

- a) True
- b) False

Answer: A

Which one is incorrect about population screening:

- a) Fetal occult blood testing to detect colorectal cancer or adenomas.
- b) Screening of newborns for Phenylketonuria to prevent mental retardation.
- c) PSA (Prostate-Specific Antigen) smears to detect cervical neoplasia
- d) Screening programs for hypertension and diabetes to prevent complications.

Answer: C

Checking the lipid profile for your overweight or obese patients when they come to your clinic is an example of:

- a) Screening
- b) Opportunistic screening (case finding)
- c) Early detection

d) Diagnosis

Answer: B

In a medical test for a specific disease, which term represents the “probability of the disease being present given a positive test”?

- a) Detection rate
- b) Specificity
- c) False positive rate
- d) Positive predictive value
- e) Negative predictive value

Answer: D

The table below shows the results from looking at the diagnostic accuracy of a new rapid test for HIV in 100,000 subjects, compared to the Reference standard ELISA test. The rows of the table represent the test result and the columns the true disease status (as confirmed by ELISA).

	HIV+	HIV-	Total
Test +	378	397	775
Test -	2	98,823	98,825
	380	99,220	100,000

Q1. What is the Sensitivity of the new rapid test for HIV?

Answer: 0.995

Q2. What is the Specificity of the new rapid test for HIV?

Answer: 0.996

Q3. What is the Positive predictive value (PPV) for the new rapid test for HIV in this cohort?

Answer: 0.488

Q4. What is the Negative predictive value (NPV) for the new rapid test for HIV in this cohort?

Answer: 0.99998

In an experiment to test a new blood test that detects a certain abnormality over a population of 5000. The test was able to correctly detect 2550 of the abnormal cases and 1900 of the normal ones. If you know that the population consists of 2600 abnormal cases while the rest are normal, compute: Sensitivity, Specificity, NPV, and PPV for this experiment.

Answer:

	Abnormal	Normal	total
Test +	2550	500	3050
Test -	50	1900	1950
Total	2600	2400	5000

Sensitivity= 0.981

Specificity= 0.792

PPV= 0.836

NPV=0.974