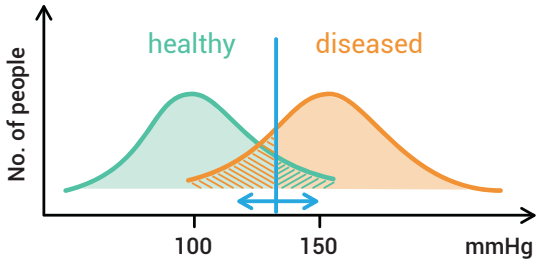
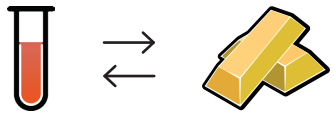
Sensitivity and specificity

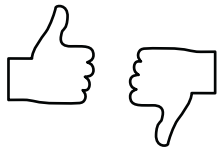


In clinical medicine tests are made to separate diseased from healthy individuals.

New test



Validity tells us how much trust we can put into these tests.



Validity

↙ ↘

Sensitivity
Proportion of diseased people correctly classified.

Specificity
Proportion of non-diseased people correctly classified.

If the test is able to correctly classify a large proportion of people as diseased or healthy it has a high validity.

	Diseased	Non-diseased
Test positive	True positives	False positives
Test negative	False negatives	True negatives

$$\text{Sensitivity} = \frac{\text{True positives}}{\text{Total diseased}} \times 100$$

$$\text{Specificity} = \frac{\text{True negatives}}{\text{Total non-diseased}} \times 100$$

Problems with false positives and false negatives:

	Diseased	Non-diseased
Test positive	True positives	False positives
Test negative	False negatives	True negatives

→ 

Invasive tests
Dollars
Fear
Label

→