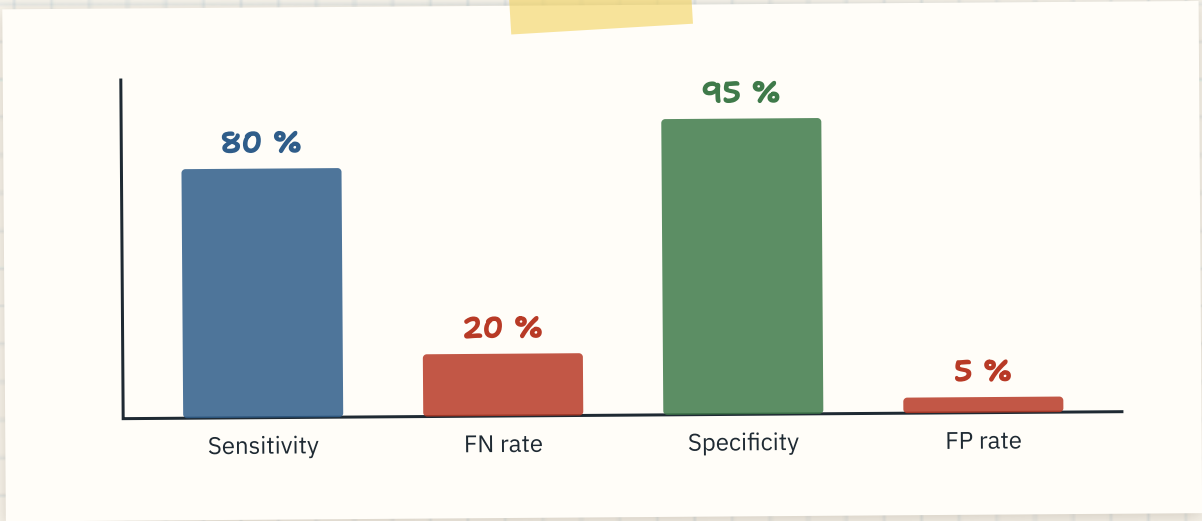
Sensitivity and specificity

From the 2×2 table to rule out and rule in



Step by step

1. Gold standard sorts everyone into disease present or absent.
2. Sensitivity uses only the disease column.
3. Specificity uses only the healthy column.
4. 1 − sens = FN rate; 1 − spec = FP rate.

	Disease present	Disease absent
Test positive	TP	FP
Test negative	FN	TN

The 2×2 table

SENSITIVITY AND SPECIFICITY

```
Sens = TP / (TP + FN);
Spec = TN / (TN + FP)
```

Worked table: TP 80, FN 20, TN 855, FP 45 gives 80% and 95%.

SnNout and SpPin

High Sensitivity, Negative result: rule OUT

High Specificity, Positive result: rule IN

Exam traps

- SnNout and SpPin only hold when sensitivity or specificity is very high.
- Sensitivity ignores the healthy column; specificity ignores the sick column.
- Both describe the test; what a result means for one patient comes next lesson.

Sensitivity vs specificity: the 2×2 table, SnNout and SpPin

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/biostats-ethics/sensitivity-vs-specificity

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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