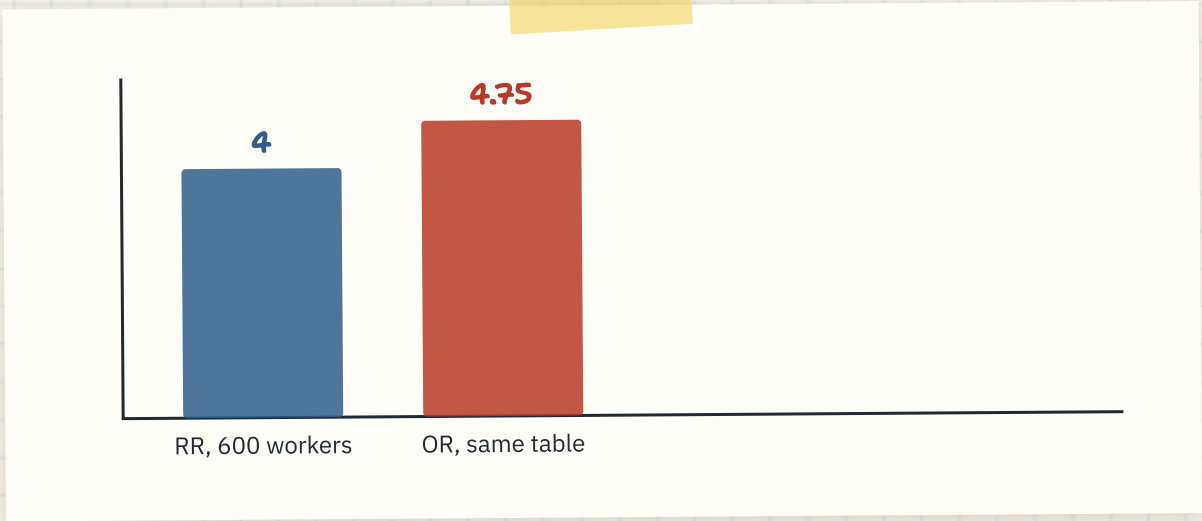
Relative risk vs odds ratio

Calculate both and choose the right one



Step by step

1. Lay out the 2x2 table: a, b, c, d
2. Risk = outcomes / everyone in the group
3. Odds = outcomes / those without it
4. RR = risk exposed / risk unexposed
5. OR = ad / bc

ODDS RATIO AND RELATIVE RISK

```
OR = ad / bc
RR = [a / (a + b)] / [c / (c + d)]
```

cells: a exposed with disease, b exposed without, c unexposed with, d unexposed without

Situation	What you can report
Cohort	Relative risk (and OR)
Case-control	Odds ratio only
Outcome rare (below about 10%)	OR close to RR
Outcome common	OR further from 1 than RR

Study design, outcome frequency and measure

Rule of thumb

RR is a ratio of risks; OR is a ratio of odds

1 = no association; above 1 more, below 1 less

Risk 20% = odds 1 to 4

Exam traps

- Case-control designs cannot give relative risk.
- OR approximates RR only when the outcome is rare.
- When the outcome is common, OR overstates the effect.

Relative risk vs odds ratio: the 2x2 table explained

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/biostats-ethics/relative-risk-odds-ratio

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