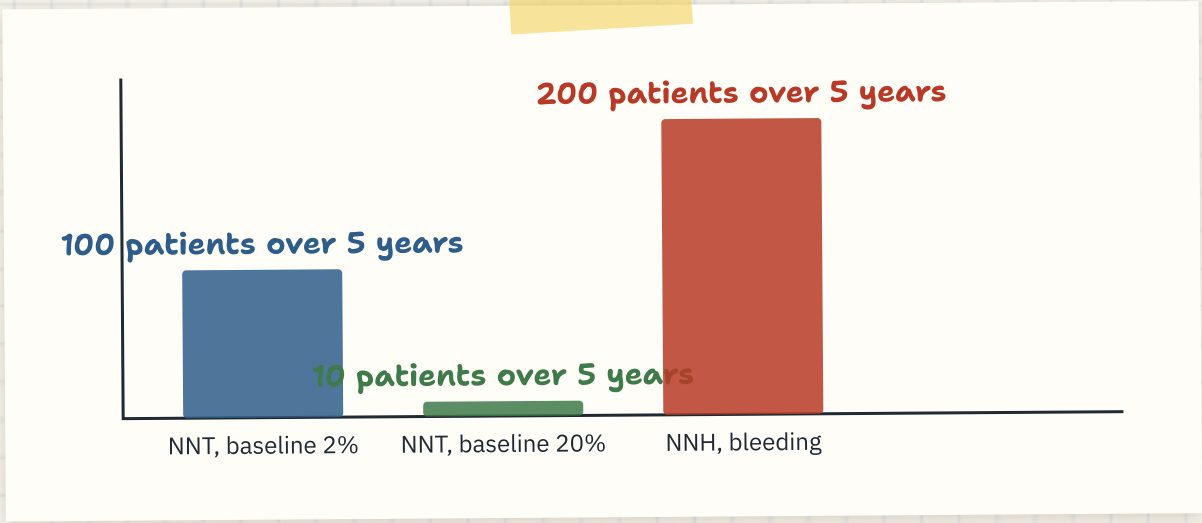
ARR, RRR, NNT and NNH

Read the absolute number, not just the headline



Step by step

1. Find CER (control) and EER (treated)
2. ARR = CER − EER
3. RRR = ARR / CER
4. NNT = 1 / ARR; NNH = 1 / ARI
5. Say the follow-up period

NUMBER NEEDED TO TREAT

NNT = 1 / ARR

ARR = CER − EER; round up; state the time window

Measure	Formula
ARR	CER − EER
RRR	ARR / CER = 1 − RR
NNT	1 / ARR, rounded up
ARI	EER − CER
NNH	1 / ARI

The four measures

Rule of thumb

Relative figure ignores baseline risk

Absolute figure depends on it

Low NNT and high NNH is the favourable direction

Exam traps

- Do not invert the RRR or a single event rate: invert the ARR.
- An NNT belongs to its time window.
- The same RRR can give very different NNTs at different baseline risks.
- A non-whole NNT is rounded up (6.2 becomes 7).

Number needed to treat: ARR, RRR and NNH from trial data

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/biostats-ethics/arr-rrr-nnt

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