Finding Good Therapy Studies

RCT

Cohort

c-c

X-sect, etc…

Pyramid of Evidence

Must evaluate for threats to validity
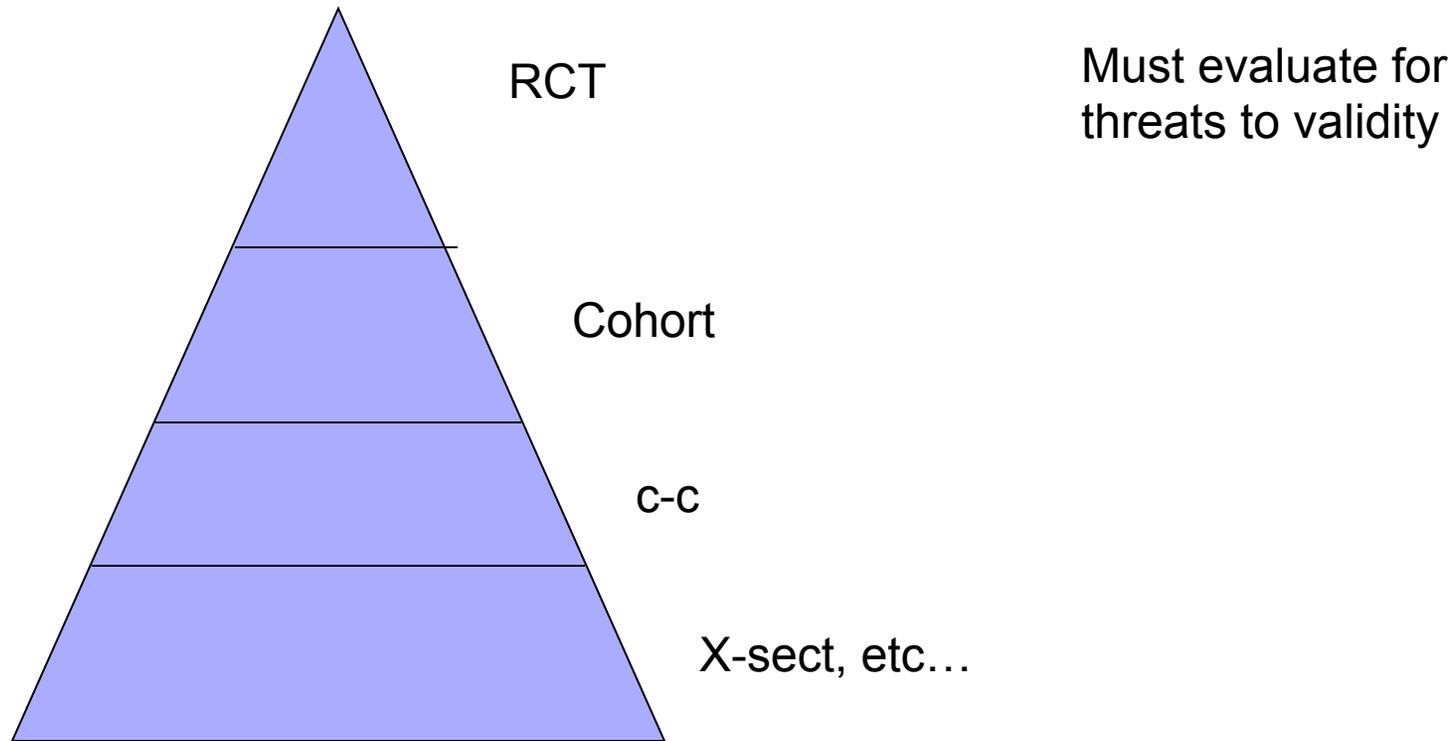
Number Needed To Treat (NNT)

- **Inverse of the Absolute Risk Reduction**
  - NNT=1/ARR
- **ARR = Control Event Rate – Experimental Event Rate (CER-EER)**
  - Absolute difference between untreated and treated

Streptokinase/ASA in Acute MI

- No Tx 5-wk mortality from acute MI 13.5%
- Tx mortality 8%
- ARR = 0.135 – 0.08 = 0.055
- NNT = 1 / 0.055 = 18 patients
- Need to treat 18 patients to prevent one death

Some NNTs

Table 3b3.2 Some NNTs for different treatments

Condition or disorder	Intervention	Events being prevented	Control Event Rate CER	Experimental Event Rate EER	Duration of follow-up	NNT to prevent one additional event
Diabetes (IDDM)[*]	Intensive insulin regimens	Diabetic neuropathy	0.096	0.028	6.5 years	15
Diabetes (NIDDM)[†]	Intensive insulin regimens	Worse diabetic retinopathy Nephropathy	0.38 0.30	0.13 0.10	6 years	4 5
Acute myocardial infarction[‡]	Streptokinase and Aspirin	Death at 5 weeks Death at 2 years	0.134 0.216	0.081 0.174	5 weeks 2 years	19 24
Diastolic blood pressure 115–129 mm Hg[§]	Antihypertensive drugs	Death, stroke or myocardial infarction	0.1286	0.0137	1.5 years	3
Diastolic blood pressure 90–109 mm Hg[¶]	Antihypertensive drugs	Death, stroke or myocardial infarction	0.0545	0.0467	5.5 years	128
Independent elderly people[**]	Comprehensive geriatric home assessment	Long-term nursing home admission	0.10	0.04	3 years	17
Pregnant women with eclampsia[††]	iv $MgSO_4$ (vs. diazepam)	Recurrent convulsion	0.279	0.132	hours	7
Healthy women ages 50-69[‡‡]	Breast examination plus mammography	Death from breast cancer	0.00345	0.00252	9 years	1075
Symptomatic high-grade carotid artery stenosis[§§]	Carotid endarterectomy	Major stroke or death	0.181	0.08	2 years	10
Preterm babies[¶¶]	Antenatal corticosteroids	Respiratory distress syndrome	0.23	0.13	days	11

To find more examples, and to nominate additions to the databank of NNTs, refer to this textbook's Web Page at: http://cebm.jr2.ox.ac.uk/
* Ann Intern Med 1995;122:561–8; EBM 1995;1:9.
† Diabetes Res Clin Pract 1995;28:103–17
‡ Lancet 1988;2:349–60.
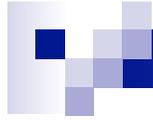§ JAMA 1967;202:116–22.
¶ BMJ 1985;291:97–104.
** N Engl J Med 1995;333:1184–9; EBM 1996;1:87.
†† Lancet 1995;345:1455–63; EBM 1996;1:44.
‡‡ Lancet 1993;341:973–8.
§§ N Engl J Med 1991;325:445–53.
¶¶ Am J Obstet Gynecol 1995;173:322–35; EBM 1996;1:92.

Critically Appraised Topics

- Case Presentation
- Clinical Question
- Study / Search Criteria
- Search Results
- Evaluating The Evidence
- The Clinical Bottom Line