

In the science communication business, we call them “weasel words.” Why? Because weasels have a reputation for being sneaky and tricky. We are talking about words like “may,” “suggest,” “possible” and “potential” that can trick the reader into forming a positive impression without making a specific commitment.

What we would like to see in a scientific study are statements like “has been shown to,” “has been proven to” or “evidence demonstrates,” but these are elusive when it comes to the claimed benefits”

### Cutting Through Media Hype on Clinical Studies

1. **Read the Source:** Skip headlines—go to the study abstract or full paper. Check funding (industry bias?) and sample size (n<100? Weak).
2. **Spot Red Flags:** Absolute vs. relative risk (e.g., "50% reduction" might mean 1% to 0.5% actual drop). Correlation  $\neq$  causation. Ignore "breakthrough" without replication.
3. **Rate Validity with Evidence Levels** (using AACN/USPSTF as guides):
  - **A (Top Tier):** Meta-analysis of RCTs—strong, consistent benefits. Trust if media matches.
  - **B:** Single well-designed RCT—good, but verify consistency.
  - **C:** Observational/cohort studies—suggestive, not causal; hype-prone.
  - **D/E:** Expert opinion/case reports—lowest; dismiss bold claims.
  - **USPSTF I:** Insufficient evidence—treat as preliminary, not proven.

Bottom line: Demand Level A/B data for life-changing advice. Cross-check PubMed or Cochrane.

### Levels of Evidence in Clinical Studies (Oxford Hierarchy)

Level	Type	Strength
1a	Systematic review of RCTs	Highest
1b	Individual RCT (well-designed)	High
2a	Systematic review of cohort studies	Moderate
2b	Individual cohort study	Moderate
3a	Systematic review of case-control	Low-moderate
3b	Individual case-control	Low
4	Case series	Low
5	Expert opinion	Lowest

## GRADE Evidence System

Quality of Evidence	Description
<b>High</b>	RCTs; confident effect estimate; further research unlikely to change.
<b>Moderate</b>	Downgraded RCTs or upgraded observational; further research may change.
<b>Low</b>	Further research likely to change estimate.
<b>Very Low</b>	Very uncertain; major limitations.
Strength of Recommendation	Implication
<b>Strong</b>	Benefits clearly outweigh risks; do it.
<b>Weak/Conditional</b>	Trade-offs; consider individual factors.

## Media Hype vs. Real Data Examples

Hype Claim	Real Data	Evidence Level
<b>Coffee prevents cancer</b>	Correlation in observational studies; no causation proven.	C (suggestive, not causal)
<b>Red wine elixir for long life</b>	Associations only; ignores limitations like confounders.	C (hype-prone)
<b>New drug ends MS</b>	Preliminary trial effects; no cure evidence.	B/C (early RCT, overstated)