Misinterpretation

Misinterpretation refers to the incorrect or misleading explanation of data, results, or outcomes, often due to overstatement, omission of context, or failure to consider alternative explanations.

⚠ Key Characteristics

- Drawing **causal conclusions** from **correlational** or **observational** data
- Ignoring confidence intervals, effect sizes, or limitations
- Highlighting statistically significant findings without clinical relevance
- Downplaying adverse results or inconsistencies

Example in Neurosurgical Literature

- A study finds that functional outcomes at 6 months are “similar” between microsurgical and endovascular groups but **fails to emphasize the significant early morbidity** in the surgical cohort, misleading readers into thinking both approaches are equally safe.

Why It Matters

- Leads to **inappropriate clinical decisions**
- Misinforms guidelines, policy, and patient counseling
- Perpetuates biased or distorted scientific narratives
- Erodes trust in evidence-based medicine

Best Practice

- Interpret results **within the limits** of the study design
- Present **absolute and relative risks** with context
- Discuss alternative interpretations and confounding factors
- Avoid overstating conclusions beyond the data