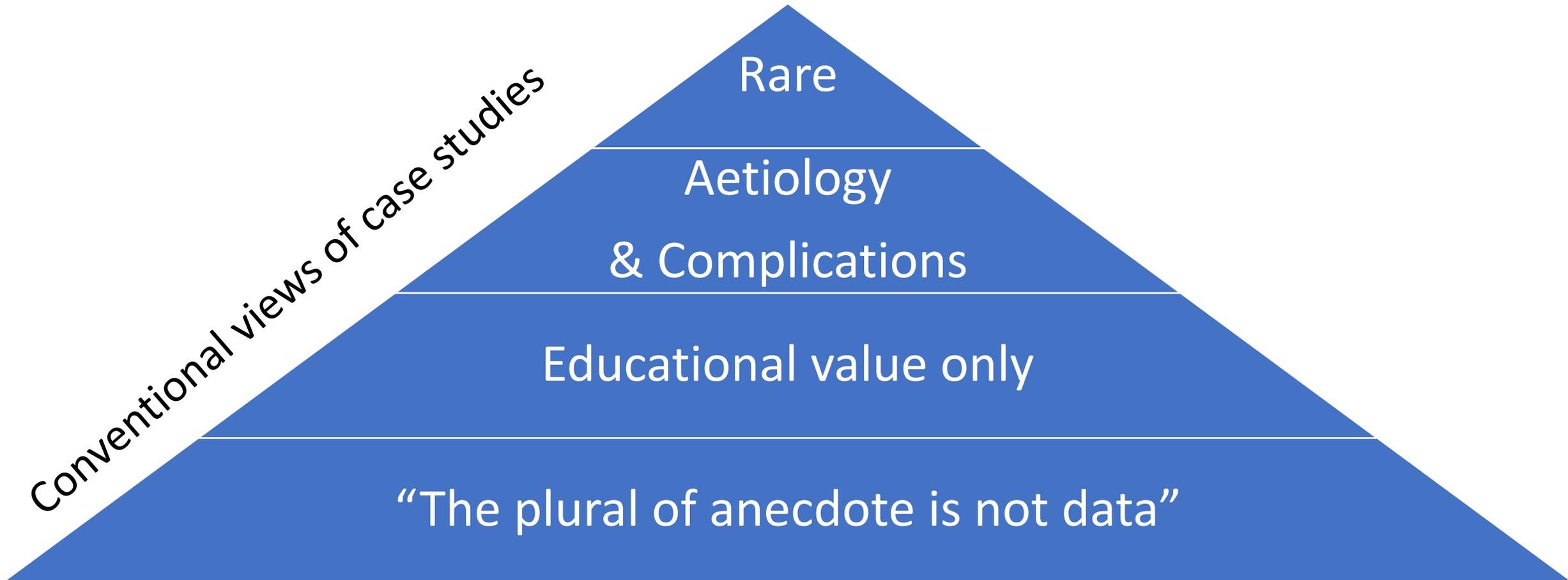


Synthesis of evidence from case studies

Shining a light or Blocking the view?

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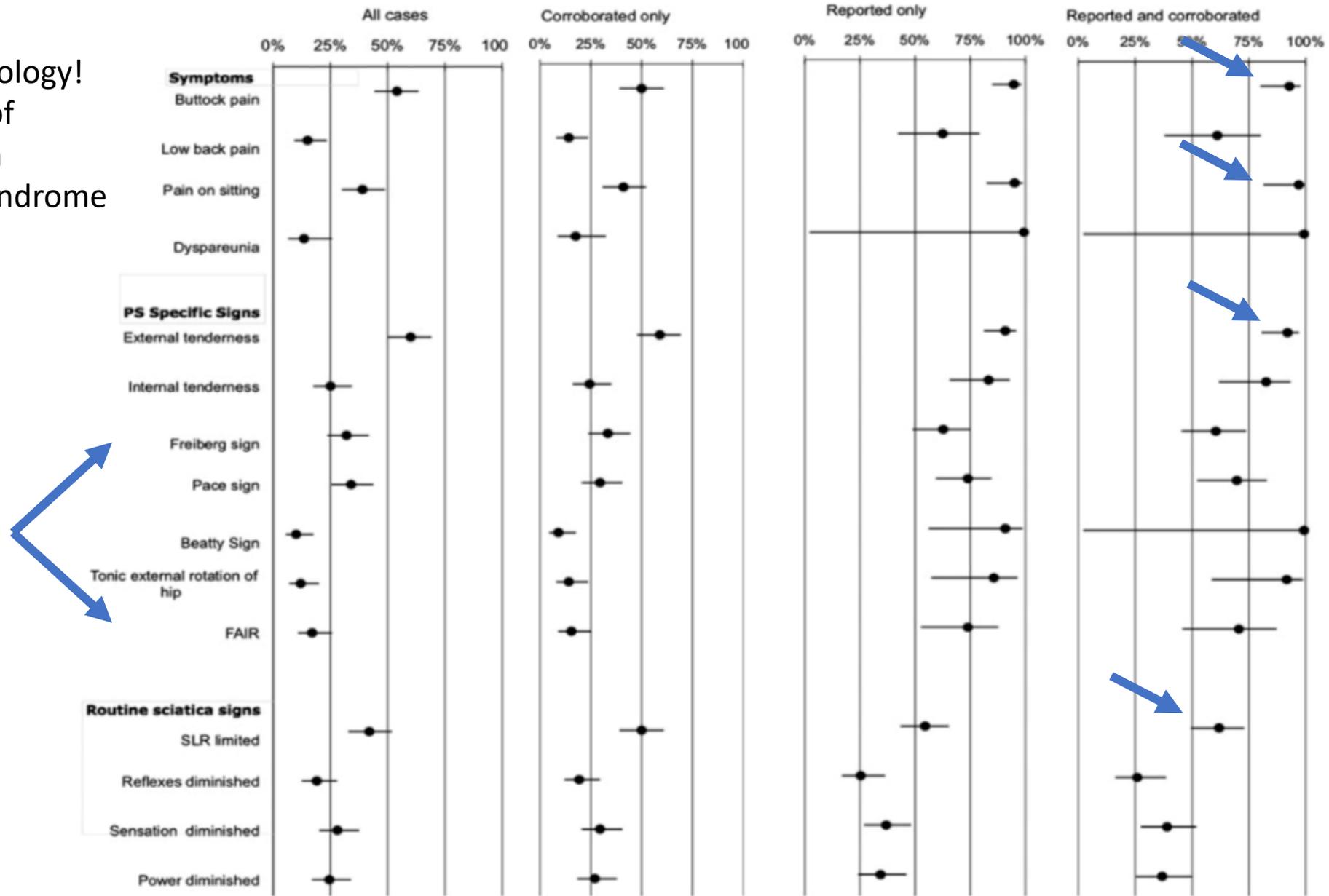
Validity of Case Studies and Systematic Reviews

Facet of Study	Shortcomings of case studies	Advantage in/Miminimisation for systematic review
Selection	Observer selection Poor case definition is frequent Atypical	Consecutive series Better than unsystematic literature review Improved by reporting guidelines Atypical test limits
Allocation	Often not applicable because no comparison group Subset allocation open to allocation bias	Advantageous to study subsets. Prior explicit specification possible
Follow up	May be beyond control	Can be over a long period e.g. surgical series
Outcome	Missing or poor quality data, e.g. absence of reported feature \neq absence in patient	Quality assessment of case studies possible Prior explicit specification possible
Blinding	Practitioner=Assessor	Independent reviewers
Analysis		Prior explicit specification possible – including missing data
Discussion	Cannot generalize, cannot draw inference	Can negate a generalization/hypothesis

Summary statistics in SRs of case studies

Limitations of using case studies	Advantages of SR over traditional reviews
Inferences about effect sizes not calculable	Analysis of subsets → inferential statistics
Precise estimation, e.g. of prevalence, not possible or not generalisable	Can provide range

Not just aetiology!
Prevalence of
symptoms in
piriformis syndrome



Frequencies are shown as the calculated value (circle) with 95% confidence interval (horizontal bar) over the 25%, 50% and 75% centiles (vertical bars).

Examples of SRs of case studies

- Symptom frequency in piriformis syndrome ¹
- Prognostic factors in carcinoid, subset analyses identified risk factor for metastases ²
- Prognosis after repair of abdominal aortic aneurysm³
- GI disorders found to be prevalent in hereditary Ehler-Dandlos Syndrome ⁴
- Outcomes of intervention in mucopolysaccharide disease: aggregated case reports agreed with metanalysis of clinical trials⁵

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