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Which study type presents the **strongest proof/disproof** & which presents the weakest?

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Answer from the book CLINICAL EPIDEMIOLOGY (Dr. Robert Fletcher (Harvard U., Dr. Suzanne Fletcher (Harvard U.), page 200, 2005):

SYSTEMATIC REVIEW		**SYSTEMATIC REVIEW**
Randomized controlled trial		Randomized controlled trial
Multiple time series		Multiple time series
Nonrandomized trial		Nonrandomized trial
Cohort	**DESIGN**	Cohort
Case-Control		Case-Control
Time series		Time series
Cross-sectional		Cross-sectional
Case series		Case series
	Case report	
STRONG	**AGAINST**	**WEAK**	**FOR**	**STRONG**
	Not Specific		Temporal sequence	
	Not reversible		Small effect	
	No dose-response		Specificity	
	No analogy		Analogy	
	Not biologically plausible	**FINDING**	Biologic plausibility	
	No effect		Consistency	
	Incorrect temporal sequence		Large effect	
			Dose-response	
			Reversibility	

FIGURE 11.11 Relative strength of evidence for and against a causal effect. Note that with study designs, the strength of evidence for a causal relationship is a mirror image of that against. With finding, evidence for a causal effect does not mirror evidence against an effect. [END of EXTRACT from the book Clinical Epidemiology]

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How does ranking SR (Systematic Review) as the strongest form of medical evidence apply to the APB (Abortion-Preterm-Birth) risk? There exist only two (2) SRs (with meta-analysis) for the APB risk, namely the 2009 APB SR studies by Dr. Hanes Swingle & the October 2009 Dr. Prakesh Shah study.[1,2] Both 'Swingle' and 'Shah' confirmed statistically significantly higher preterm birth risk for women with prior IAs (Induced Abortions) compared to women with zero prior IAs.[1,2] There is a 3rd APB SR (but WITHOUT a meta-analysis (i.e.

numerical risk estimate)) by van Oppenraaij.[3] Dr. van Oppenraaij confirmed both APB risk and Abortion-Very-Preterm-Birth risk.[3] So the 'score' is 2 complete APB SRs finding higher 'preemie' risk and ZERO APB SRs reporting no 'preemie' risk from prior induced abortions. CASE CLOSED.

1 Swingle HM, Colaizy TT, Zimmerman MB, Moriss FH. Abortion and the Risk of Subsequent Preterm Birth: A Systematic Review and Meta-Analysis. Journal of Reproductive Medicine 2009;54:95-108

2 Shah PS, Zao J. Induced termination of pregnancy and low birthweight and preterm birth: a systematic review and meta-analysis. BJOG [British Journal of Obstetrics and Gynaecology] 2009;116:1425-1442 Abstract URL: http://www.bjog.org/details/journalArticle/345727/Induced_termination_of_pregnancy_and_low_birthweight_and_preterm_birth_a_systema.html

3 van Oppenraaij RHF, Jauniaux E, Christiansen OB, Horcajadas JA, Farquharson RG, et al. Predicting adverse obstetric outcome after early pregnancy events and complications: a review. Human Reproduction Update Advance Access 7 March 2009;1(1):1-13