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Three Rs should be registration, randomisation, and reviews (systematic)

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EDITOR—Having found no reliable evidence from human clinical research about how much fluid should be given in the resuscitation of bleeding trauma patients, I am working with others on a systematic review of controlled trials of fluid replacement in animal models.¹ To date we have identified about 70 controlled trials.

Some trials are properly randomised but many are not. The potential for selective publication of trials showing more promising treatment effects is considerable, and few if any of the trials set their results in the context of a systematic review of all previous trials. Reducing bias is as important in animal research as in clinical research, and it would seem appropriate to apply the strategies used to improve the quality of clinical research to improve animal research. I therefore propose the following three Rs of animal research:

- Registration: prospective registration of all trials in animals to reduce the potential for publication bias
- Randomisation: proper randomisation to reduce the potential for selection bias
- Reviews: systematic reviews to reduce bias and increase precision.

References

1. Roberts I, Evans P, Bunn F, Kwan I, Crowhurst E. Is the normalisation of blood pressure in bleeding trauma patients harmful? *Lancet* 2001; **357**: 385–387.

Would middle ground approach give “added value”?

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