

## Authors' reply

Beverly Orser and colleagues correctly point out the limitations of our study,<sup>1</sup> which were also highlighted in our discussion and the accompanying Comment.<sup>2</sup> We agree that a more extensive follow-up of the children aged 5 years is essential, that indeed is our primary outcome. We also agree with Markus Weiss and colleagues that there are many other factors besides possible anaesthetic neurotoxic effects that might influence the short-term and long-term outcome of anaesthesia and surgery in infants. More evidence is required for many aspects of perioperative care in infants.

We applaud COMPare's efforts to improve clinical trial reporting; however, in this case, Eirion Slade and colleagues' conclusions are not correct. The trial was registered at ClinicalTrials.gov where we indicated that the primary outcome was the Wechsler Preschool and Primary Scale of Intelligence (WPPSI third edition) Full Scale IQ score, and secondary outcomes were Bayley neurodevelopmental scale and postoperative apnoea. The apnoea data have been published and this is indicated in our paper.<sup>3</sup> The protocol was also sent to *The Lancet* shortly after the study started and a summary of the protocol was published.<sup>4</sup> The submitted protocol clearly indicated that the primary outcome was the WPPSI third edition Full Scale IQ score at 5 years of age. This protocol also indicated that postoperative apnoea was a secondary outcome, and that secondary outcomes at the 2 year assessment were cognitive motor abilities; language skills; social, emotional, and adaptive behaviour (these scales encompass the 21 scores reported); the MacArthur-Bates Communicative Development Inventory; and presence of cerebral palsy or reduced vision or hearing. Thus, all outcomes at 2 years prespecified in the submitted protocol were reported but were not included in the published protocol. There has been no selective reporting. The only outcome reported in the paper but not prespecified in the protocol was the presence or absence of autism.

The submitted protocol also indicated that the Bayley cognitive scale would be the secondary hypothesis, and thus in the paper, we noted and reported this scale as our main outcome of interest at 2 years of age. In our Article, we clearly indicated that the reported data are secondary outcomes and the implications for this effect were clear in both the discussion and the accompanying Comment.

COMPare's inaccurate conclusions do highlight the issue that trial registries often do not request or have space for sufficient detail about secondary outcomes, and that journals should perhaps publish the protocols in full rather than summaries.

We declare no competing interests.

\*Andrew J Davidson, Nicola Disma, Jurgen C de Graaff, Davinia E Withington, Mary Ellen McCann  
andrew.davidson@rch.org.au

Murdoch Childrens Research Institute, Royal Children's Hospital and University of Melbourne, Parkville, VIC 3052, Australia (AJD); Department of Anesthesia, Istituto Giannina Gaslini, Genoa, Italy (ND); Department of Anaesthesia, Wilhelmina Children's Hospital, University Medical Center, Utrecht, Netherlands (JCdG); Department of Anesthesia, Montreal Children's Hospital, McGill University, Montreal, QC, Canada (DEW); and Department of Anesthesiology, Perioperative and Pain Medicine, Boston Children's Hospital, Harvard Medical School, Boston, MA, USA (MEM)

- 1 Davison AJ, Disma N, de Graaff JC, et al, for the GAS consortium. Neurodevelopmental outcome at 2 years of age after general anaesthesia and awake-regional anaesthesia in infancy (GAS): an international multicentre, randomised controlled trial. *Lancet* 2016; **387**: 239–50.
- 2 Warner DO, Randall PF. Anaesthetics, infants, and neurodevelopment: case closed? *Lancet* 2016; **387**: 202–04.
- 3 Davidson AJ, Morton NS, Arnup SJ, et al, and the General Anesthesia compared to Spinal anesthesia (GAS) Consortium. Apnea after awake regional and general anesthesia in infants: the general anesthesia compared to spinal anesthesia study—comparing apnea and neurodevelopmental outcomes, a randomized controlled trial. *Anesthesiology* 2015; **123**: 38–54.
- 4 Protocol 09PRT/9078: a multi-site randomised controlled trial to compare regional and general anaesthesia for effects on neurodevelopmental outcome and apnoea in infants: the GAS study (ACTRN12606000441516, NCT00756600). <http://www.thelancet.com/protocolreviews/09PRT-9078> (accessed March 31, 2016).

## Questioning the outcome of the Building Blocks trial

Michael Robling and colleagues (Oct 13, p 146)<sup>1</sup> are to be congratulated on conducting Building Blocks, a highly rigorous randomised controlled trial of the Family Nurse Partnership (FNP) programme in England, UK, and rightly highlighted the difficulty in showing changes similar to the US studies in a setting with comprehensive universal health services.<sup>1</sup> The trial in the Netherlands,<sup>2</sup> where FNP showed a positive effect on various primary outcomes, involved substantial adaptation of the programme to the local context, and was also more targeted in terms of risk.

The highly medical focus in terms of the primary outcomes for this trial are disappointing in view of the strong emphasis of the programme on developing parenting, parent-child relationships, and support from family and friends. A research design that included a more psychological focus in the primary outcomes, with some direct observations of the families in their homes, might have been a more useful way to identify the kind of positive outcomes that the nurses delivering the programme have described in their reflections and in the formative evaluation.<sup>3</sup> Additionally, equivocal evidence is available for the effectiveness of smoking cessation programmes that are provided as part of broader interventions to improve maternal health compared with targeted cessation programmes,<sup>4</sup> and little evidence is available in terms of the effectiveness of intensive home visiting programmes in improving any pregnancy outcomes, including preterm birth.<sup>5</sup>

Those of us who have been involved in studying the process of introducing the programme in the UK have witnessed a tremendous investment of highly valuable resource in terms of skills into the health visiting



Public Health England/Science Photo Library