Author’s response to reviews

Title: Long-duration General Anesthesia Influences the Intelligence of School Age Children

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Reviewer reports:

amanda friend (Reviewer 1): The standard of written English is poor and this makes it very difficult to assess the paper. Due to unusual grammar and odd sentence structure, it is sometimes very difficult to know what the authors actually mean. Additionally, there are a number of spelling and grammatical errors which require correcting.

Response: We have now had the manuscript edited by an Oxford Professor who has greatly improved the grammatical errors and spelling mistakes to improve the clarity of our manuscript.

Throughout the manuscript, you refer to "long-term" anaesthesia. Do you mean anaesthesia of a prolonged duration? Please clarify this.

Response: We corrected the manuscript and used long-duration anesthesia for the time of the surgical intervention and long-term for effects of anesthesia for up to 1 year post-surgery.

The conclusion in the abstract "Long-term general anesthesia would influence the IQ of school age children during orthopedic surgery, but it could be avoided by good parental guidance." makes no sense. Do you mean long duration general anaesthesia?

And what sort of parental guidance do you mean?

Where is the evidence to support this statement?

Response: We corrected the mixtures of long-term and long-duration within the text as well as omitting the former statement about good parental guidance in the revised abstract.

Several times in the methods, it is stated that "general anesthesia/surgical procedure had minimal or negligible effects on cognitive function and the development of intelligence" and yet the
conclusion is very different. Do you mean that the procedure itself would not have influenced cognitive function and intelligence? If so, say so, and provide evidence for this.

Response: We meant that the surgical procedure should not lead to effects on cognitive function and the development of intelligence, but we have now omitted the statement.

Why did you choose to use the RSPM score? Is it validated in this group? The reference you give (no 15) does not mention RSPM at all.

Response: The RSPM evaluation is a non-verbal intelligence test for children from 5 years on and adults. We added a new reference to validate its use.

In the results, you state "those with a medium educated mother appeared to be twice and quadruple less likely to have a handicap in intelligence, respectively" - How did you get 2 results for a single factor?

Response: We made this statement much clearer in the manuscript.

In the discussion, you again state "some neurological impairment could be avoided by good parental guidance" yet provide no evidence to support this and no explanation of what you mean by good parental guidance.

Response: We have amended this part of the discussion to address this criticism.