**Supplementary data content 2**

*Additional resources*

For trials not yet completed, a search was conducted in clinical trials registries (clinicaltrials.gov; controlled-trials.com; anzctr.org.au; and who.int/ictrp). The reference lists of eligible trials were also screened for additional, previously unidentified, studies.

The following were not sought: published abstracts from conference proceedings of any society or new studies of potential interest. Trial authors were also not contacted to determine whether any additional data were pending.

*Data synthesis for outcomes for which comparable study data were found*

Meta-analyses were conducted for outcomes in which comparable study data were identified. Separate analyses were performed for comparisons with COT and between non-invasive respiratory support techniques. The level of heterogeneity was classified using the I2 statistic with 0% to 40% considered low; 30% to 60% moderate heterogeneity; 50% to 90% substantial heterogeneity; and 75% to 100% considerable heterogeneity.7 Random-effects models were used rather than fixed-effect model, owing to the large heterogeneity and overall small sample sizes for the outcomes. The data are presented with corresponding 95% confidence intervals (CI). All data syntheses were carried out using Review Manager version 5.3 (Cochrane).

*Member Panel selection*

An official ESA application form was addressed to the guideline committee for assessment by Marc Leone who at the time was a member of the guideline committee, and by Sharon Einav who was the acting chair of the ESA intensive care subcommittee. The application and the proposition for the composition of the guideline panel was reviewed by the ESA guideline committee and approved by both ESA and ESICM offices. The guideline committee appointed Arash Afshari as the group methodologist and Morten Hylander as the second methodologist to assist with the design and conduct of this entire guideline. The literature search was designed by the Cochrane Anaesthesia and Cochrane Critical Care Trial search specialist in close collaboration with Arash Afshari and Marc Leone based on the PICOs, which were proposed by the guideline panel and were revised several times to increase sensitivity and precision of the search.

The decision on who to include as a member in the panel of members was carried out after a review of applicants (open call process in both organisations) by Sharon Einav, Marc Leone and Arash Afshari based on academic knowledge and previous experience with guideline creation and work dedication. Each expert had the possibility to design a young investigator to participate to the entire guidelines process. Regarding this panel of 19 experts, 10 disclosed no conflicts of interests, 7 disclosed conflicts of interests outside the field of this guideline and 2 disclosed conflicts of interests in the field of this guideline.