Reviewer's report

Title: Enhanced recovery after vascular surgery: protocol for a systematic review

Version: 1 Date: 12 September 2012

Reviewer: Melinda A Maggard

Reviewer's report:

The authors have put together a well thought through protocol on systematic review for enhanced recovery after surgery following major elective vascular surgery. They plan to include only randomized controlled trials (RCTs) on a wide range of elective major vascular procedures.

This is an important and timely topic. As the authors point out, there is little evidence in this field (they only listed a handful of references in their introductory text), so I have some concerns that they will find few RCTs on these procedures. Also, RCTs for interventions on surgery patients are inherently challenging as it is hard to prevent cross contamination when patients are treated on the same surgical floor, same pre and postoperative teams etc. But the quality of the RCT can be addressed within the systematic review process.

My main concern is how the authors will approach the diverse group of vascular procedures. The work looking at ERAS in colorectal surgery allowed for a much more homogenous group of operations. The range of procedures they are proposing endovascular AAA, open AAA repair, distal bypass and carotid is very broad. The impact of ERAS on time to discharge for endovascular AAA, carotid procedures and thoracic aneurysm repair will be extremely different. Carotid endarterectomy patients are typically discharged on the first postoperative day compared to more than a week for thoracic aneurysm repair for example. This will require subgroup analyses as pooling data on time to discharge for all the procedures may not be informative. Consider grouping by endovascular, abdominal approach, and extremity (or grouping by infrainguinal etc).

Also, the authors need to identify their outcomes of interest. Currently they list “complications” which not very specific. The relevant complications will vary by procedure even in terms of ERAS use. A table outlining the complications would be helpful to define. Since they are looking at ERAS – could even limit to in-house and 30-day complications. Other outcomes to consider are time in ICU, time to PO diet, time to mobilization, but again this are dependent on the procedure – abdominal or extremity. They should also include readmissions and mortality. If they are going to include fluid restriction as a possible component of the ERAS intervention, then mortality will need to be assessed.

The big challenge when assessing impact of ERAS knowing which part of the intervention made an impact, which is often difficult to determine. Usually the ERAS intervention is a collection of changes and the interventions tend to vary
between studies. The authors will need to address how they will account for differences between interventions and how they will justify pooling if the interventions are too varied.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.