Reviewer's report

Title: Prospective, randomized, single blinded pilot study of a new FlatWire based sternal closure system.

Version: 3 Date: 16 March 2014

Reviewer: SOTIRIS PAPASPYROS

Reviewer's report:

This is a well written paper on an interesting topic.

Major compulsory revisions.

1) I believe it is essential that the actual cost of the Flatwire system should be mentioned to allow direct comparison with the usual sternal steel wires used. The overall cost of the procedure is important and is mentioned, however most readers would like to know what the system actually costs.

2) It would be useful to have the STS score or any other risk stratification score in the baseline parameters used to compare the two groups. Age and BMI are mentioned however they cannot be relied upon exclusively as markers of co-morbidity and surgical risk.

3) It is speculated that the additional time required for application of the Flatwire system is approximately 15 - 16 mins (this is however indirectly deduced from the off pump to closure time recorded). It would be useful to know whether an extra 15 - 16 minutes is an accurate estimate (as per the authors’ experience) of the extra time required compared to simple steel sternal wires.

4) Is there any chance of delay due to the Flatwire system in case of an emergency re-sternotomy? Is the re-sternotomy procedure modified in any way or special instruments required to cut through the flatwire system in an emergency?

Minor essential revision

1) It would be interesting to see the system in situ in a real sternotomy being closed with a series of 2-3 photos.

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.