

Prof Maurizio Salvadori  
Editor in chief  
World Journal of Transplantation

31 January 2017

Dear Prof Salvadori

**RE: ESPS Manuscript NO: 31479 Developing a Donation after Cardiac Death Risk Index (DCD-RI) for Adult and Pediatric Liver Transplantation**

Please find enclosed a statistical critique of the above manuscript. I have referenced your statistical review points below with the appropriate comments. I have not given a general review of the manuscript which I assume is in hand outside the statistical aspect. My comments are italicised.

(1) Statistical methods are adequately and appropriately described when they are used to verify the results;

*In order to meet this criteria the following is required*

- a. Justify the use of forward selection multivariate regression*
- b. Justify the use of a selection p value of 0.3 as 0.15 or 0.2 is more commonly used to avoid type 2 errors or address suppressor effects*

(2) Whether the statistical techniques are suitable or correct;

*a. Overall the techniques are appropriate if justifications are given. Cox regression is more appropriate than logistic regression for this long-term study. Using a ROC curve however is not likely to be helpful if Cox regression is used as the outcome is being met at different times over a prolonged period. For short term outcomes eg 1 month mortality then logistic regression and ROC curve analysis is more appropriate.*

*b. On that the authors should give a p value for the ROC curve comparison they perform.*

(3) Only homogeneous data can be averaged. Standard deviations are preferred to standard errors. The number of observations and subjects (n) is given. Losses in observations, such as drop-outs from the study, are reported;

*a. The only measure of central tendency reported for continuous data is the mean. An assessment of normality should be stated and the +/- defined as SD or other, or median(IQR) used as a replacement.*

(4) Values, such as ED50, LD50 and IC50, have the 95% confidence limits calculated and have been compared by weighted probit modeling (using the functions described by Bliss and Finney); and

*a. This is not relevant to this manuscript.*

(5) The word "significantly" is replaced by its synonyms (if it indicates extent) or the P value (if it indicates statistical significance). Statistical data should be expressed as mean  $\pm$  SD or mean  $\pm$  SE. Common statistical expressions contain t-test is expressed as t; F-test is expressed as F; chi-square test is expressed as  $\chi^2$ ; relative coefficient is expressed as r; degree of freedom is expressed as ; number of samples is expressed as n; and probability is expressed as P.

*a. one replacement of significantly is required on page 14 final paragraph.*

*b. see above regarding reporting of means*

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark McPhail', is centered below the text 'Yours sincerely'. The signature is written in a cursive, slightly slanted style.

DR MARK MCPHAIL PhD MRCP FFICM