Reviewer's report

Title: Development and evaluation of a novel, real time mobile Telesonography System in management of Patients with Abdominal trauma: Study Protocol

Version: 2 Date: 8 July 2012

Reviewer: Lawrence Marshall Gillman

Reviewer's report:

Thank you very much for the opportunity to review this article. I applaud the authors for the development of this ultrasound system. However I do have a few concerns:

Major Compulsory Revisions

1. The intended use of this system is not entirely clear to me. I was wondering if the author could expanded on their view of the utility of this system. How long are their transport times? Are these transports between rural facilities to definitive care or transports from the scene to hospital? I understand the utility of looking for pneumothoracies in the unstable patient but how does a FAST exam change management en route in an ambulance? Would the ambulance be redirected to a different centre? The unstable patient direct to the OR?

It should only take 5 minutes to perform on arrival in the ED. Really not a substantial time saving... If experts are not available to perform it in the ED why not have tele mentoring to the ED rather than to a moving ambulance?

2. If the authors could explain/elaborate on the power calculations. Having 20 raters/observers seems excessive to me. The article cited as the rationale for the power calculation (Sibert et al) used 7 raters but suffered from poor inter-rater reliability. It is unclear how introducing more raters will improve this reliability. Generally reliability is inherent in the rating tool used but can be improved with pre-study training of the raters. I have never used a power calculation to justify number of raters.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests