Reviewer’s report

**Title:** Measuring the Palpable Pulsatility Length as a Physical Examination Test in Defining the Severity of Inflow Stenosis for Hemodialysis Fistulas

**Version:** 0  **Date:** 25 Jul 2019

**Reviewer:** Deborah Brouwer-Maier

**Reviewer's report:**

Immature fistula listed as excluded from the study due to the need for the the distance measurement from the anastomosis and the arterial needle cannulation sites. This is a significant limiting factor for the clinical application of the inflow stenosis detection method. Inflow stenosis at the JAS location commonly occurs after the AVF creation and prevents the maturation of the AVF. The augmentation test referenced in the article was developed to help identify non-maturing AVF's prior to unsuccessful cannulation attempts. This will exclude wide clinical adoption of the PPL and API method.

Under definitions of an inflow stenosis, symptomatic inflow stenosis and a critical inflow stenosis the suction or tubing shaking during hemodialysis - do the hemodialysis machines used monitor the pre-pump Arterial Pressure and if so can a pressure range be used to replace the current description? The Agmentation test is used in the identification of any inflow stenosis.

Concern of the measurement of lengths may have wider variability when used beyond the limited staff in this study setting. It is also impacted by the cannulation practice patterns for needle placements that is not related to the aPump as described in the paper.

The impact form blood pressure is referenced but not pulse rate- Cardiac Output changes will alert the access flow independent of stenosis.

Excessive collapse sign upon arm elevation is very unclear as to the meaning. This is not part of the augmentation test typical description. Can that please be clarified?

The use of a tourniquet between the arterial and venous needles is not an acceptable practice and in itself is a clinical indication of a low flow AVF. Concern this might not be clear to the reader.

The clinical application may be limited to locations that lack other technical means of detecting stenosis. Augmentation, arm elevation included in the One Minute Check are easily done with the physical exam and limited tool of a stethoscope and this would add a simple measuring tape.
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