Author's response to reviews

Title: The BpTRU Automatic Blood Pressure Monitor compared to 24 Hour Ambulatory Blood Pressure Monitoring in the Assessment of Blood Pressure in Patients with Hypertension

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Regarding article
**The BpTRU Automatic Blood Pressure Monitor compared to 24 Hour Ambulatory Blood Pressure Monitoring in the Assessment of Blood Pressure in Patients with Hypertension**

**Response to reviewer 1 (Thomas Pickering)**

Dr. Pickering makes some very good points. Unfortunately since this study is based on the baseline data collected for an RCT, rather than from data collected specifically to address the question in this article, we do not always have the data he asks about. Where we do not have the data, we have included Dr. Pickering’s concerns in the "Limitations" section of the Discussion.

Specifically:

About the clinic readings excerpted from the charts

**Q.** Did these include the patient’s first visit to the clinic? If so, that might be higher than other visit readings.
**A.** All patients already had a diagnosis of essential hypertension. This was part of the eligibility criteria for the RCT. Therefore all patients had at least three previous BP readings on their chart. It is true that earlier readings might be higher than subsequent readings. We used the mean of the three which would have ameliorated this somewhat although perhaps the mean might be a little higher than what the BP was currently. However since our main outcome in this study was the correlation between BpTRU and 24 hour ABPM, which were both done on the same day, the chart values that we used to choose patients would have no bearing on this. As well, since there was no significant difference between the means of the three office BPs and the first reading on BpTRU, the mean office BPs probably reasonably reflected the current BP. We have discussed this issue in the limitations.

**Q.** Over what period of time were they included? If patients were seen every few months, there might be a large discrepancy between consecutive readings.
**A.** The period over which they were seen was quite variable. This will be noted in the paper. Again it will not have a bearing on the BpTRU/ABPM comparison.

**Q.** Was there any change in treatment during this period?
**A.** There may have been. It varied.

**Q.** Who was present during the first BPTru reading, and who connected the patient to the device?
**A.** The research nurses. This is now indicated in the paper.

**Q.** Were there any patients whose clinic BP averaged less than 140/90?
A. No

Q. How many patients had ABP below the target levels of 135 and 85 despite high clinic BP?
A. 163 (35%) people of the 470 had Ambulatory systolic BP < 135.
   369 (79%) of the 470 had Ambulatory diastolic BP < 85

Q. The results of Tables 3 and 4 should be briefly described in the Results section.
A. Done

Q. The correlation between the clinic and ABP readings is rather low; this may have occurred if there was a big gap in time between these measurements or if treatment had been changed.
A. This is true. However the almost identical mean and SD of mean office BP and first measure on BpTRU suggests that the office mean is probably close to what the current BP is when measured in the presence of a health care provider (the first BpTRU measure is done with the nurse present)

**Response to reviewer 2 (Bernard Waeber)**

We thank Dr. Waeber for his review. There were no further specific issues requiring our response.