

Improving the measurement of postural blood pressure with ad-hoc mobile teaching sessions for nurses and healthcare assistants

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Background

- Falls are a major cause of morbidity and mortality in patients over 65 and unrecognised postural hypotension is a significant and treatable contributor.
- NICE guidelines 2013 recommend all inpatients ≥ 65 should have lying/standing BP (LSBP) measured
- Training nurses and health-care assistants (HCAs) in correct measurement technique can be challenging, as these groups are rarely able to fully attend single sessions due to urgent clinical commitments, night duties and staff-shortages
- We aimed to improve the frequency and quality of lying-standing blood pressure (LSBP) measurement in a Geriatric inpatient cohort

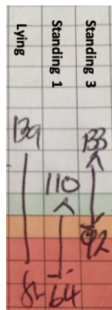
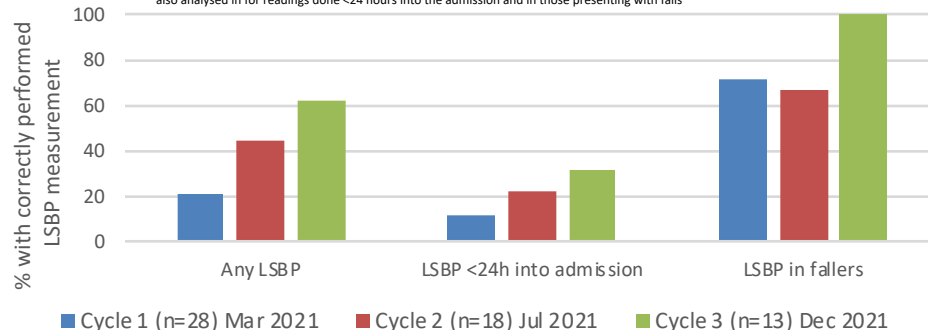


Figure 1: Correctly documented LSBP reading

Methods

- 3 PDSA cycles were performed over a 10-month period (March – Dec 2021) on a single Care of the Elderly ward
- Outcome measures**
 - The percentage of non-bedbound patients having LSBP correctly measured (5-min recumbent, 1 and 3 min standing readings). (Figure 1)
 - The understanding and confidence of measurers in correct technique and what constitutes a significant drop (≥ 20 mmHg systolic, systolic drop to ≤ 90 mmHg or ≥ 10 mmHg diastolic with symptoms) as assessed by a questionnaire
- Interventions**
 - 3 separate days of ad-hoc mobile teaching sessions to allow reinforcement of knowledge across 2 rounds (July and December)
 - Trainers moved from bay-to-bay delivering a 5-minute pre-prepared presentation/demonstration on the indications and correct technique of LSBP measurement.
 - Repeated throughout each day until all measurers had participated

Figure 2: Improvements in the % of patients with correctly measured LSBP at 3 timepoints (March, July and December 2021) also analysed in for readings done <24 hours into the admission and in those presenting with falls



Results

- On initial assessment, only 21% (6/28) of non-bedbound patients had LSBP correctly measured. This improved to 44% (8/18) by July and 62% (8/13) by December 2021 (Figure 2)
- There were smaller improvements in those having measurements within 24 hours of admission. By the end of the study period, all patients presenting with falls were having LSBP measured
- When sampled, measurers had sustained improvements from July (n=8) to December (n=7), in terms of self-rated confidence (mean 4.4/5 vs 4.9/5), verbalised knowledge of correct technique (25% vs 100%), interpretation of results (25% vs 43%) and knowledge of contraindications to measurement (88% vs 100%)
- There were no improvements in knowledge of symptoms of postural hypotension (50% vs 43%)

Conclusions

- We describe a strategy using ad-hoc mobile teaching sessions to train nurses and HCAs to measure LSBP in a Geriatric inpatient cohort, which resulted in sustained improvements.
- We believe this technique is readily applicable to other units and areas of practice.

References:

NICE (CG161). 2013. Falls in older people: assessing risk and prevention <https://www.nice.org.uk/guidance/cg161>
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