DOES THE STETHOSCOPE BELL OR DIAPHRAGM IMPACT MANUAL BLOOD PRESSURE MEASUREMENT?

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Background

Hypertension
- Impacts ~ 75 million US adults
- Linked to >400,000 deaths/year
- Diagnosed by manual BP measurement

Manual BP Measurement
- Gold standard in ambulatory care
- Conflicting standards as to whether the bell or diaphragm of stethoscope should be used

Research Question
Does utilizing the stethoscope bell versus the stethoscope diaphragm affect manual BP measurement?

Methods
- Systematic literature review
- Cochrane Collaboration process

Selection Criteria
- English language
- Clinical research study
- Examine impact of stethoscope side used for manual BP measurement

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Results
- 7 case-control studies published between 1983-2016
- 5 studies conducted in the US; 2 internationally
- Participants included healthy populations (n=2), outpatients with hypertension (n=2), & acute care patients (n=3)

Conflicting Findings
- 2 studies found no difference in manual BP measurement
- 3 studies found a difference in either DBP or SBP only
- 2 studies found a difference in both SBP & DBP

Quality Appraisal (n=7)

Question: Does utilizing the stethoscope bell versus the stethoscope diaphragm affect manual BP measurement?

PubMed (n=21)
CINAHL (n=8)
ProQuest (n=20)

Merged databases and removed duplicates (n=49)

Review of Titles/Abstracts
Excluded: (n=39)

Full Article Review (n=10)
Excluded due to lack of evaluation of stethoscope bell vs. diaphragm (n=3)

Conclusions & Implications
- The published literature inadequately answers the question
- Future studies in larger, nationally representative samples with varying BP levels & treatment are indicated
- Acknowledge the lack of evidence on stethoscope side when teaching students about manual BP measurement
- Currently, either side may be used