



POSTER PRESENTATION

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The effect of pre-measurement rest time on systolic ankle pressure measurements

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Background

Systolic ankle pressures are measured as part of an ankle-brachial index (ABI) to screen for the presence of peripheral arterial disease (PAD). Despite widespread use of the ABI, there is currently no research evidence investigating the amount of pre-measurement rest required for the systolic ankle pressure to stabilise.

Methods

One hundred and forty participants meeting current guidelines for screening for PAD volunteered for this study. Following 5 minutes of rest in the supine horizontal position, ankle systolic pressures of the left or right lower extremity were taken using hand-held Doppler. Measurements were repeated at 10 and 15 minutes. Testing was repeated 7-10 days later.

Results

A significant drop in ankle pressure of 5.02 mmHg occurred between 5 and 10 minutes ($p < 0.05$) however no significant change occurred between 10 and 15 minutes (mean change 0.15 mmHg, $p = 0.99$). Presence of diabetes was associated with a smaller drop between 5 and 15 minutes (mean change 1.85 mmHg) and predicted 14% of the variance in change in ankle pressure ($\beta = -3.72$, $p > 0.05$). Test-retest reliability after 5 minutes was excellent (intraclass correlation coefficient (ICC): 0.84) however increased for measurements taken at 10 and 15 minutes (ICC: 0.89 and 0.89 respectively).

Conclusions

Results suggest ankle systolic pressures stabilise after 10 minutes of rest. Longer periods of pre-measurement rest did not improve reliability of the measurement significantly. Presence of diabetes affects ankle pressure

changes in response to rest, however further investigation is required to identify the cause.

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