

Agreement of VICORDER® and SphygmoCor XCEL on Measures of Carotid-Femoral Pulse Wave Velocity

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METHODS

Study Design

- Single Visit Agreement
- Randomization
 - Starting Posture
 - Cuff Placement
 - Device Order

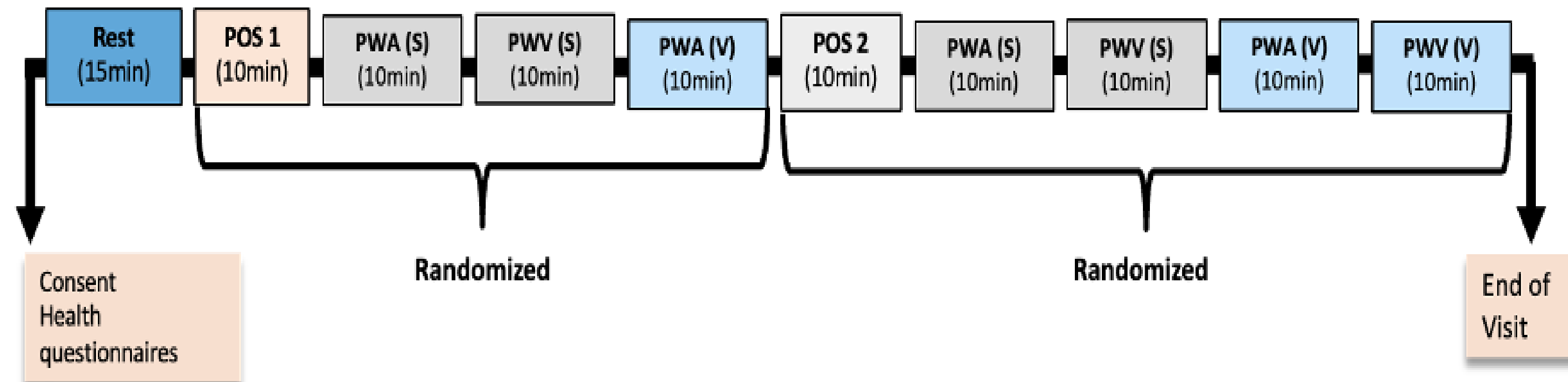


Figure 1. Study Design

Participants/ Sampling

- 15 adults (18-45, average 25±5.37 years old)
- Final sample: n=11, 3 excluded for personal reasons, 1 excluded for data outlier
 - 75% female
 - n=4 reported family history of CVD or sudden cardiac death
 - 78% participated in moderate-vigorous physical activity

Measurements

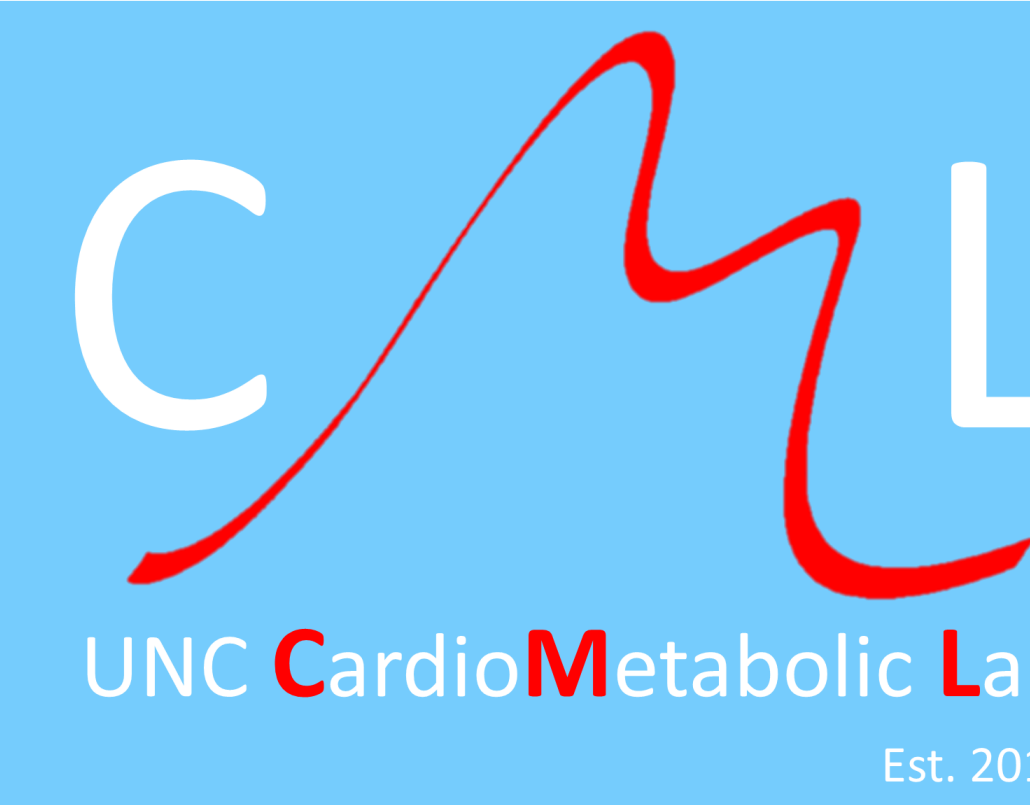
- Arterial Stiffness (cfPWV)
 - Vicorder
 - SphygmoCor XCEL

Analysis

- Pearson's r
- Bland-Altman plots
- Limits of Agreement (LoA)
- Intra-class Correlation Coefficient (ICC) 2,k
- Standard error of estimate (SEE)



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PROBLEM

Many devices exist to measure PWV as a measure of AS
Postural effects have not been assessed

OBJECTIVE

Compare cfPWV measures between Vicorder and SphygmoCor XCEL at 25° Posture and evaluate agreement
Evaluate intra-device agreement of SphygmoCor XCEL cfPWV measurements in response to orthostatic change

CONCLUSIONS

Vicorder and SphygmoCor XCEL cannot be used interchangeably to assess cfPWV.

cfPWV measures using the SphygmoCor XCEL at Supine v 25° are trending toward agreement

QR Download: poster, further data

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RESULTS

Table 1. SphygmoCor XCEL Supine v Vicorder 25°

| Statistics | Value |
|--------------|------------------|
| Pearson's r | r=0.564, p=0.071 |
| Bland-Altman | MD=1.850 |
| LoA | [-0.232, 3.932] |
| ICC 2,k | 0.396 |
| SEE | 1.0482 |

Table 2. SphygmoCor XCEL 25° v Vicorder 25°

| Statistics | Value |
|--------------|------------------|
| Pearson's r | r=0.634, p=0.036 |
| Bland-Altman | MD=2.,686 |
| LoA | [0.661, 4.711] |
| ICC 2,k | 0.309 |
| SEE | 1.264 |

Table 3. SphygmoCor XCEL Supine v 25°

| Statistics | Value |
|--------------|------------------|
| Pearson's r | r=0.726, p=0.011 |
| Bland-Altman | MD=0.836 |
| LoA | [-2.577, 0.905] |
| ICC 2,k | 0.742 |
| SEE | 0.804 |