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**Introduction:**
Laser speckle contrast imaging (LSCI) is a common, non-contact and practical method used to assess blood flow of tissue surfaces. We have lack knowledge about comparability of different LSCI devices due to the arbitrary units (AU) used to define blood flux. We sought to examine the linearity between skin blood flux, recorded using two different LSCI devices.

**Methods:**
We performed post-occlusive reactive hyperemia test (PORH) on the arm and measured blood flux on the hand using two different LSCI devices (Moor Instruments, Devon, UK and Perimed AB, Järfälla, Sweden). All volunteers were measured at baseline, during occlusion and after release of occlusion during the hyperemia phase. The third finger and fourth finger nail were selected for recording blood flux and AU were used to express values.

**Results:**
Fifteen healthy, non-smoker male volunteers participated in this study. An excellent correlation was found between the two LSCI devices (finger: R²:0.79, p<0.001 & finger nail: R²:0.68, p<0.001). Data were also assessed in terms of the variability at different stages of the PORH test (Figure A-D). Correlation of devices was still high at baseline, first minute of occlusion and in the post-occlusion hyperemia phase. However, in the period between 1 minute after start of the occlusion and the beginning of the hyperemia, correlation was lower for the whole finger (R²:0.21, p=0.002) and correlation was lost for fingernail (R²:0.05, p=0.14) between the two devices.

**Conclusion:**
Skin blood flux measured with two different LSCI devices are linearly correlated with each other. However care should be taken when assessing patients with low blood flux such as occurs during shock and ischemic organs.
Figure 1

Whole procedure of PORH (A and B); Blue: Whole finger. Red: Finger nail

After occlusion (C and D); Blue: Whole finger. Red: Finger nail

Figure 1