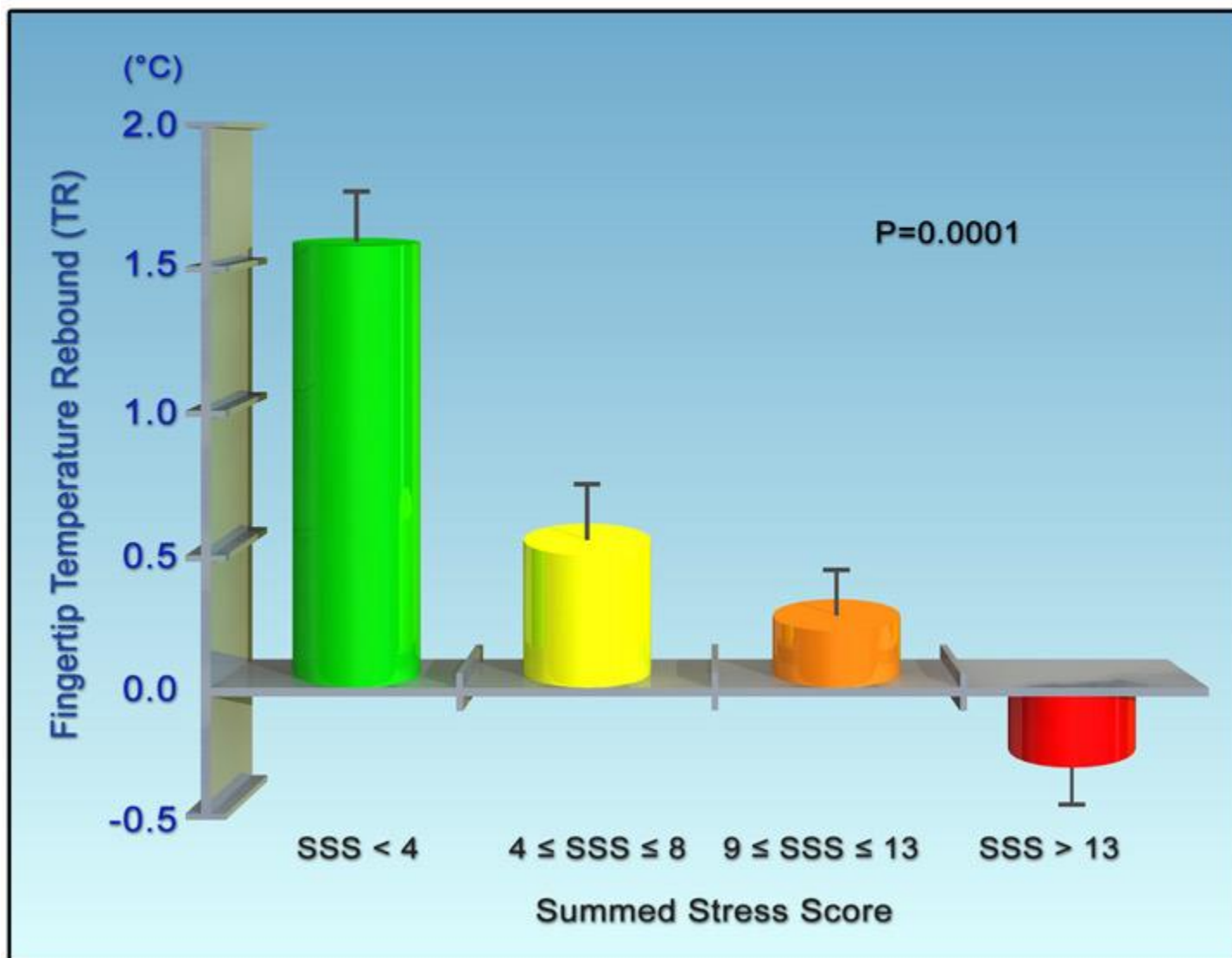


## VENDYS for Symptomatic Patients

In Patients with Chest Pain, Lower Fingertip Temperature Rebound is Associated with Myocardial Perfusion Defects



### Impaired Vascular Reactivity and Endothelial Dysfunction Measured by Fingertip Thermal Monitoring Correlates with Myocardial Perfusion.

Background: Previous studies have shown that vascular dysfunction measured by Digital Thermal Monitoring (DTM) during an arm-cuff reactive hyperemia procedure correlates with the severity of coronary artery disease measured by coronary artery calcium in asymptomatic patients. Current study investigates the correlation between DTM and abnormal myocardial perfusion imaging (MPI). Methods: 116 consecutive patients with chest discomfort, age  $57 \pm 10$  years, underwent MPI, DTM and Framingham Risk Score (FRS) assessment. Fingertip temperature rebound (TR), DTM index of vascular reactivity, was assessed after a 2-minute arm-cuff reactive hyperemia test. The extent of myocardial perfusion defect was measured by summed stress score (SSS). Results: TR decreased from SSS<4 ( $1.61 \pm 0.15$ ) to  $4 \leq \text{SSS} \leq 8$  ( $0.5 \pm 0.22$ ) to  $9 \leq \text{SSS} \leq 13$  ( $0.26 \pm 0.15$ ) to SSS>13 ( $-0.37 \pm 0.19$ ) ( $p=0.0001$ ). After adjusting for cardiac risk factors, the odds ratio of the lowest vs. 2 upper tertiles of TR was 3.93 for SSS≥4 and 9.65 for SSS≥8 compared to SSS<4. TR correlated well with SSS ( $r= -0.88$ ,  $p=0.0001$ ). Addition of TR to FRS increased the area under the ROC curve to predict abnormal MPI, SSS≥4, from 0.65 to 0.84 ( $p<0.05$ ). Conclusion: Vascular dysfunction measured by DTM is associated with the extent of myocardial perfusion defect independent of age, gender and cardiac risk factors.