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## Chronic CAD/Stable Ischemic Heart Disease

### WHAT IS THE PROGNOSTIC VALUE OF THE ST DEPRESSION CRITERIA FOR ISCHEMIA RECOMMENDED IN THE UNIVERSAL DEFINITION FOR MYOCARDIAL INFARCTION?

Oral Contributions

West, Room 3010

Sunday, March 10, 2013, 8:30 a.m.-8:45 a.m.

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Session Title: State-of-the-Art Evaluation and Management of SIHD: Past, Present, Future

Abstract Category: 10. Chronic CAD/Stable Ischemic Heart Disease: Clinical

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**Background:** The new Universal Definition for Myocardial Infarction includes electrocardiographic (ECG) criteria for ischemia, specifying horizontal or down-sloping ST depression  $\geq 0.05$  mV in two contiguous ECG leads. Because these requirements are based on experience from studies prior to modern ECG technology, we propose using the surrogate of cardiovascular (CV) death to evaluate them. Specifically, we evaluated the need to require that ST depressions be in contiguous leads with horizontal or downward slope, and compared the relative importance of ST depressions in different lead groups.

**Methods:** We evaluated computerized ST amplitude measurements, in different lead groupings, from the resting ECGs of 43,689 patients collected between 1987 and 1999 at the Palo Alto Veterans Affairs Medical Center. The average age was 56 ( $\pm 15$ ) years, 90% were male, 12% were of African descent, and 74% were outpatients. There were 3,929 (9.0%) cardiac deaths over a mean follow-up of 7.6 ( $\pm 3.8$ ) years. Cox hazards were calculated with CV death as the endpoint.

**Results:** We found that ST depressions in contiguous leads, depending upon the lead groupings, have sensitivities ranging from 1% - 6%, specificities exceeding 98%, and relative risks ranging from 3.1 - 7.0 ( $p < 0.001$  for each individual relative risk) while ST depressions in a single lead have sensitivities ranging from 3% - 12%, specificities exceeding 97%, and relative risks ranging from 2.8 - 5.3 ( $p < 0.001$  for each individual relative risk). We found that up-sloping depressions have greater sensitivities than horizontal or down-sloping depressions with the highest sensitivity in V4, 5 and 6 (31% vs. 10%, respectively). Additionally, we found that depressions isolated to the inferior or anterior lead groups without depression in V4, 5 and 6 did not have an associated increase in risk of CV death.

**Conclusion:** If these findings can be reproduced in the acute setting, they argue for removing the requirement for contiguous lead depressions with slope assessment and prioritizing ST depression in V4, 5 and 6. Furthermore, this information will improve the ability to estimate future risk of CV death.