## Dr. Michael Richman to Analyze the Relevance of MTHFR Polymorphisms in Venous Disease with or without Concomitant Thrombosis

**December 1, 2011– Richmond, Virginia** – Health Diagnostic Laboratory, Inc. (HDL, Inc.) announced today that medical advisory board member Michael F. Richman M.D., F.A.C.S., founder of the Center for Cholesterol Management and The Elite Laser Vein Center in Los Angeles, has initiated a study that will analyze the relevance of MTHFR polymorphisms in venous disease with or without concomitant thrombosis.

It has been reported that a mutation in the gene encoding methylenetetrahydrofolate reductase (MTHFR) is associated with both varicose veins (Svedlova et al., 1998) and superficial venous thrombosis (Wilmanns et al., 2011). "The etiologies of varicose veins and the progression to more serious forms of chronic venous disease are still not well understood, and identification of appropriate diagnostic tests to better stratify risk could aid patient management by identifying individuals who may benefit from more aggressive treatment and/or prophylactic measures, " said Dr. Michael Richman.

This is a cross-sectional, observational study comparing MTHFR status as well as several other genetic and acquired thrombophilic factors in patients with varicose veins vs. controls, with low (C2-C3) vs. high (C4-C6) severity venous disease, and with vs. without associated venous thrombosis. A total of 90 subjects will be enrolled; 60 subjects with varicose veins (30 C2-C3 and 30 C4-C6) and 30 controls with no evidence of venous disease. Baseline and 3 month follow-up visits will include relevant clinical assessments (including determination of thromboses by duplex sonography, medical and family history, and blood draws for laboratory testing).

"The prevalence of each mutation will be compared between study groups with Pearson's Chi-Square test, and odds ratios with 95% confidence intervals will be calculated," said Dr. Richman. Analysis of Variance (ANOVA) will be used to compare laboratory values between the study groups.

The primary objectives of Dr. Richman's study will be to determine whether the prevalence of the MTHFR mutation differs between patients with varicose veins compared to controls, and between low (C2-C3) and high (C4-C6) severity venous disease, as well as to determine whether the prevalence of the MTHFR mutation differs between patients with or without superficial vein thrombosis. Dr. Richman's secondary objective will be to assess whether venous disease progression over 3 months differs based on MTHFR status and to characterize differences between known inherited thrombophilias and results from a panel of inflammatory, oxidative, metabolic, and lipoprotein markers between the study groups.

"The launch of the study, as well as the partnership between HDL, Inc. and Dr. Richman as a whole, represents a focused effort to advance the preventative model for chronic

disease management, based on a recent monumental shift in the way physicians test for life-threatening conditions," said Tonya Mallory, President and CEO of HDL, Inc.

Dr. Michael Richman, is a dual board certified cardiothoracic/cardiovascular surgeon and leading expert on cholesterol management and advanced lipoprotein testing. Along with his advisory position with HDL, Inc., he is on the editorial board of the Journal of Clinical Lipidology, a medical editor for WebMD and writes frequently for the national heart health examiner on Examiner.com. Dr. Richman is known for performing the most comprehensive cardiovascular screening available in the United States and has been featured on national programming, including syndicated radio program The Dennis Prager Show; several television news programs including The Daily Buzz, KABC/KCAL and Southern California Life in Los Angeles; and KYMA, WFLA, WZTV. He is often a speaker for both fire and police agencies in the greater Los Angeles area on ways public safety personnel can reduce their risk of heart disease, the number one killer of Firefighters.

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