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Editor's Note: Marwood Ediger, Ph.D., VeraLight's Chief Technology Officer, will be presenting the research paper, "Noninvasive Type 2 Diabetes Screening," Family Medicine Research Presentations, Saturday, September 30th, 8:00 am-9:45 a.m., Rm 158, Washington Convention Center.

FOR IMMEDIATE RELEASE

STUDY SHOWS NON-INVASIVE DEVICE OUTPERFORMS FASTING PLASMA GLUCOSE AND A1C FOR DIABETES SCREENING Skin Biomarkers Predict Diabetes Risk in Non-Fasting Patients

WASHINGTON, D.C., September 29, 2006 — Researchers will report tomorrow results of a follow-on study of the first non-invasive, diabetes-screening device that was able to significantly outperform the fasting plasma glucose (FPG) test and the A1C test for identifying diabetes and pre-diabetes in individuals with one or more known risk factors for the disease. Presented at the 2006 Scientific Assembly of the American Academy of Family Physicians, held here, the study showed a prototype of the device was able to identify 29% more patients than the FPG test and 17% more patients than the A1C test. Both the FPG and A1C are blood tests used to screen and evaluate patients at risk for diabetes.

The study was conducted by researchers from the University of New Mexico School of Medicine, TriCore Reference Labs, InLight Solutions and VeraLight — the developer of the non-invasive diabetes-screening device code-named "Scout." Slated for market introduction in early 2008, the device is able to detect abnormal concentrations of diabetes-related biological markers found in skin in less than one minute using fluorescent light from an individual's forearm — regardless of skin color. Unlike the FPG test, the device does not require a blood draw or an overnight fast prior to testing. Although the A1C test does not require the patient to fast, a blood sample is needed to perform it.

"Considering one no longer needs to provide a fasting blood sample prior to testing, the overall convenience and superior accuracy of Scout is a major breakthrough in diabetes and pre-diabetes screening that could dramatically reduce the costs and morbidity associated with this disease," said R. Philip Eaton, M.D., a renowned diabetes specialist, professor emeritus and former vice president of the University of New Mexico Health Sciences Center.

Skin Biomarkers Predict Diabetes and Its Complications

According to medical experts, non-invasive skin detection of "advanced glycation endproducts," or AGE, could replace the FPG test as the medical workhorse for screening people suspected of having diabetes. Previous studies have shown AGE are biological markers that correlate well with diabetes and are a predictor of the disease's serious complications. Analogous to a "diabetes odometer," AGE are a sensitive metric for the cumulative damage the body has endured due to the effects of abnormally high blood sugar and oxidative stress. They affect the proteins that make up blood vessels, connective tissue and skin, and are thought to be major factors in aging and age-related chronic diseases.

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Non-invasive Device Identifies More Patients at Risk for Diabetes

The study was a head-to-head evaluation of the Scout prototype against the FPG and A1C tests in 351 subjects at risk for diabetes or pre-diabetes. Used to screen and evaluate individuals at risk for diabetes, the FPG test measures a patient's blood sugar after an overnight fast and the A1C test measures the body's average glucose metabolism over the past 90 days. The oral glucose tolerance test, which measures blood glucose two hours after oral administration of a 75-gram glucose load, was used in the study as a confirmatory test.

The subjects in the study ranged in age from 21 to 86 years old. At the lower, impaired fasting glucose threshold of 100 milligrams per deciliter (mg/dl), the FPG sensitivity was 58%, the A1C sensitivity was 64%, while the Scout's sensitivity was 75%. Scout's improved sensitivity did not result in an increased rate of false positives — erroneous positive identification of an at-risk patient. As a result, the device was able to identify 29% more individuals with undiagnosed diabetes or impaired glucose tolerance than the FPG test and approximately 17% more than the A1C test.

VeraLight's Diabetes Screening System

The product of VeraLight's proprietary SAGE™ (Spectroscopic Advanced Glycation Endproducts) detection technology, Scout is a portable, desktop system weighing about 10 pounds. After the subject places the palm side of their forearm onto the system, the device shines various wavelengths of light onto the skin that causes the AGE to emit a fluorescent light signature that indicates diabetes risk. The instrument optically calibrates for skin pigmentation so that performance is not diminished by skin coloration. A specially designed fiber-optic probe couples the excitation light to the subject and relays resulting skin fluorescence to a detection module. The system's software utilizes multivariate statistical techniques that are applied to the emitted light spectra to obtain a diabetes risk score. Total measurement time is about a minute.

Need for Early and More Accurate Diabetes Screening

According to a study published in the June issue of *Diabetes Care*, more than 73 million Americans — one third of the adult population — now have diabetes or may be on their way to getting it. Due to their inaccuracy and inconvenience, current screening methods for diabetes are grossly inadequate. Consequently, 50% of diabetics are not identified until they present 5-to-9 years into the disease with one or more often-irreversible complications. A more accurate and convenient screening method could dramatically reduce the costs and morbidity associated with such complications, allowing patients to halt or reverse disease progression.

About VeraLight

VeraLight, based in Albuquerque, is a privately held medical instrumentation company applying its proprietary SAGE technology to develop the first non-invasive diabetes screening system that provides healthcare professionals with a more accurate and convenient method for detecting type 2 diabetes and pre-diabetes based on the presence of biomarkers found in skin. See <http://www.veralight.com> for more information.