



For Immediate Release

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## **CardioWise™ Completes Installation of the First Totally Integrated CardioWise Analysis Software at National Institutes of Health, National Heart, Lung and Blood Institute**

***Company's cardiac imaging analysis software chosen to evaluate the efficacy of an NIH clinical research study using bone marrow stem cell injections during cardiac surgery to treat heart muscle dysfunction associated with ischemic heart disease or damage from heart attack.***

Fayetteville, Ark. — February 19, 2015 — CardioWise, Inc. has completed development of the first fully integrated version of its Multiparametric Strain Analysis Software (MPSA™) and has installed it at the National Institutes of Health (NIH), National Heart, Lung, and Blood Institute (NHLBI). MPSA software is being used in clinical research protocol number 12-H-0078, sponsored by the NHLBI entitled, "Preliminary Assessment of Direct Intra-Myocardial Injection of Autologous Bone Marrow-derived Stromal Cells on Patients Undergoing Revascularization for Coronary Artery Disease (CAD) with Depressed Left Ventricular Function." The Principle Investigator is Dr. Keith A. Horvath, the Director of Cardiothoracic Surgery at the NHLBI and Chief of Cardiothoracic Surgery at Suburban Hospital, where he leads the NIH Heart Center. Details of the study are available here:

[http://clinicalstudies.info.nih.gov/cgi/wais/bold032001.pl?A\\_12-H-0078.html@mesenchymal@@@](http://clinicalstudies.info.nih.gov/cgi/wais/bold032001.pl?A_12-H-0078.html@mesenchymal@@@).

The recently completed integrated version of CardioWise analysis software has been installed at the NIH; and, Dr. Justin Miller, and Dr. Ming Li, both research fellows in the Cardiothoracic Surgery Research Program of the NHLBI, have been trained on its operation and use. They were assigned to the project by Dr. Horvath and Dr. Andrew Arai, Chief of the Advanced Cardiovascular Imaging Research Group in the NHLBI's Division of Intramural Research. CardioWise has completed validation testing of its software and the analyses of the first two patient cardiac MRI (CMR) data sets are in process. The patients who enrolled in the protocol received one baseline CMR scan and three additional follow-up CMR scans. Those CMR scans are being analyzed by CardioWise analysis software and the analyses will be compared to determine whether stem cell injections can improve the contractile function of the heart muscle by repairing damaged tissue.

The installation at the NIH under a Beta site agreement signed in 2014 marks the first clinical test of CardioWise MPSA software outside of Washington University School of Medicine in St. Louis, where it was developed. CardioWise has obtained the exclusive worldwide license for the patent-pending software and accompanying normal hearts database from Washington University in St. Louis. The company's MPSA software is uniquely capable of analyzing the three-dimensional motion of the heart that is acquired from cardiac MRI images and then comparing the analysis at 15,300 points to the motion of a normal heart model. The analysis detects portions of the heart that are moving abnormally and demonstrates to what degree the heart muscle has been affected. Since MRI uses no ionizing radiation or contrast, it is completely non-invasive and poses minimal risk to the patient. This allows the patient to be followed through the course of treatment and to measure outcomes of interventions such as the stem cell therapy currently being evaluated. In the near future, CardioWise MPSA may aid doctors to determine what intervention, such as surgery, stent insertion, or drug is most appropriate for the patient who presents with cardiovascular disease symptoms.

***CardioWise™ is commercializing patent-pending, non-invasive Cardiac Magnetic Resonance Imaging (CMR) analysis software that produces a quantified 4D image model of the human heart, called Multiparametric Strain Analysis™ (MPSA™). CardioWise heart analysis software combined with cardiac MRI is a single diagnostic test that is able to provide quantitative analysis of the myocardium, arteries and valves with an unprecedented level of detail. It has the opportunity to become the new gold standard of care for heart health analysis. CardioWise™ is a VIC Technology Venture Development™ portfolio company.***

