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NEWS RELEASE
TSX Venture Exchange: NVC

NEOVASC'S TIARA™TRANSCATHETER MITRAL VALVE SELECTED AS A "BEST" NEW DEVICE CONCEPT AT TCT 2012 SCIENTIFIC SYMPOSIUM

--Researchers Presented Positive Preclinical Data That Set the Stage for Longer-Term Tiara Studies Now Underway and Human Trials Planned for 2013--

--Researchers Also Presented Preliminary Registry Study Results Showing Improved Clinical Status in Refractory Angina Patients Implanted with Neovasc Reducer™--

Vancouver, BC, Canada – October 23, 2012 - Neovasc Inc. (TSXV: NVC) today announced that its Tiara™ transcatheter mitral valve in preclinical development for the treatment of mitral valve disease was selected for an oral presentation as a "Best" New Device Concept for 2012 during an opening session at the 24th Annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium, sponsored by the Cardiovascular Research Foundation. Ten abstracts were selected for this honor from among 1750 abstracts submitted. A second oral presentation of Tiara data is scheduled for tomorrow. Researchers are also presenting Registry data showing that refractory angina patients implanted with the Neovasc Reducer™ have demonstrated improved clinical status and had no adverse events six months after implantation.

"This has been a very positive meeting for Neovasc as we continue to generate positive data that support the advancement of both the Tiara transcatheter mitral valve program and the Reducer, our device-based therapy for patients with refractory angina," noted Alexei Marko, CEO of Neovasc. "Early Registry data for the Reducer confirm that patients exhibit significant, measurable clinical benefits post-implantation, and the Tiara program is generating a great deal of interest as the successful completion of our acute preclinical testing has enabled us to begin long-term animal safety studies. If all goes well, we anticipate Tiara human trials will commence in 2013."

The Tiara program is a novel solution to treat mitral valve regurgitation, a serious and poorly served condition affecting millions of cardiac patients. Current treatment options are limited since conventional surgical treatments are only appropriate for a small percentage of these patients. Tiara is intended to provide a minimally invasive transcatheter replacement for the mitral valve.

In the Tiara presentation, researchers concluded that initial preclinical experience with the Tiara mitral valve was encouraging and that implantation was feasible, relatively straightforward and has resulted in a securely-implanted, well-functioning device that maintained good hemodynamics in the test animals.

They reported that during these acute animal studies, the Tiara valves were implanted successfully in 81% of the test animals, with total procedure times ranging from 17 to 26 minutes. In the successful implantations, angiographic and echo imaging demonstrated excellent function of the Tiara device, with no obstruction of the left ventricular outflow tract, no pericardial effusion, no encroachment on the aortic valve, no transvalvular gradients and most importantly, no significant paravalvular leak. Researchers also reported early results from the first long-term animal implantations of the Tiara device, including echocardiogram images of Tiara valves obtained approximately three months after implant, which demonstrated continuing good function and integrity of the valve. These chronic animal studies are ongoing.

At TCT 2012, researchers are also presenting new data on the Neovasc Reducer, a novel device designed to treat the millions of patients worldwide who suffer from refractory angina, a painful and debilitating condition that occurs when the coronary arteries deliver an inadequate supply of blood to the heart muscle. The Reducer is intended to provide relief of refractory angina symptoms by altering blood flow through the myocardium, thereby increasing

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perfusion of oxygenated blood to ischemic areas of the heart. Placement of the Reducer is performed using a percutaneous procedure that is similar to implanting a coronary stent.

The Reducer has received a CE mark designation in Europe for the treatment of refractory angina, and patients are presently being enrolled in two open-label, multicenter, non-randomized, prospective Registries (REDUCE-1 and REDUCE-2) to collect additional clinical data on the product. Neovasc is also enrolling patients in the COSIRA trial, a sham-controlled, randomized, double-blinded study designed to further demonstrate the efficacy of the Reducer and to support additional regulatory applications.

The Neovasc researchers reported on the experience of the first 11 patients who were implanted with the Reducer and followed for six months or more as part of the REDUCE-1 and REDUCE-2 Registries. No complications or cardiac adverse events were recorded in these patients. Clinical parameters including the patients' angina scores and their daily consumption of nitroglycerin were diminished significantly six months after Reducer implantation. Additionally, exercise stress test parameters improved, and functional imaging of myocardial perfusion showed that blood flow in the heart improved significantly. Measures of left ventricular ejection fraction, considered a key indicator of cardiac function, also improved after Reducer implantation.

Dr. Shmuel Banai, lead author of the study and Medical Director of Neovasc, commented, "These preliminary results from the REDUCE Registries further confirm that implantation of the Reducer in patients with refractory angina is safe and simple to perform. We are encouraged that these patients are demonstrating improvement on multiple objective parameters of cardiac function six months after implantation. We look forward to analyzing additional data from the Registries and from the COSIRA trial, which we expect to complete in 2013."

The Neovasc TCT 2012 presentations include the following:

Interventional Innovation: Novel Therapies and the "Best" New Device Concepts for 2012
Session IV. The Transcatheter Valve Therapy Explosion: An Innovators Dream Scenario
A Novel Catheter-based Mitral Valve Bio-Prosthesis: Short Term Pre-Clinical Results, Shmuel Banai, E. Marc Jolicoeur, Marc Schwartz, Patrick Garceau, Simon Biner, Jean-Francois Tanguay, Raymond Cartier, Stefan Verheye, Christopher J. White, Elazer Edelman
Oct. 22, 2012, 1:30pm

Poster Abstract Session
Heart Failure, LV Dysfunction and Shock
The Coronary Sinus Reducer – a Device Based Therapy for Refractory Angina: Efficacy and Safety Results from the Ongoing Open Label Registry, Shmuel Banai, Maayan Konigstein, E. Marc Jolicoeur, Marc Schwartz, Yaron Arbel, Stefan Verheye
Oct. 23, 2012, 8:00-10:00am

Next Generation Transcatheter Mitral Valve Therapies
Session IV. Transcatheter Mitral Valve Replacement
Neovasc Tiara Program Update, Shmuel Banai, E. Marc Jolicoeur, Marc Schwartz, Patrick Garceau, Simon Biner, Jean-Francois Tanguay, Raymond Cartier, Stefan Verheye, Christopher J. White, Elazer Edelman
Oct. 24, 2012, 10:38am

About TCT
Transcatheter Cardiovascular Therapeutics (TCT) is the annual scientific symposium of the Cardiovascular Research Foundation. TCT gathers leading medical researchers and clinicians from around the world to present and discuss the latest developments in the field. TCT 2012 is being held October 22-26, 2012 in Miami, FL. For more information, visit www.tctconference.com.

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About Neovasc
Neovasc Inc. is a specialty medical device company that develops, manufactures and markets products for the rapidly growing cardiovascular marketplace. Its products include the Neovasc Reducer™ for the treatment of refractory angina, the Tiara™ technology in development for the transcatheter treatment of mitral valve disease and a line of advanced biological tissue products that are used as key components in a variety of third-party medical products, such as vascular surgical patches and transcatheter heart valves. For more information, visit: www.neovasc.com.

Statements contained herein that are not based on historical or current fact, including without limitation statements containing the words "anticipates," "believes," "may," "continues," "estimates," "expects," and "will" and words of similar import, constitute "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Such forward looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include, among others, the following: general economic and business conditions, both nationally and in the regions in which the Company operates; history of losses and lack of and uncertainty of revenues, ability to obtain required financing, receipt of regulatory approval of product candidates, ability to properly integrate newly acquired businesses, technology changes; competition; changes in business strategy or development plans; the ability to attract and retain qualified personnel; existing governmental regulations and changes in, or the failure to comply with, governmental regulations; liability and other claims asserted against the Company; and other factors referenced in the Company's filings with Canadian securities regulators. Although the Company believes that expectations conveyed by the forward-looking statements are reasonable based on the information available to it on the date such statements were made, no assurances can be given as to the future results, approvals or achievements. Given these uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. The Company does not assume the obligation to update any forward-looking statements except as otherwise required by applicable law.

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