

Neovasc Inc.

Alexei Marko, CEO

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Forward-Looking Statements



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; 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. 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.

Neovasc at-a-Glance



- Focused on innovative products to treat heart disease and related conditions
- Three key product lines under development with large growth potential:
 - 1. Neovasc Reducer™ for treatment of refractory angina (CE marked)**
 - 2. Implantable biological tissue and services** for transcatheter heart valves and other applications
 - 3. Neovasc Tiara™** for treatment of mitral valve disease
- Biological tissue business generating positive cash flow and growing revenues (~\$5.25M in 2011)
- TSX-Venture Exchange listed (TSXV: NVC)

Reducer Product

Treats Refractory Angina

- Inadequate blood flow to heart muscle that cannot be managed through conventional drug, catheter or surgical therapy
- Causes constant & severe heart pain
- Large & growing population of untreatable patients
 - Improved cardiac care → less mortality & more patients with advanced/end-stage disease



Reducer Market Opportunity

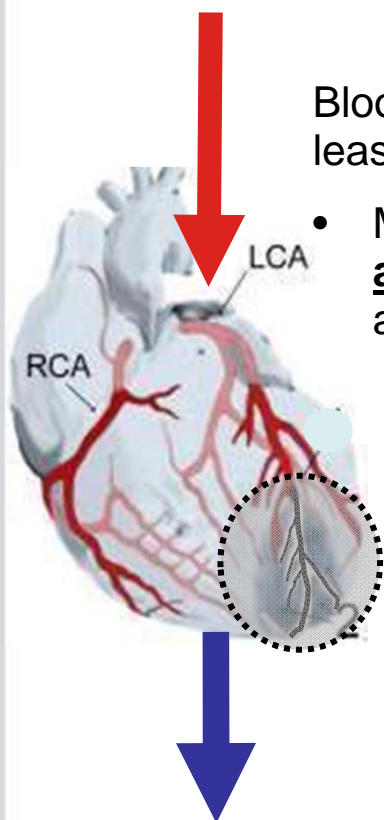


- ~ 2,000,000 existing “no option” refractory angina patients in US & Europe
- ~400,000 new “no option” patients diagnosed annually
- ~1,000,000 patients/year treated for “recurrent” angina



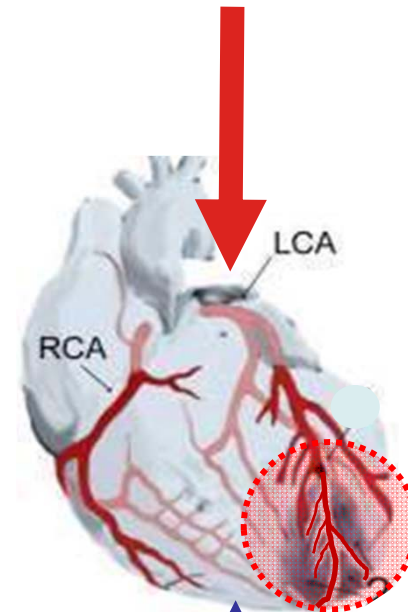
Reducer Method of Action

Reducer modulates outflow of blood from coronary veins, increasing blood flow to ischemic areas



Blood flow takes path of least resistance

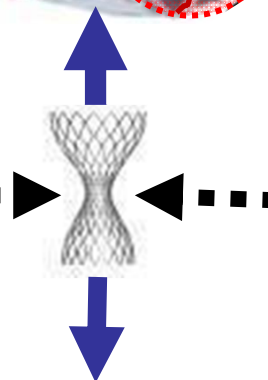
- Majority of blood flows around ischemic areas



Venous back pressure causes more uniform distribution of blood flow through heart muscle

- Forces more blood into ischemic areas
- Relieves angina

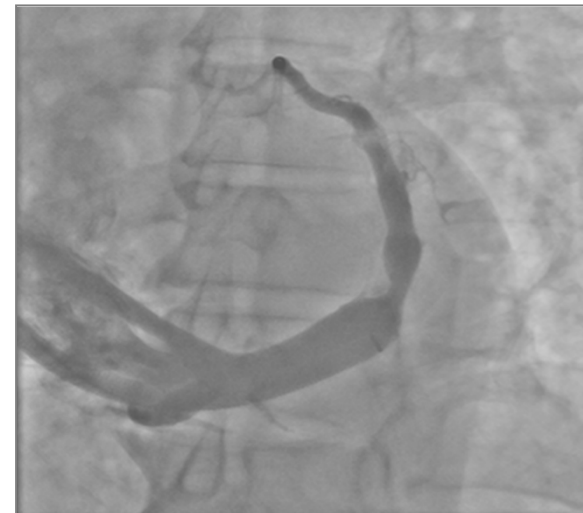
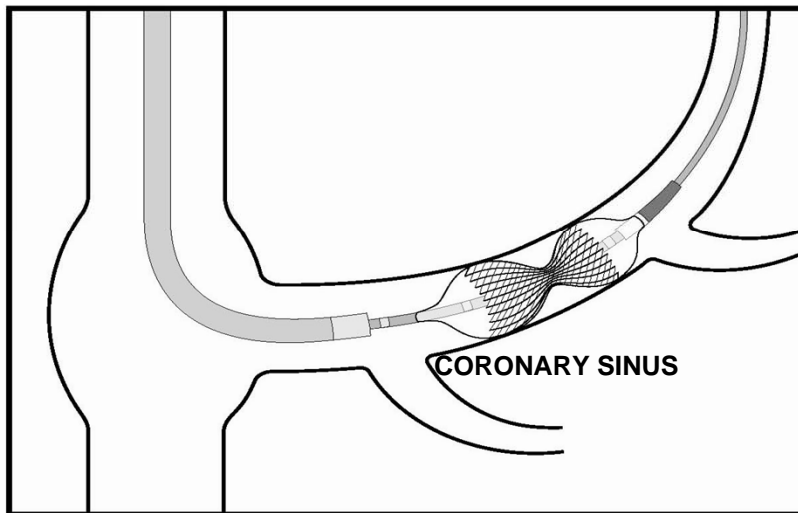
**Reducer
implanted in
coronary sinus
vein**



Reducer Procedure



- Based on 1950's surgical procedure (*Beck Procedure*)
- Reported excellent results but is no longer performed due to surgery's invasiveness
- Neovasc Reducer achieves same narrowing using modern non-surgical catheter-based techniques
- Reducer procedure takes ~20 minutes; patient discharged within 24 hours
- Safely provides treatment for an otherwise **untreatable** patient

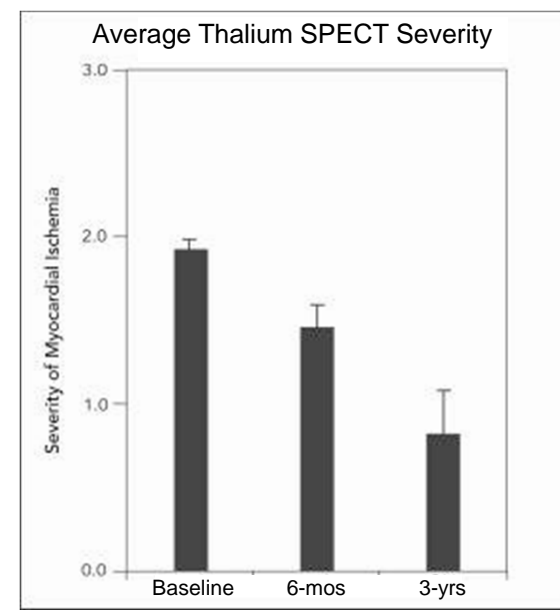
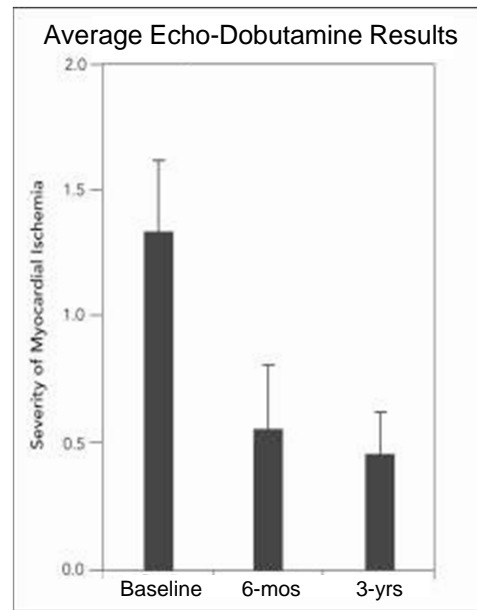
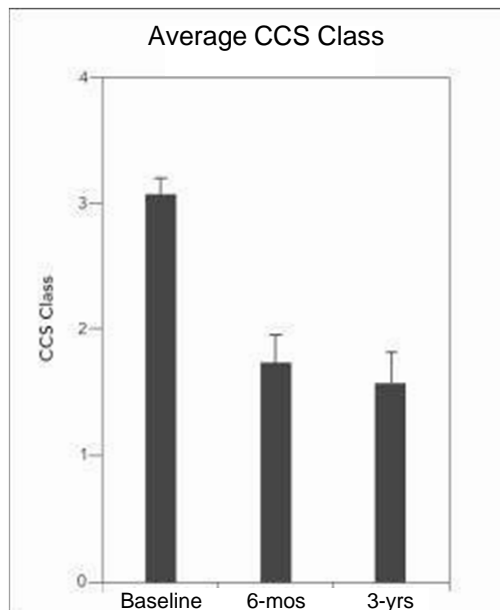


Reducer Clinical Results



Compelling clinical data from 1st human trial (15 patients, 3 centers)

- **6-month** data published in May 2007 JACC demonstrated safety & significant improvement of angina symptoms
- **3-year** follow-up data confirms excellent long-term safety & treatment durability (*presented at ACC, March 2010*)



Reducer COSIRA Trial



COSIRA (**C**oronary **S**inus **R**educer for Treatment of Refractory **A**ngina)

Double-blind, randomized, sham-controlled, multicenter, prospective trial

- 124 patients
- Randomized 1:1 to blinded treatment & sham control arms
- Primary endpoint: Efficacy @ 6-months
- Sites in Belgium, Canada, UK, Denmark, Sweden & Netherlands
- Estimate completing enrollment in Q2 2012

Data will support European market launch & provide pilot data for US FDA trial



Reducer Commercialization Timeline



1. Europe:

- CE mark received November 2011
- Continue to focus on COSIRA trial enrollment
- Collect additional clinical data through patient registries being initiated in Europe (REDUCE-1), Israel (REDUCE-2) and Canada (REDUCE-3)
- Launch with distribution partner(s) late 2012

2. US: FDA IDE trial to be initiated following completion of COSIRA study

Biological Tissue Products



- Proprietary process creates implantable, biocompatible tissue that retains strength & physical characteristics of natural tissue
- Developed specifically for fabricating surgical heart valves
- 20+ year implant history
- FDA-cleared, CE-marked, EDQM certified
- State-of-the-art facility & highly experienced team with expertise in tissue valve & vascular device development, manufacture, and commercialization



Biological Tissue Business



Neovasc provides:

- Custom biological tissue to a wide range of industry partners for use in their devices such as surgical patches and transcatheter heart valves
- Development & prototyping services for devices incorporating pericardial tissue
- Pilot & commercial manufacturing services for devices incorporating biological tissues

Turnkey solution for industry partners developing medical devices that incorporate pericardial tissue



Rapid Growth in Heart Valve Applications

- 2011 worldwide sales of ~\$600M and 2012 sales forecast to be ~\$900M from 1st generation transcatheter aortic valves
- Significant growth in market expected as 2nd & 3rd generation products reach commercialization



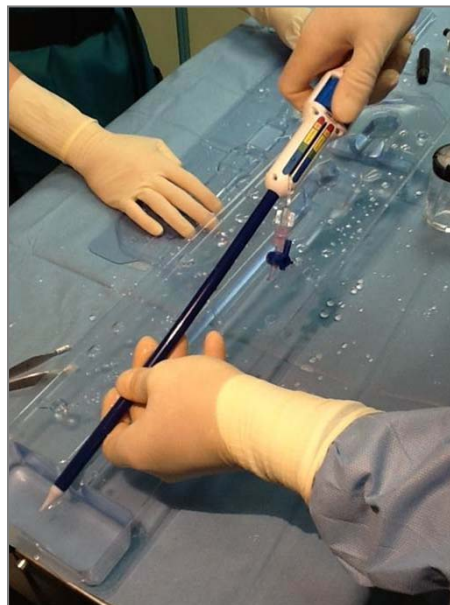
Neovasc is the leading independent supplier of biological leaflet material & related services to companies developing transcatheter heart valves

Tiara™ Mitral Valve Replacement



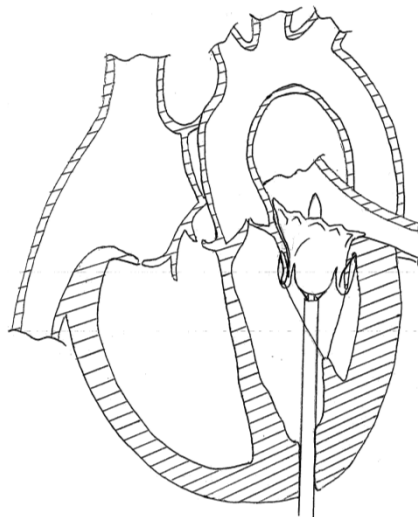
Neovasc is developing **Tiara™**-- a novel transcatheter device for the treatment of mitral regurgitation (MR). MR is a serious and widespread condition that can cause significant disability or death.

Tiara is delivered using a catheter inserted through the apex of the heart to replace a diseased mitral valve. A transfemoral version is also under development.



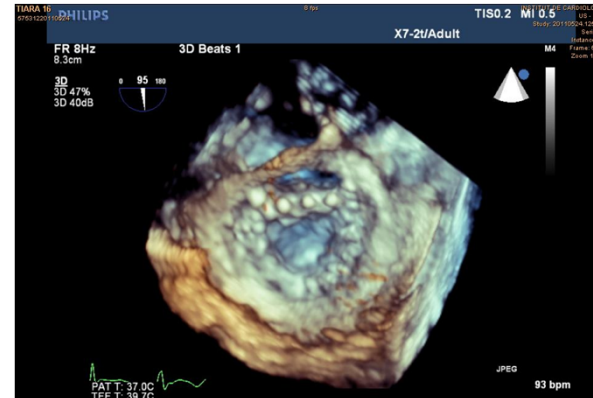
Tiara Key Features

1. Design is specific to the mitral anatomy & matches the natural shape of the mitral annulus
2. Resists high dislodgment forces during systole
3. Exerts minimal radial force on the mitral annulus
4. Does not inhibit LV function or obstruct LVOT
5. Preserves native structures in the LV (chordae, papillary muscles)
6. Implantation does not require rapid pacing and can be completed in under 10 minutes



Tiara Development Progress

- Multiple patent applications filed
- Refined valves and transapical delivery systems developed
- Preclinical testing underway (bench, acute / chronic animal)
- Durability (accelerated wear) testing in progress
- Clinical technique developed and refined through multiple animal implants
- Strong medical advisory team assembled and active
- Target first human implantation of Tiara in ~12 months



Tiara Market Opportunity

- Success of transcatheter aortic valves has positioned transcatheter mitral valve replacement as a major area of industry/clinical interest
- 600,000 new patients per year with mitral regurgitation in US and EU
- Only 20% of diagnosed patients currently undergo surgery
- Minimally invasive mitral valve replacement market potential estimated at **>\$1B**

Clinical Opinion Leaders



Leaders in interventional cardiology are assisting Neovasc programs

- Dr. Shmuel Banai (*Tel Aviv Medical Center*)
- Dr. Elazer Edelman (*Harvard – MIT, Cambridge*)
- Dr. Tim Henry (*Minneapolis Heart Institute*)
- Dr. Marc Jolicoeur (*Montreal Heart Institute*)
- Dr. Martin Leon (*Columbia University Medical Center, NYC*)
- Dr. William O'Neill (*Miller School of Medicine, University of Miami*)
- Dr. Jean-Francois Tanguay (*Montreal Heart Institute*)
- Dr. Stefan Verheye (*Antwerp Cardiovascular Institute*)
- Dr. Chris White (*Ochsner Medical Center, New Orleans*)

2012: Looking Forward

Continued growth of tissue business (2011 ~\$5.25M)

- Expect steady growth in 2012 with upside potential as customers' new products are commercialized

Complete COSIRA trial for Reducer and launch in Europe

- Controlled EU release in near-term to build clinical experience / data through REDUCE registries
- Complete COSIRA trial
- European launch targeted for late 2012

Continued development of Tiara

- Target 1st Tiara in humans study within 12 months



Capitalization & Trading



Shares outstanding	<ul style="list-style-type: none">• 45.7m (issued and outstanding)• 54.5m (fully diluted)
Public listing	<ul style="list-style-type: none">• TSXV: NVC
Key investors	<ul style="list-style-type: none">• Frost Group• Gagnon Securities• OPKO Health• Company directors and management
Cash requirements	<ul style="list-style-type: none">• August 2011 financing oversubscribed (raised \$4.7M)• Current cash on hand ~\$4M• Funding in place to achieve 2012 milestones

Thank you

