

Neovasc Inc.

September 2010

Alexei Marko, CEO

Chris Clark, CFO



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

- Medical device company focused on products used to treat heart disease and related conditions
- Two key product lines:
 - Neovasc Reducer™ for treatment of refractory angina
 - Peripatch™ implantable biological tissue for minimally invasive heart valves and other applications
- Initial products approved in US/EU with growing revenues (*\$3M in 2009*)
- Target positive cash flow in 2010 from biological tissue business
- TSX-Venture Exchange listed (Symbol: *NVC*)

Neovasc Key Products



Neovasc Reducer™
Treatment for Refractory Angina



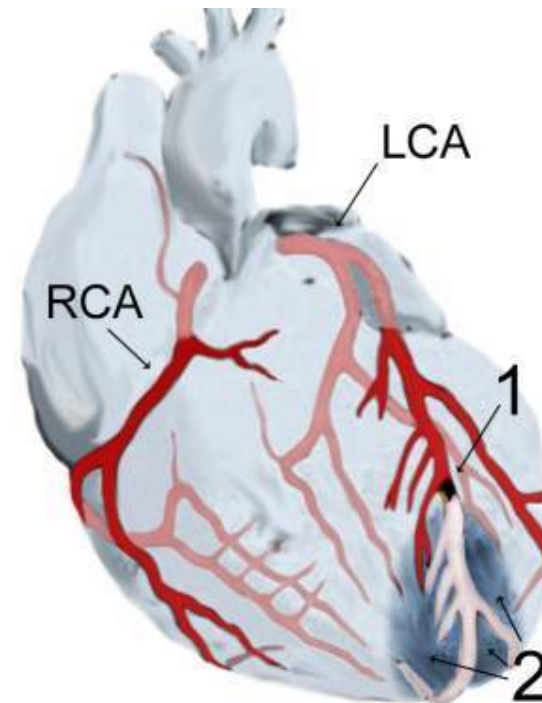
PeriPatch™
Implantable Biological Tissue

Neovasc Reducer



Treats “Refractory Angina”

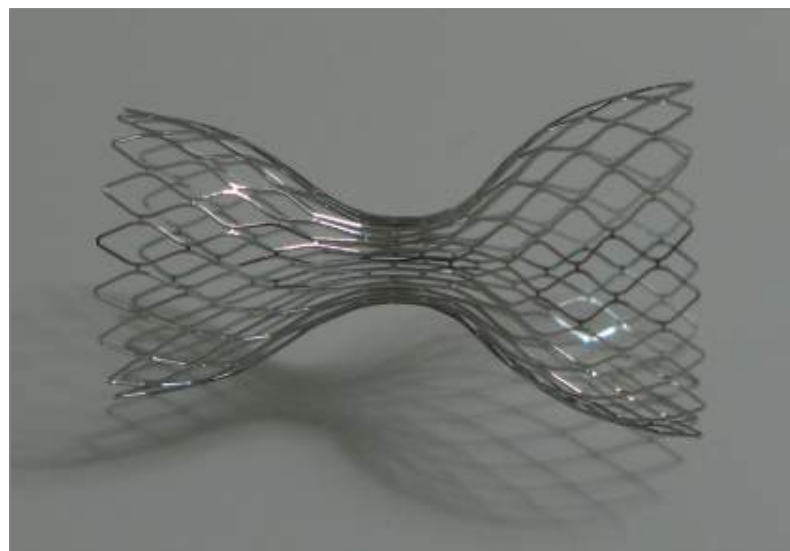
- Sometimes referred to as “*end stage heart disease*”
- Inadequate blood flow to heart muscle that can no longer be managed through conventional drug, catheter or surgical therapy
- Causes constant severe heart pain
- No effective options for MD’s to treat



Reducer Market Opportunity

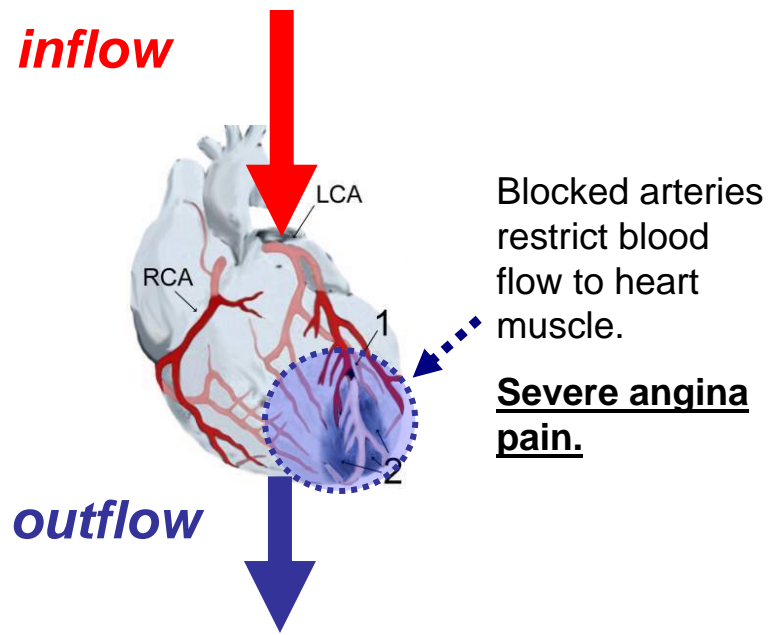
- ~1m existing “no option” refractory angina patients in US with ~200k new patients diagnosed annually. Similar numbers in Europe.
- ~1m patients/year in US & Europe combined that undergo repeated surgeries/catheterizations to treat recurrent angina

\$3b+ total annual market @\$3,000/unit

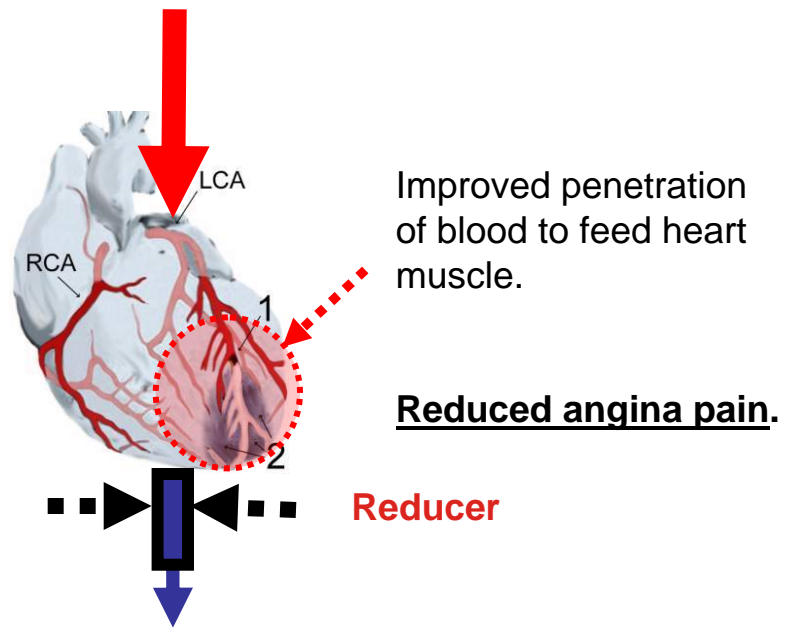


Reducer Treatment

Oxygenated blood feeds heart muscle through “coronary arteries”

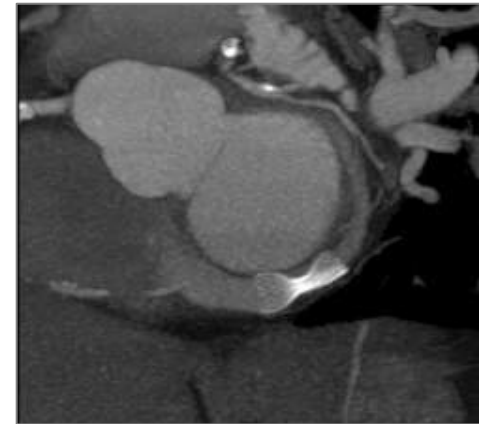
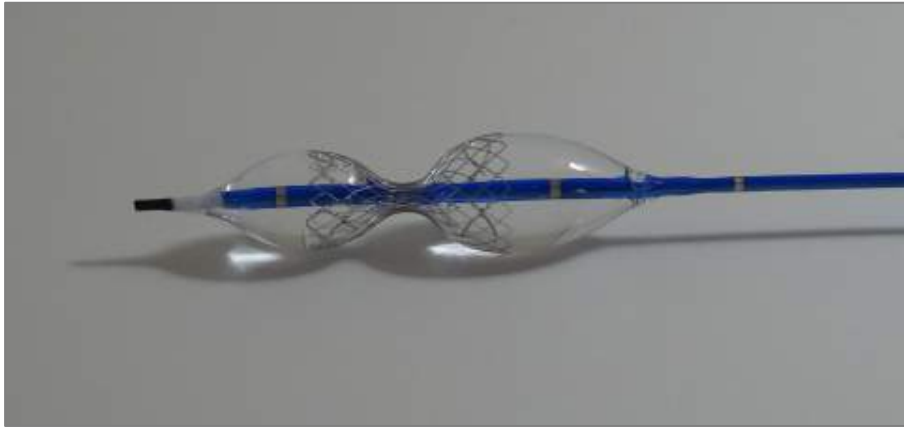


De-oxygenated blood from the heart muscle is collected in “coronary sinus”



Reducer restricts outflow of blood. Pushes blood deeper into the heart muscle to reach “ischemic” areas.

Reducer Procedure



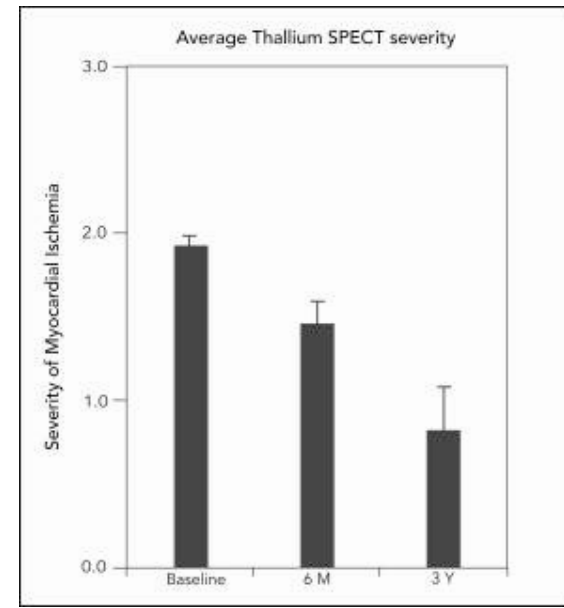
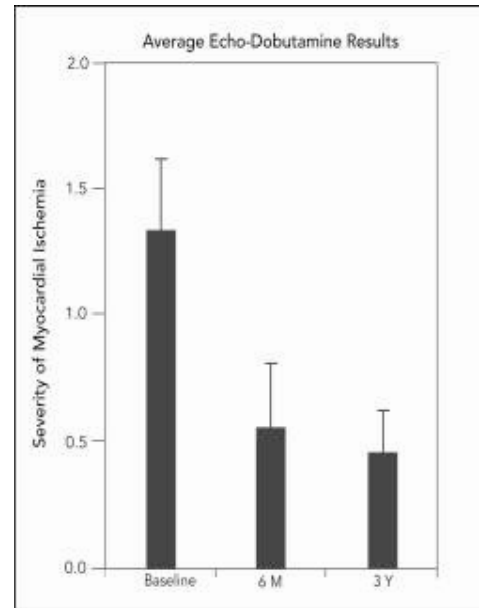
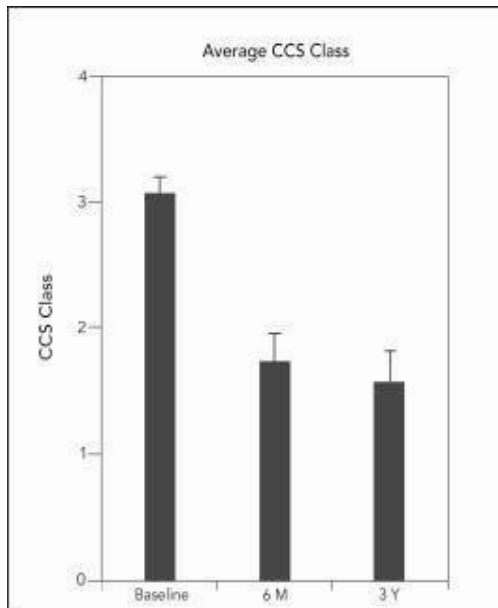
- Reducer is implanted in the *venous* circulation
- Implanted using standard catheter-based techniques (non-surgical)
- Constricts the coronary sinus to improve flow of blood to the heart muscle
- Procedure time < 20 minutes / patient discharged within 24 hours
- Provides treatment for an *untreatable* patient

Reducer Clinical Results



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

- Six-month data published in JACC, May 2007
- Three-year follow-up data collected and shows excellent long-term safety and durability of treatment (*data presented at ACC in March, 2010*)



Reducer Commercialization

- Commercial product completed
- Controlled trial (COSIRA) being initiated in Europe and Canada
- COSIRA to provide data for CE-mark and European launch
- US FDA approval process (PMA) will be initiated following CE-mark approval

ReducerTM System
Coronary Sinus Reduction System

Proximal Balloon 12.3mm
Distal Balloon 9.8mm

For coronary sinuses 9.5 - 13mm in diameter at proximal implantation site

Neovasc ReducerTM remounted on a Neovasc ReducerTM Balloon Catheter

Sheath 9F (0.118") Guidewire 0.035" (0.889mm)

REF: Caring No.

CONTENTS: 1

STERILE EO: Method of Sterilization: ETO

LOT:

Nominal: 4 atm Pressure (405 kPa) Rated Burst: 6 atm Pressure (608 kPa)

Pressure	D1 - Proximal Diameter (mm)	D - Neck Diameter (mm)	D2 - Distal Diameter (mm)
2	10.5	3.0	8.5
3	11.6	3.0	9.0
4 - Nominal	12.3	3.1	9.8
5	13.1	3.1	10.3
6 - Rated Burst	13.4	3.1	11.1

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Reducer COSIRA Trial

Coronary Sinus Reducer for Treatment of Refractory Angina (COSIRA**)
double blind, randomized, sham controlled, multicentre, prospective trial.**

- Patients randomized 1:1 to blinded treatment and sham control arms
- Primary endpoint is efficacy at 6 months

Phase I

- N = ~124
- Data to support CE-mark application and EU launch
- 4 sites in Europe (Belgium, Netherlands), 2 sites in Canada
- Begin enrolling in September 2010

Phase II

- N = TBD
- Data to support US FDA approval
- 2 lead sites identified in US (Minneapolis, New Orleans)
- Data will be pooled with Phase I

Reducer Medical Advisors



Neovasc works with leaders in the field of refractory angina treatment

- Dr. Martin Leon (*Columbia University Medical Center, NY*)
- Dr. Tim Henry (*Minneapolis Heart Institute*)
- Dr. Elazer Edelman (*Harvard – MIT*)
- Dr. Stefan Verheye (*Antwerp Cardiovascular Institute, Belgium*)
- Dr. Johannes Waltenberger (*University Hospital of Maastricht, NL*)
- Dr. Shmuel Banai (*Tel Aviv Souraski Medical Center*)
- Dr. Chris White (*Ochsner Medical Center, New Orleans*)
- Dr. Marc Jolicoeur (*Montreal Heart Institute*)
- Dr. Jean-Francois Tanguay (*Montreal Heart Institute*)

Peripatch Implantable Tissue



- Specially treated pericardial tissue
- Proprietary treatment process creates implantable, biocompatible tissue that retains physical characteristics of natural tissue
- Initially developed for surgically implantable **heart valve** applications
- Adapted for general surgical use as a patch or reinforcement material
- FDA-cleared and CE-marked
- EDQM certified
- 20+ year implant history



Peripatch – Current Customer Applications



1. Minimally invasive aortic heart valve leaflets
2. Minimally invasive mitral heart valve leaflets
3. Specialty heart valve leaflets and components
4. Artificial heart components
5. Covered stent grafts
6. Surgical patches for vascular procedures
7. Surgical patches for non-vascular use



Peripatch Heart Valve Leaflet Applications



Neovasc is the leading independent supplier of leaflet material for minimally invasive heart valves

- ~250,000 aortic and ~120,000 mitral valve surgeries each year worldwide
- Percutaneous *aortic* heart valve market is currently ~\$200m and is projected to exceed \$2b by 2014
- Acquisitions in 2009 have spurred rapid growth of minimally invasive valve replacement sector:



MINNEAPOLIS – Feb. 23, 2009 –Medtronic, Inc. (NYSE: MDT) today announced its acquisition of Venter Technologies Ltd., a developer of transcatheter heart valve technologies for the treatment of aortic valve disease. Medtronic will acquire Venter for a payment of \$325 million.

MINNEAPOLIS – Feb. 23, 2009 –Medtronic, Inc. (NYSE: MDT) announced today it has signed a definitive agreement to acquire CoreValve, Inc., developer of a transcatheter, transfemoral aortic valve replacement product. The agreement calls for an initial payment of \$700 million plus additional payments contingent upon the achievement of agreed milestones.

Abbott Park, Illinois Sep. 10, 2009 — Abbott (NYSE: ABT) announced today a definitive agreement to acquire the outstanding equity of Evalve, Inc., the global leader in the development of devices for minimally invasive repair of cardiac mitral valves. The agreement includes an upfront payment of \$320 million in cash, plus an additional payment upon completion of certain regulatory milestones, for a total of up to \$410 million.

Tissue Customer Support Services



- Neovasc provides an array of services to support our heart valve and other biological tissue customers
- Highly experienced team with expertise in tissue valve and vascular device development, manufacture and commercialization
 - Contract R&D (design, prototyping, testing, transfer to manufacture, etc.)
 - Tissue product manufacture (valve assembly, sterilization, etc.)



Peripatch Surgical Patch Applications



Significant advantages over synthetic materials for surgical patching or repair applications:

- *Handles like natural tissue*
- *Exceptional tensile and suture retention strength*
- *Does not require special sutures*
- *Reduced suture line bleeding / leakage*



Sell Peripatch surgical patch products through a growing network of distributors and **strategic partners**:

i.e. - Supply **LeMaitre Vascular** with their *XenoSure™* Biologic Vascular Patch. Targets use in **>180,000** carotid endarterectomies per year in US.

2009 Financial Strategy



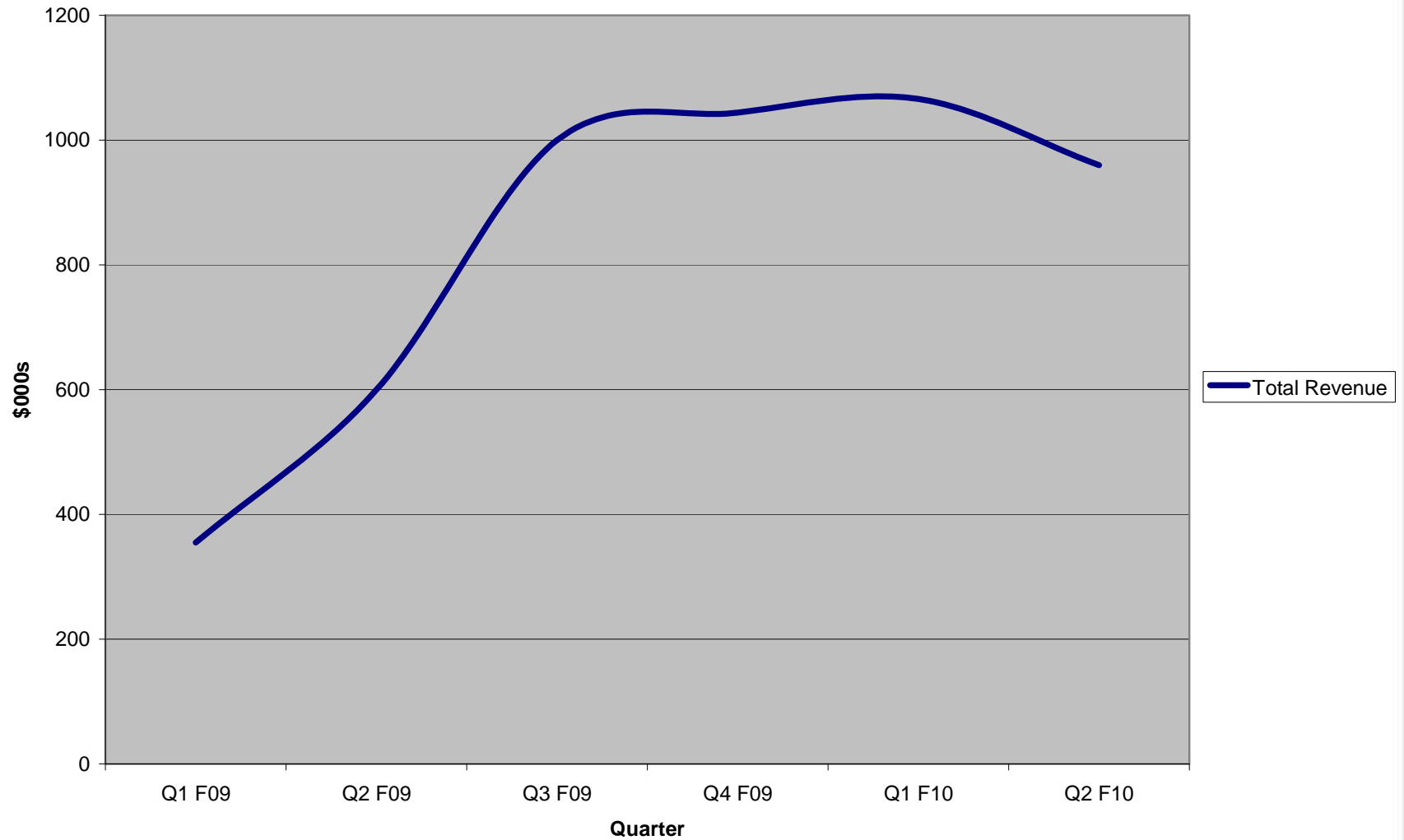
Refocus the business after acquisition of two start-up companies:

1. Streamline operations to reduce cost base
2. Aggressively grow tissue business revenues
 - Strategic partnerships
 - Target rapidly growing minimally invasive valve market
3. Strip down Research & Development activities to focus on key projects
 - Commercialization of Neovasc Reducer
 - Contract services to support tissue customers

2009 / 2010 Financial Results



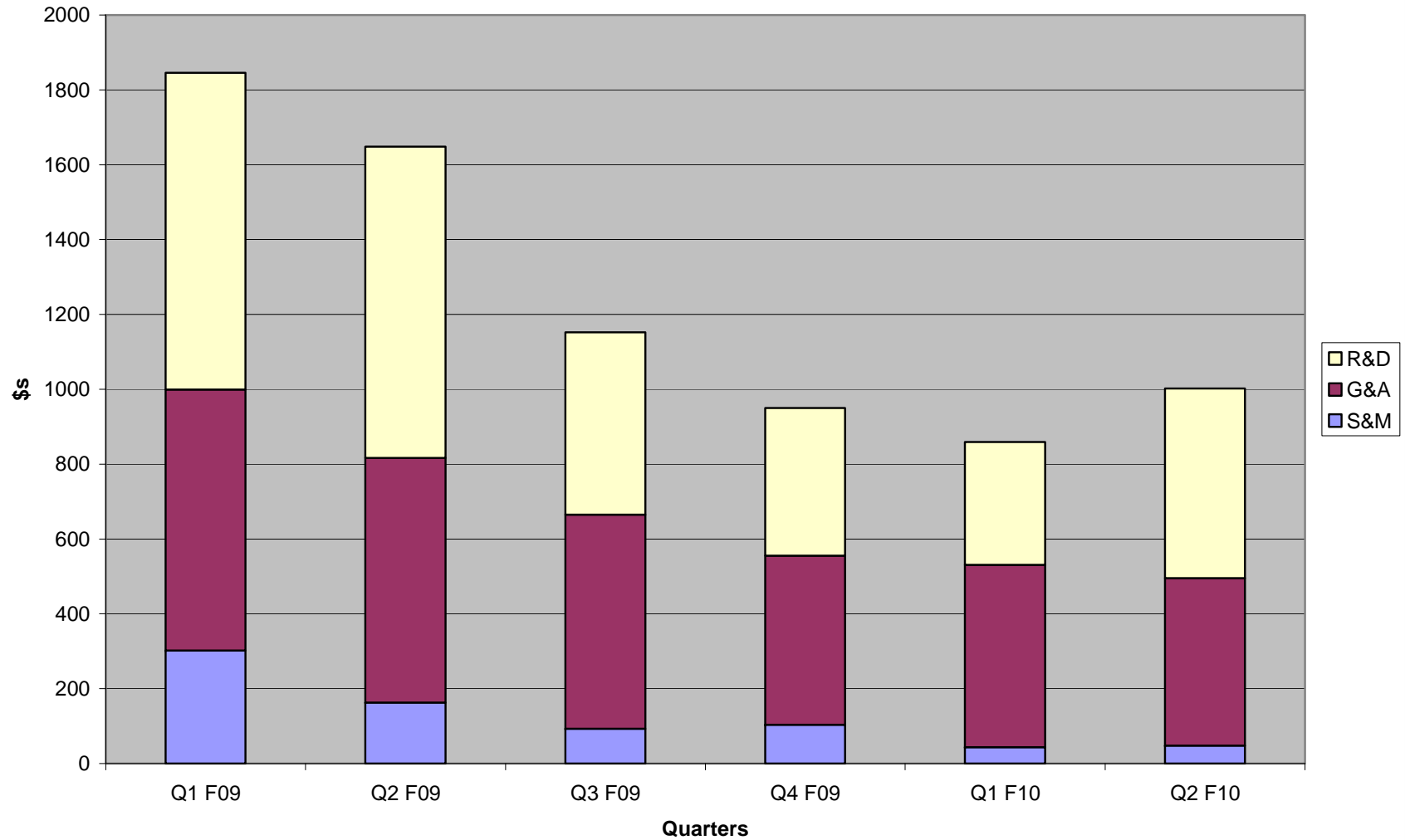
Total Revenue



2009 / 2010 Financial Results



Expenses excluding Stock Compensation Expense



2010 Strategy



Biological Tissue Product Lines

- Continue to expand biological tissue business to serve industry customers and partners
- Targeting >\$4m in revenue and profitability for tissue business

Neovasc Reducer

- Initiate COSIRA clinical trial
- Explore strategic opportunities to launch product in Europe in 2011/12

New Products

- Explore additional strategic opportunities for new products

Management and Board

Management

- Alexei Marko – *CEO and Board Member*
- Chris Clark – *CFO*
- Brian McPherson - *COO*

Board of Directors

- Paul Geyer (*former CEO, Mitroflow*)
- Steven Rubin (*Frost Group, OPKO*)
- Dr. Jane Hsiao (*Frost Group, OPKO*)
- Dr. William O'Neill (*Interventional Cardiologist*)
- Doug Janzen (*CEO, Cardiome Pharma*)
- Boaz Lifschitz (*Peregrine Ventures*)

Capitalization & Trading



Shares outstanding	<ul style="list-style-type: none">• 37.7m (issued and outstanding)• 44.8m (fully diluted)
Public listing	<ul style="list-style-type: none">• TSX-V NVC
Key investors	<ul style="list-style-type: none">• Frost Group (Dr. Phillip Frost)• Company management
Float and trading	<ul style="list-style-type: none">• ~65% of shares held by management and insiders
Financing	<ul style="list-style-type: none">• \$2.0m financing completed in April 2009 (\$0.21 unit)• \$1.5m financing completed in February 2010 (\$0.27 unit)• \$1.4m exercise of 4.6m warrants in April 2010 (\$0.30 share)

Neovasc Summary



Biological Tissue Products

- Neovasc is a leading provider of clinically proven implantable pericardial tissue and associated services to the medical device industry
- Lean operation, focused on achieving positive cash flow in 2010 from core tissue business and building significant value for our shareholders

Neovasc Reducer

- Reducer product ready for commercial introduction to address a large unmet clinical need for treating refractory angina patients
- COSIRA trial will provide controlled efficacy data to support European approval and launch of Reducer product

Thank you

