

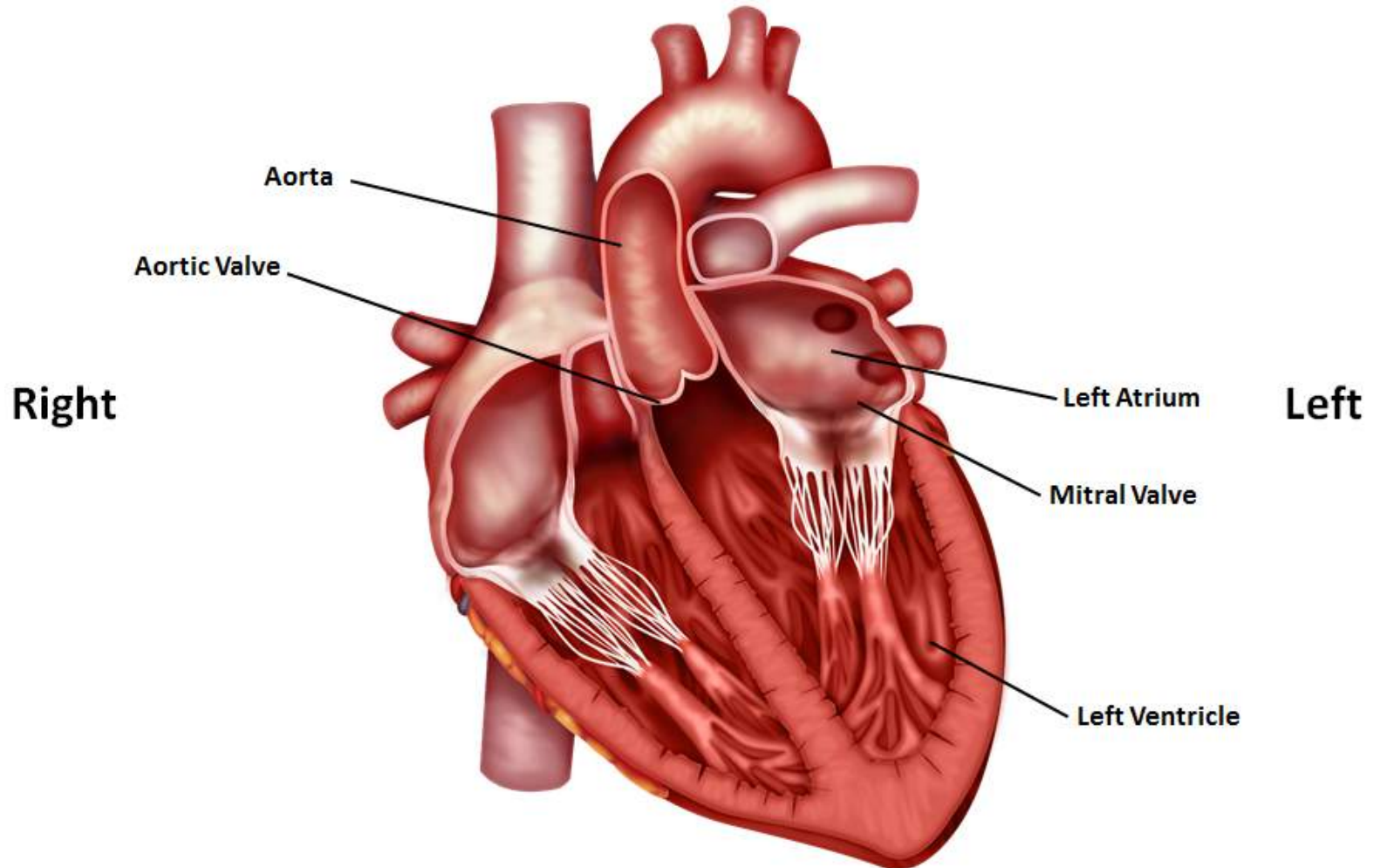
## CardiAQ: An IP Success Story

September 11, 2018

Ryan Lindsey – Edwards Lifesciences  
John Sganga, Christy Lea, Brian Horne, Sabling Lee –  
Knobbe Martens

ACC-SoCal DoubleHeader

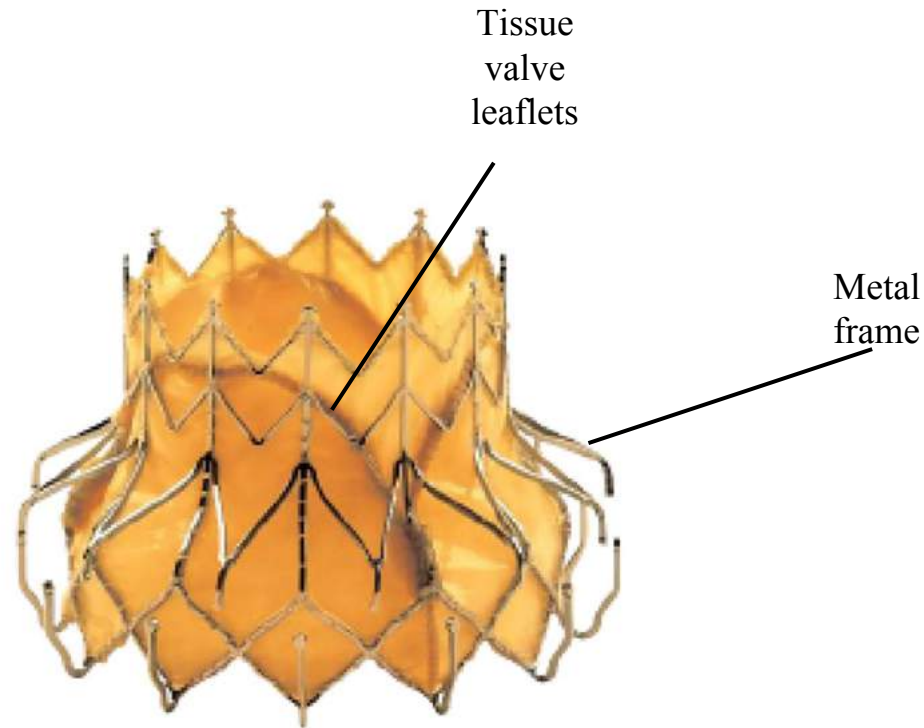
# The Heart



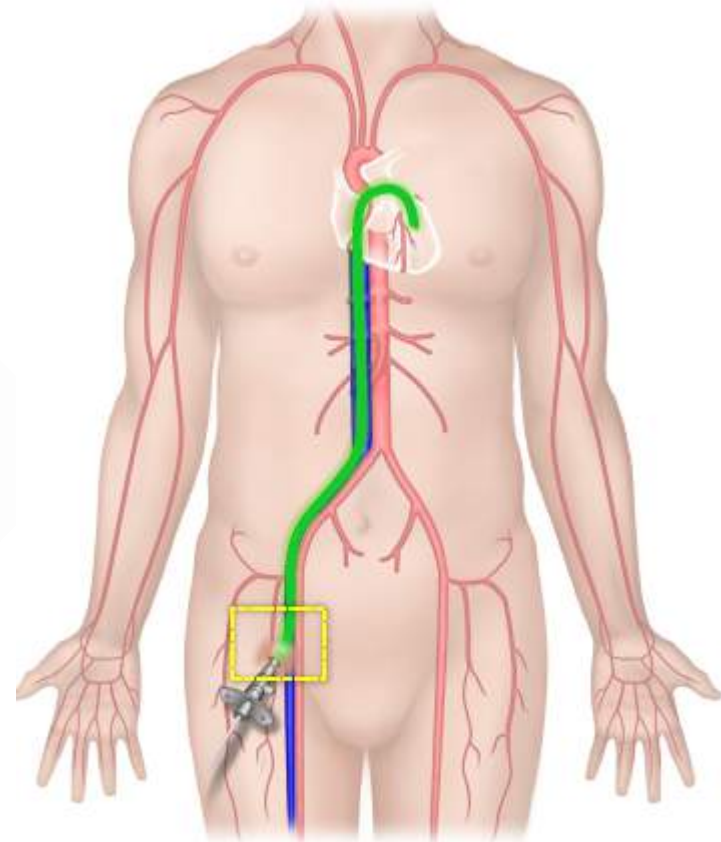
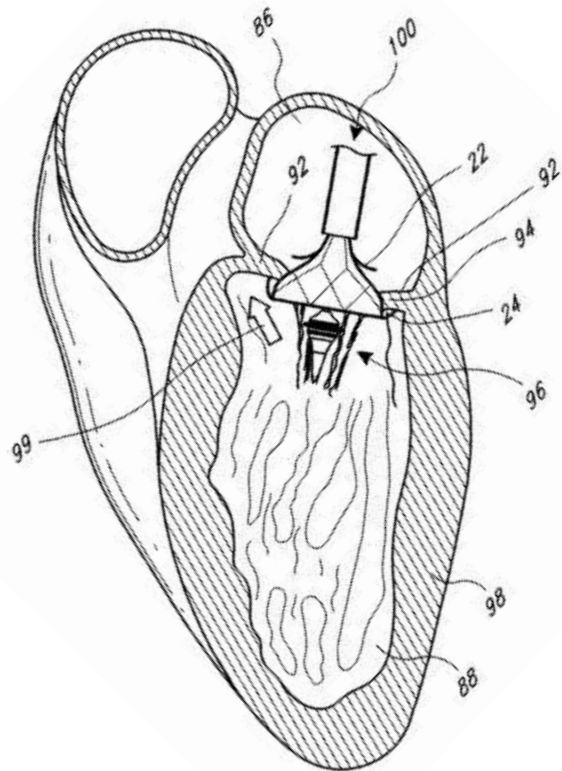
## Unmet Clinical Needs in MR

- 4 million people with Mitral Regurgitation
- 30,000 open heart mitral valve procedures annually
- Open heart procedure takes 5 hours
- TMVI market projected to be \$10 billion/year

# Transcatheter Mitral Valve Implant (TMVI)



# TMVI Deployment



# Neovasc's Solicitation

## Surgical Products Division



**Primary focus is to provide biological tissue materials and associated development and manufacturing services to our customers.**

- Our customers are typically industry partners who incorporate Neovasc pericardial tissue materials into their own products
- Areas of specialization include:
  - Tissue leaflets for aortic and mitral valves
  - Surgical patches for vascular and other applications
  - Tissue for incorporation into specialized vascular devices
- We pride ourselves on providing exemplary service to our partners and being flexible in meeting their needs
- Division is profitable and growing

# Timeline

**Jun. 2009**

Sign NDA with Neovasc

**Apr. 2010**

Relationship ends

**Jun. 2010**

CardiAQ files key TMVI patent

**Jun. 2014**

CardiAQ sues Neovasc

**Aug. 2015**

Edwards acquires CardiAQ (\$400 million)

**May 2016**

Jury verdict (\$70 million)

**Nov. 2017**

Edwards collects \$112 million

**Neovasc assembles TMVI prototypes for CardiAQ**

**Neovasc develops its TMVI device**

**Oct. 2009**

Neovasc begins Tiara project

**Dec. 2011**

Neovasc's patent application publishes

**May 2010**

Neovasc files patent application

## NDA Terms

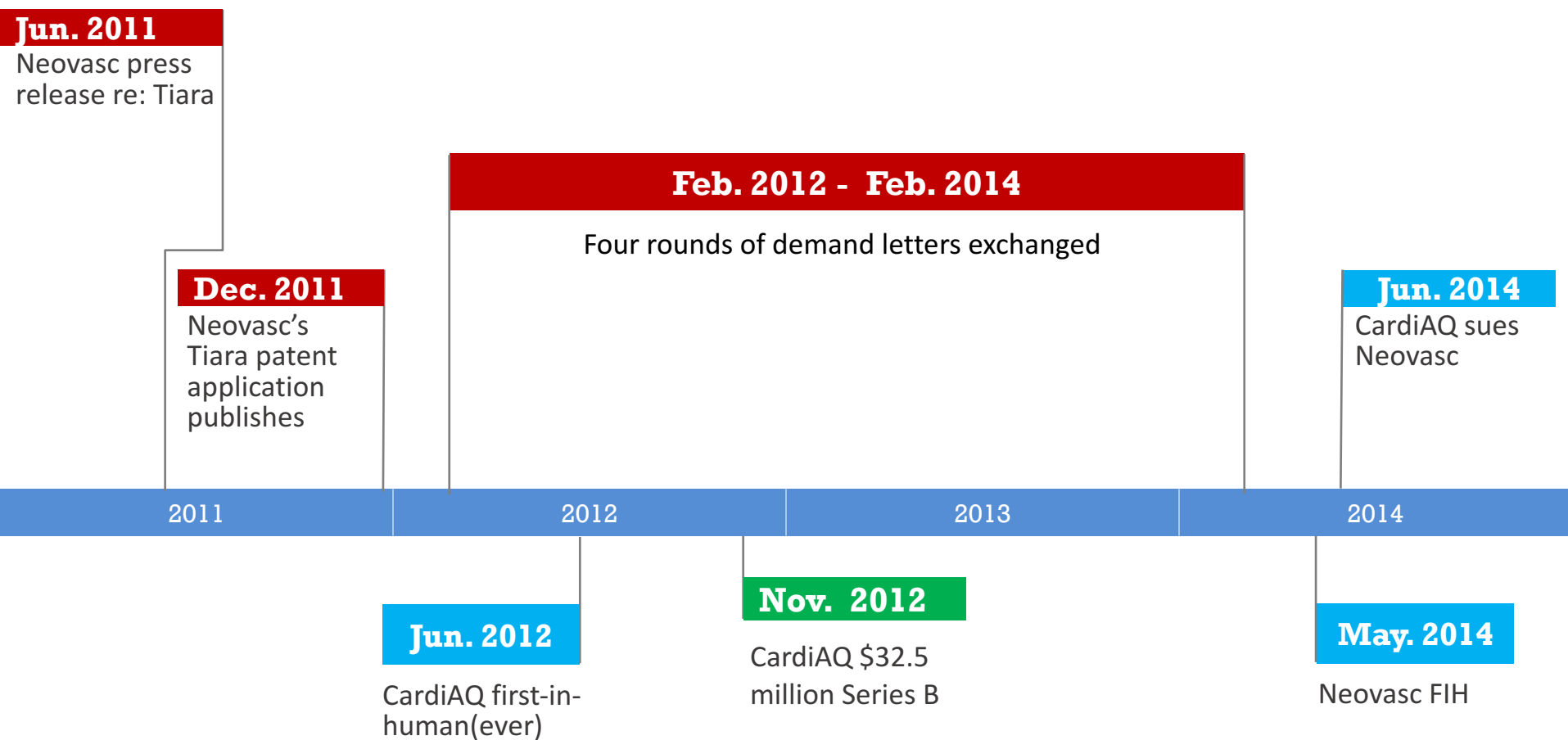
- Use limited to “evaluating the proposed business relationship”
- Recipient cannot “use the Confidential Information for its own benefit or for the benefit of any third party”
- A party “shall be entitled” to equitable relief, including an injunction, in the event of any breach



## Lessons Learned

- Non-compete clause
- Notice of development
- Segregate employees
- Assignment
- Further consulting agreement
- No guaranteed injunction

# Pre-Suit Events



# Neovasc's Patent vs. CardiAQ's Device

## Neovasc's Application

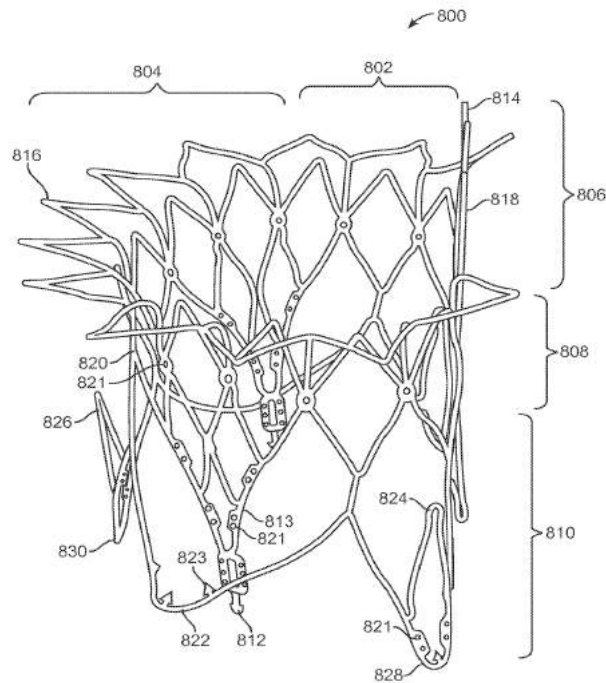
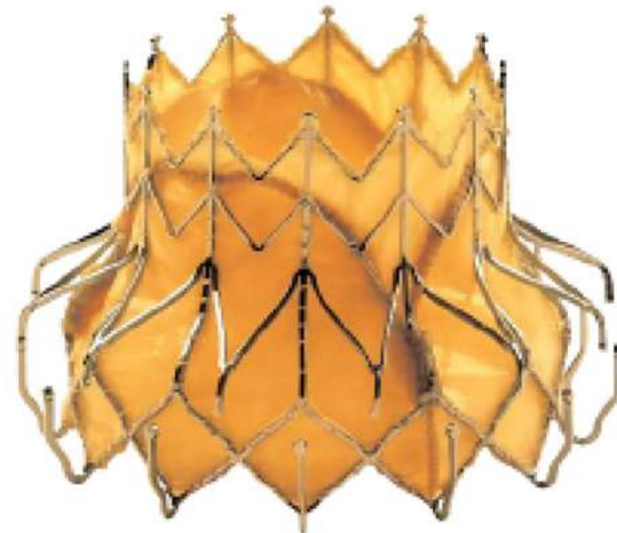


FIG. 8A

## CardiAQ Device

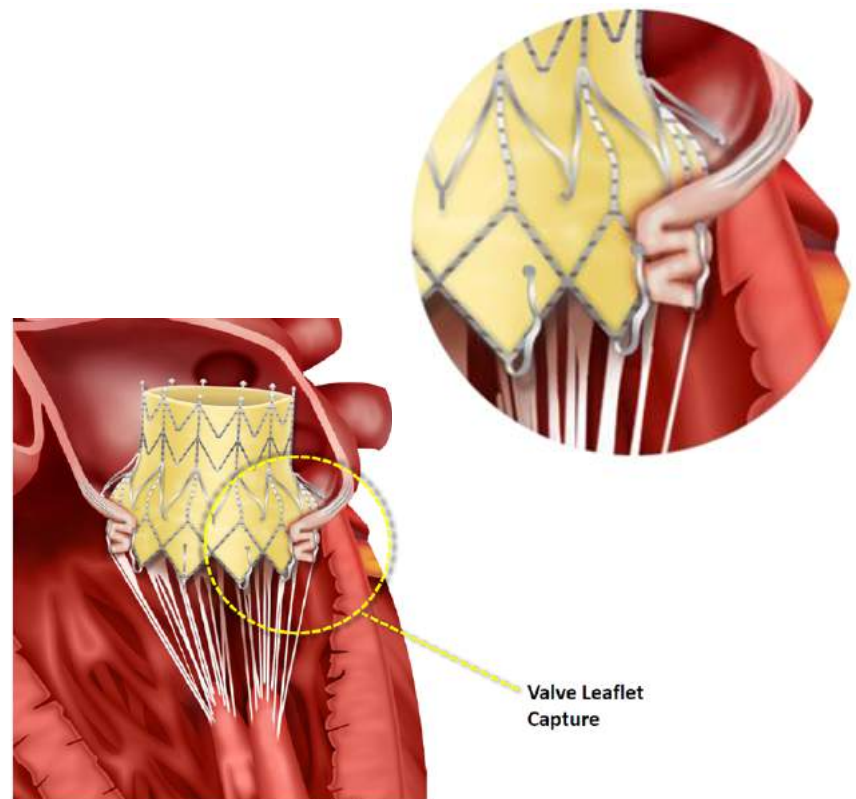


# Neovasc's Patent vs. CardiAQ's Device

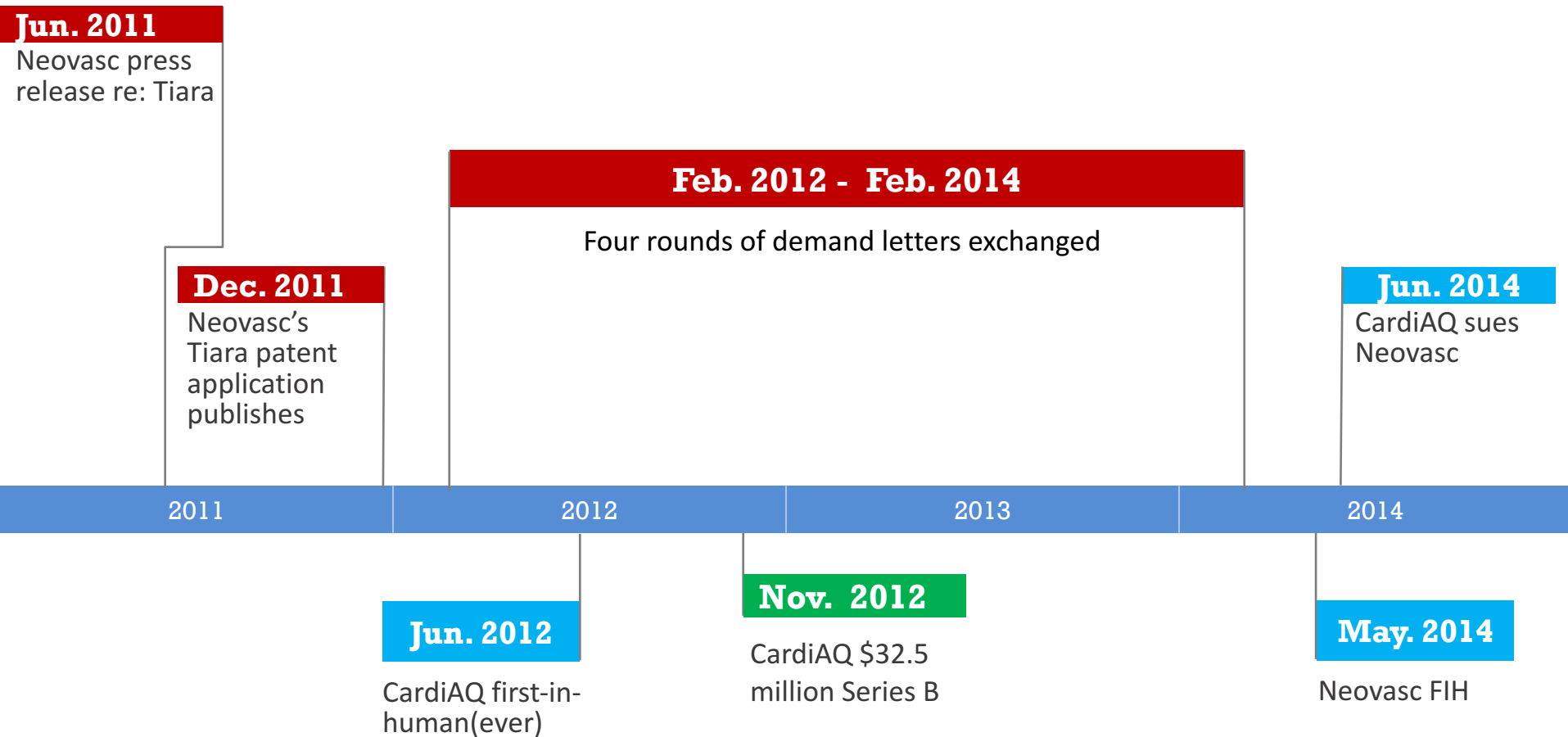
## Neovasc's Patent Specification

“tabs ... captur[e] the native anterior leaflet and chordae between the tabs”

## CardiAQ's Device



# Pre-Suit Events



# Decision to Sue

- Forums: District of Massachusetts
  - Also considered USPTO, Canada, California
  - German lawsuit also filed against Neovasc's European patent application
- Causes of action
  - Breach of contract
  - Trade secret misappropriation
  - Correction of inventorship on patents
  - NOT patent infringement
- Statute of limitations: 3 years for trade secret misappropriation

## Neovasc's Tiara Program



- **Jun – Oct 2009** – CardiAQ shares TMVI designs
- **Oct 2009** – Randy Lane draws first sketch of Neovasc's own TMVI device
- **Oct 2009** – CEO instructs Mr. Lane to start in-house mitral program, but don't tell CardiAQ:

***“when appropriate we may need to disclose to [CardiAQ] that we are working on something, but let's cross that bridge when we come to it.”***

## Neovasc's Work on Both Projects

- Lane headed both Neovasc's internal TMVI project and CardiAQ's prototype valve assembly
- Lane used the same lab notebook for both projects, at times including notes on adjacent pages
- Neovasc did not restrict its engineers from working on both Tiara and CardiAQ
- Neovasc protected Tiara with additional safeguards
- Neovasc never told CardiAQ about Tiara
- Lane frequently sought info about CardiAQ's progress



# Edwards Acquisition

- Pre-acquisition due diligence
  - How did the litigation affect Edwards' decision to acquire?
  - Did the litigation add or subtract value from CardiAQ?
- Post-acquisition lawsuit analysis
- Decision to continue the lawsuit
  - Valuation
  - Potential risk
- Managing the litigation post-acquisition

# Tiara vs. CardiAQ

**Tiara**



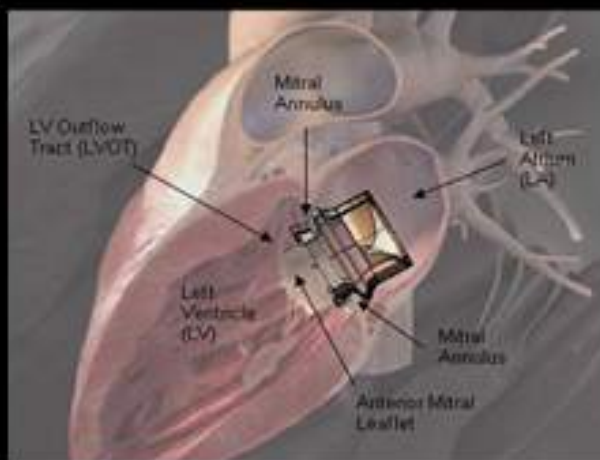
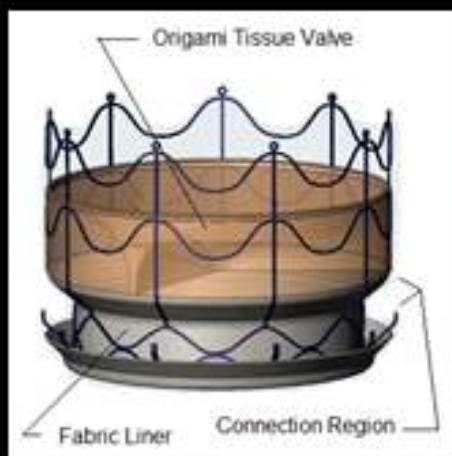
**CardiAQ**



# CardiAQ's Public Presentations

## CVT PMVR Implant

- *Incorporates CVT's platform technology*
- *Designed to address the specific challenges of the Mitral position*



# Neovasc's Public Filings

## Specialized Skill & Knowledge

**“The Tiara program has benefited enormously from this pool of experience and talent that has evolved as we have worked with our partners. We have been able to move the product development forward rapidly with minimal cost from the flexibility we have to draw on our staff and then return them to revenue generating activities when they are not working on the Tiara project.”**



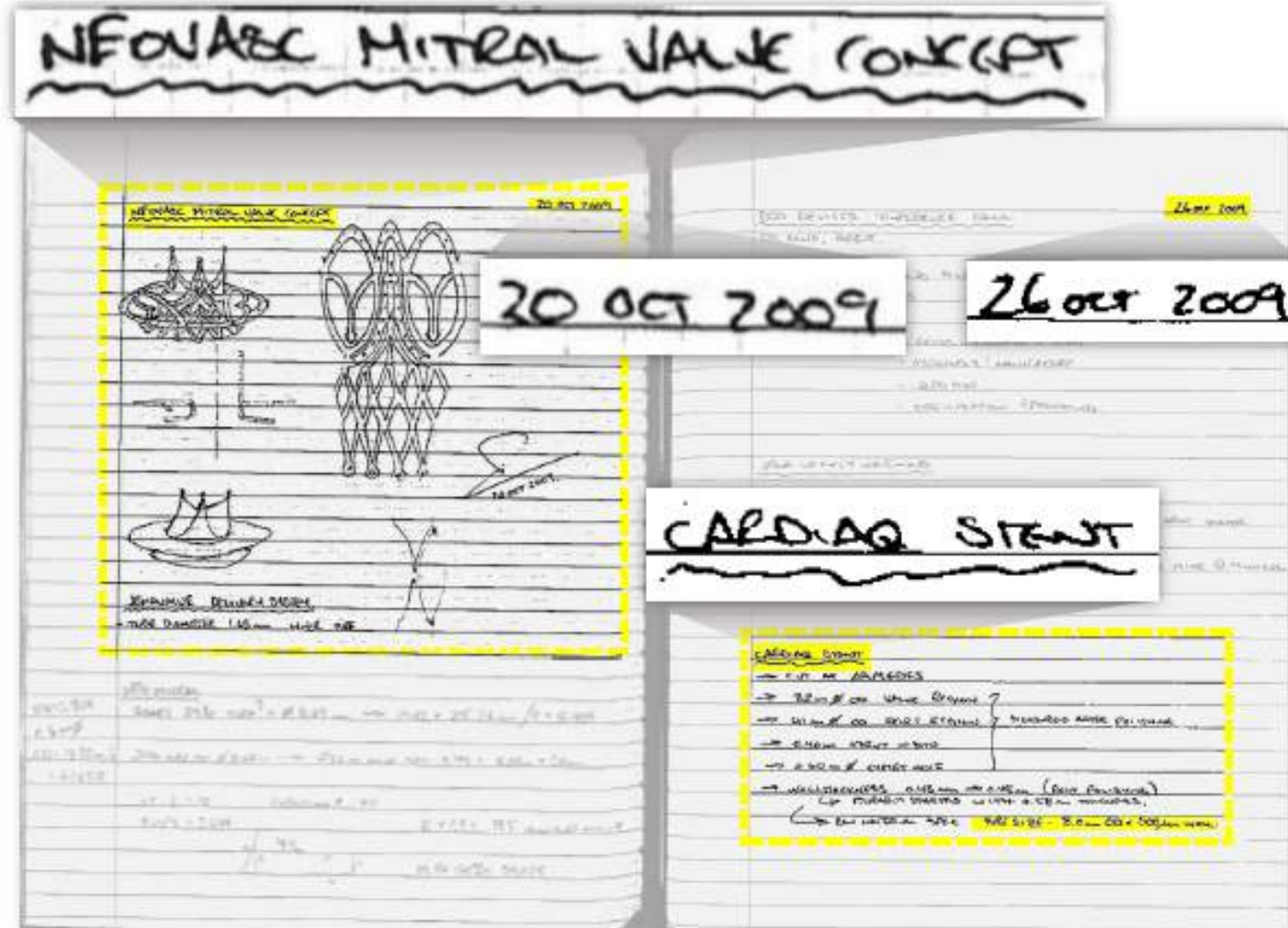
NEOVASC INC.

ANNUAL INFORMATION FORM

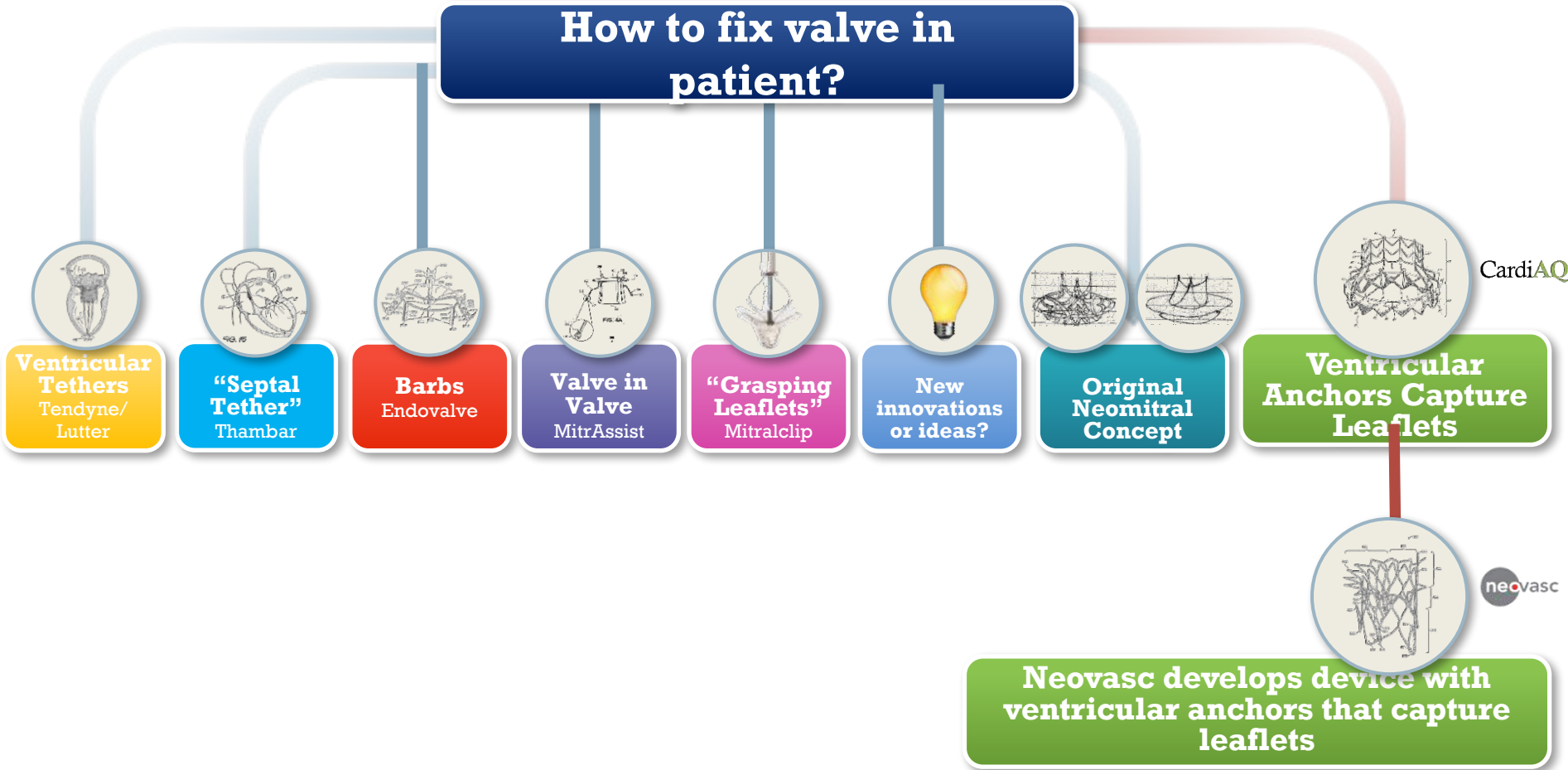
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012

October 1, 2013

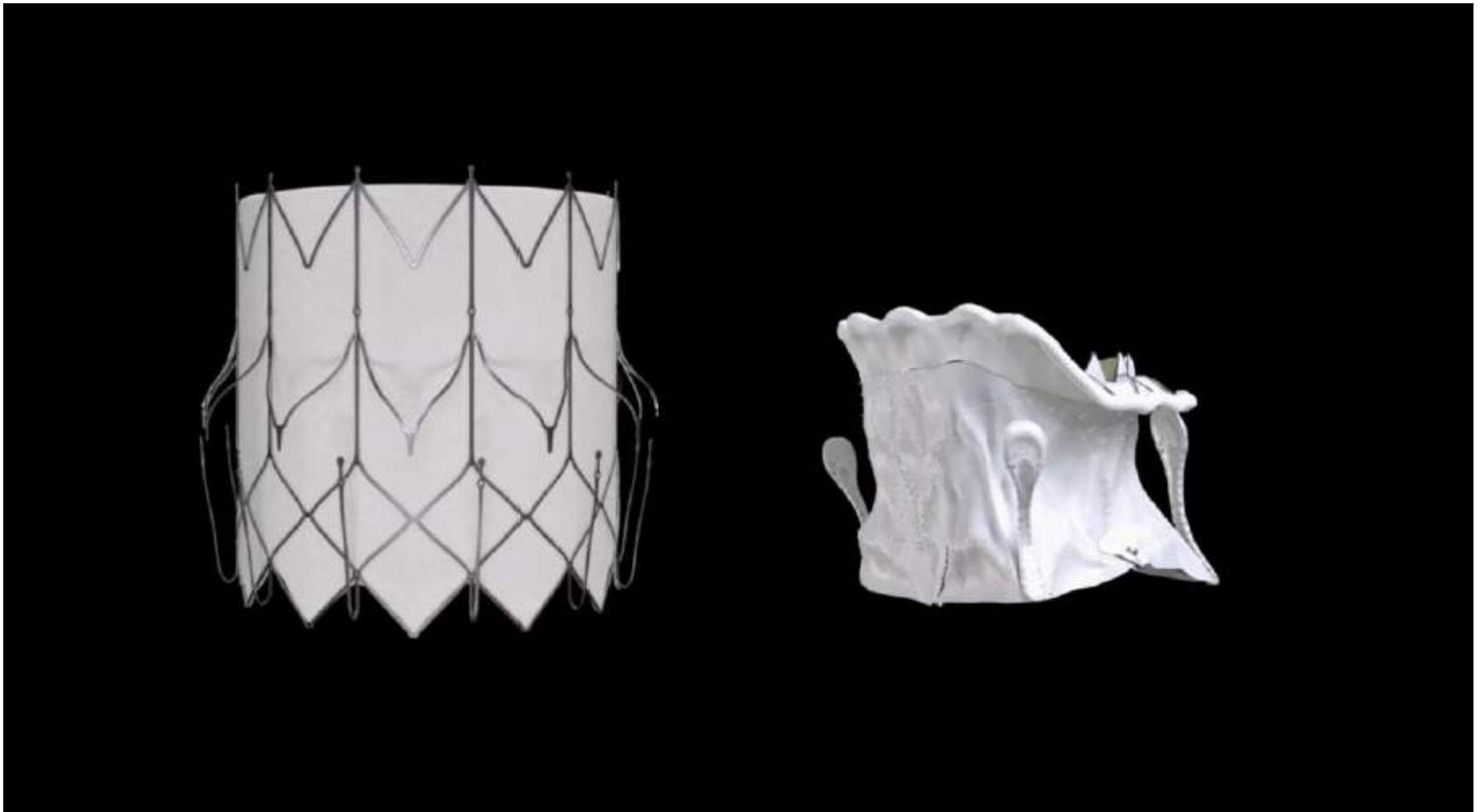
# The Lab Notebook



# Neovasc's Choices



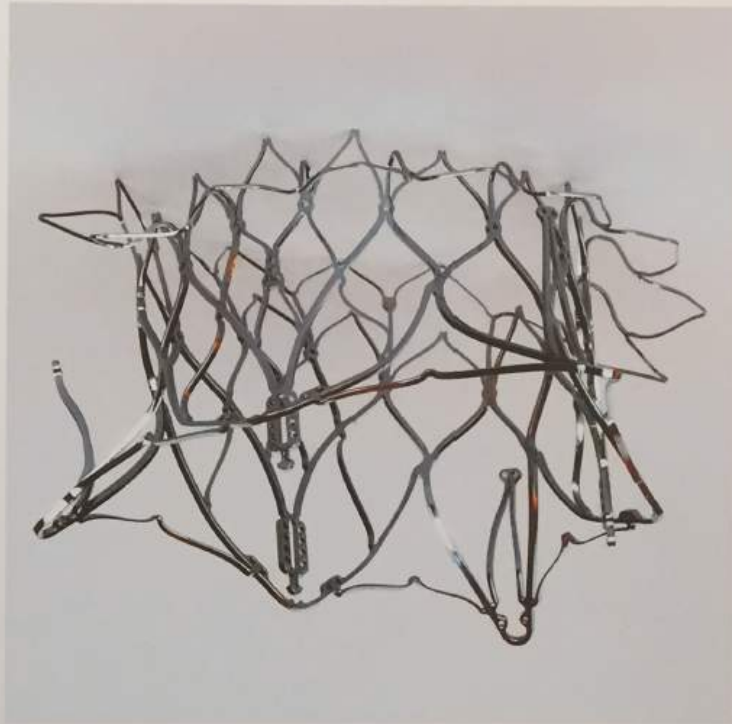
# CardiAQ vs. Tiara (Neovasc's version)



# CardiAQ v. Tiara (CardiAQ's version)



CardiAQ Rev E3



Neovasc Tiara



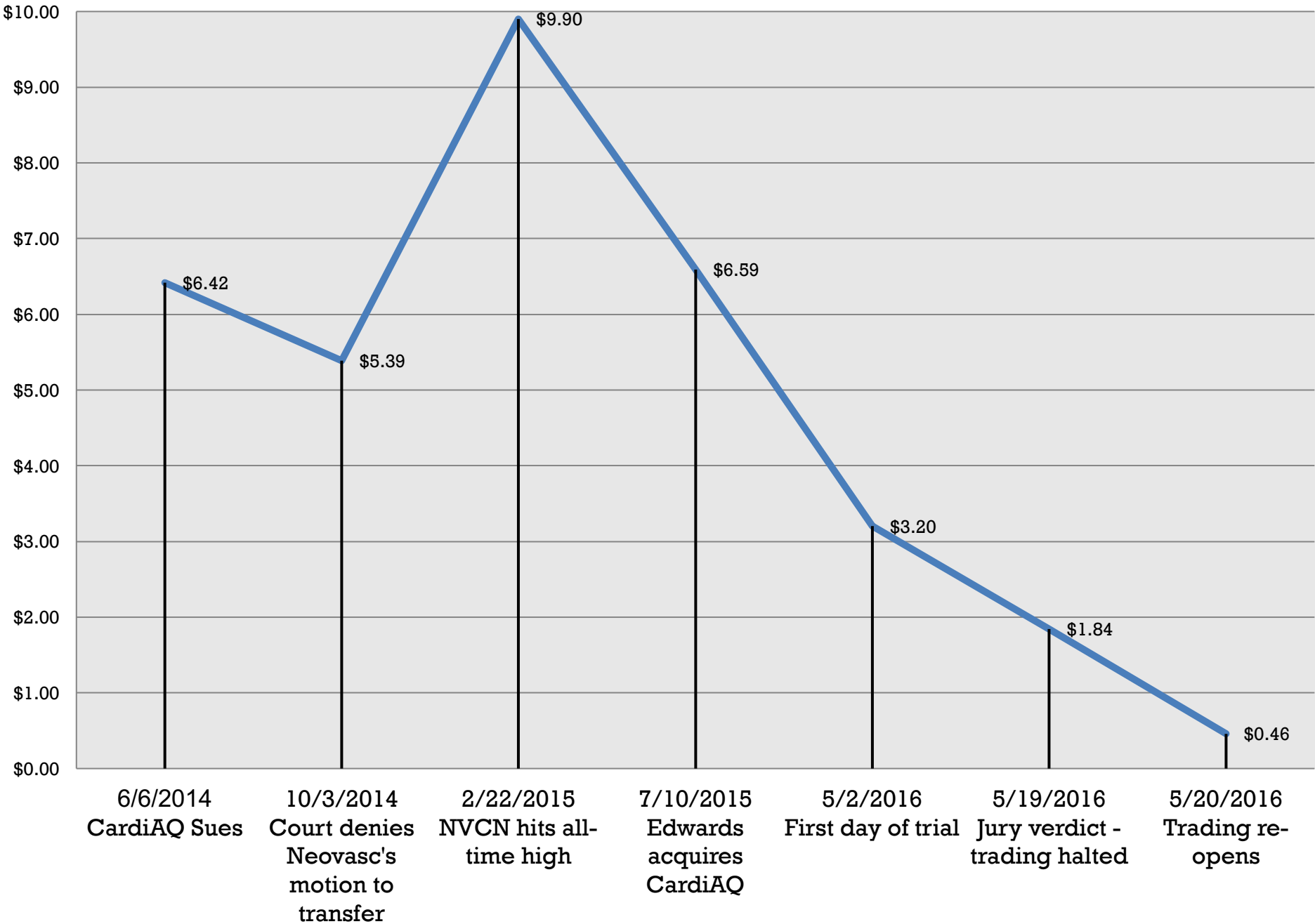
# Royalty

- “Lump sum” starting point = \$125 million
  - Value Tiara at \$250 million
  - 50% of Tiara value attributed to trade secrets
- Adjust down to \$90 million with “*Georgia-Pacific*” factors
  - 18-month head start was worth \$133 million to \$288 million
  - Neovasc contributed its own R&D and features

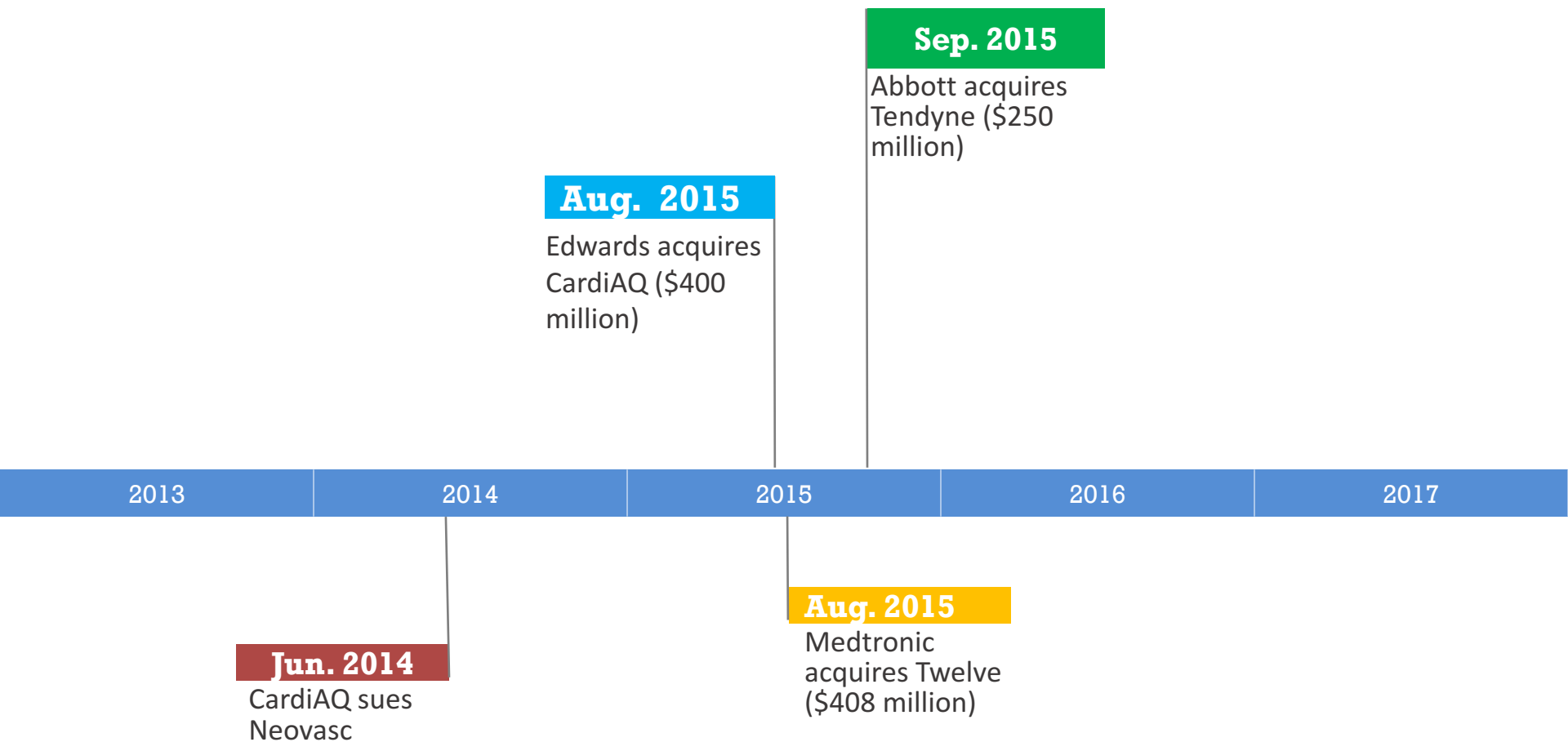
# Damages

- Jury verdict: \$70 million
- Judge enhances damages: \$20 million
- Pre and post-judgment interest: \$22 million
- Total award: \$112 million COLLECTED

# NVCN Share Price



# Acquisitions



# Astrid



## Thank you!



Orange County



Los Angeles



New York



San Diego



San Francisco



Seattle



Washington DC