AtriCure – Transforming the AFib Market

SentreHEART Transaction Overview and Strategic Rationale

August 2019

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Forward Looking Statements

This presentation contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements that address activities, events or developments that AtriCure expects, believes or anticipates will or may occur in the future, such as earnings estimates (including projections and guidance), statements regarding the closing of the acquisition of SentreHEART described herein, clinical trial enrollment and approval statements, and other predictions of financial, clinical and operational performance. Such statements generally include words such as “believes,” “plans,” “estimates,” “hopes,” “projects,” “seek,” “see,” “would,” “should,” “intends,” “targets,” “will,” “expects,” “suggests,” “anticipates,” “outlook,” “continues” or similar expressions and the negative versions thereof. You should not place undue reliance upon these forward-looking statements as predictions of future events. Forward-looking statements speak only as of the date they are made. Forward-looking statements are based on AtriCure’s experience and perception of current conditions, trends, expected future developments and other factors it believes are appropriate under the circumstances and are subject to numerous risks and uncertainties, many of which are beyond AtriCure’s control. These risks and uncertainties include, but are not limited to: the parties' ability to satisfy the SentreHEART merger agreement conditions; AtriCure's ability to realize anticipated synergies from the acquisition of SentreHEART; AtriCure's ability to successfully integrate SentreHEART’s operations and technology; the rate and degree of market acceptance of AtriCure’s products; AtriCure’s ability to develop and market new and enhanced products; AtriCure’s ability to retain and attract key employees; the timing of and ability to obtain and maintain regulatory clearances and approvals for products; the timing of and ability to obtain reimbursement of procedures utilizing AtriCure’s products; AtriCure’s ability to continue to be in compliance with applicable U.S. federal and state and foreign government laws and regulations; AtriCure’s ability to consummate other acquisitions or, if consummated, to successfully integrate acquired businesses into AtriCure’s operations; AtriCure’s ability to recognize the benefits of acquisitions generally, including potential synergies and cost savings; failure of an acquisition or acquired company to achieve its plans and objectives generally; risk that proposed or consummated acquisitions may disrupt operations or pose difficulties in employee retention or otherwise affect financial or operating results; AtriCure’s ability to raise any capital that may be required to accomplish the foregoing; competition from existing and new products and procedures, including the development of drug or catheter-based technologies; and AtriCure’s ability to effectively react to other risks and uncertainties described from time to time in AtriCure’s SEC filings, such as fluctuation of quarterly financial results, fluctuations in exchange rates for future sales denominated in foreign currency, which represent a majority of AtriCure’s sales outside of the United States, reliance on third party manufacturers and suppliers, litigation or other proceedings, government regulation, including tax law changes, and stock price volatility. AtriCure does not guarantee any forward-looking statement, and actual results may differ materially from those projected. AtriCure undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. A further list and description of risks, uncertainties and other matters can be found in AtriCure’s Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q.

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Non-GAAP Financial Measures

To supplement the Company's consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP, the Company uses certain non GAAP financial measures in this presentation. Adjusted EBITDA, which the Company defines as earnings before interest, taxes, depreciation and amortization, adjusted for share-based compensation, acquisition costs and the change in fair value of contingent consideration, provides an indication of performance excluding certain items. Due to the nonrecurring nature of the acquisition costs, the Company has modified the calculation of adjusted EBITDA to exclude acquisition costs, and intends to use this calculation going forward. Prior to the SentreHEART transaction, the Company's most recent acquisition occurred in October 2015 and acquisition costs were included in the calculation of adjusted EBITDA at that time. The Company believes it is now appropriate to modify the calculation of adjusted EBITDA to exclude acquisition costs because the Company has concluded that acquisition costs are generally nonrecurring and are not reflective of the operational results of the Company's core business, and the Company believes this approach is more comparable to peer company reporting. Management believes that in order to properly understand short-term and long term financial trends, investors may wish to consider the impact of these excluded items in addition to GAAP measures. The excluded items vary in frequency and/or impact on our continuing operations and management believes that the excluded items are typically not reflective of our ongoing core business operations and financial condition. Further, management uses adjusted EBITDA for both strategic and annual operating planning, and previously used adjusted EBITDA as a performance measurement in the Company's annual incentive plan.

The non-GAAP financial measures used by the Company may not be the same or calculated the same as those used by other companies. Non-GAAP financial measures have limitations as analytical tools and should not be considered in isolation or as a substitute for the Company's financial results prepared and reported in accordance with GAAP.

Adjusted EBITDA and adjusted loss per share outlook exclude the impact of certain income and expense items that management believes are not part of underlying operations. AtriCure does not provide a reconciliation to the closest corresponding GAAP financial measure for its adjusted EBITDA and adjusted loss per share outlook; such reconciliation is not available without unreasonable effort on a forward-looking basis, due to the high variability and complexity of estimates for certain items, primarily the change in fair value of contingent consideration liabilities, as well as amortization expense resulting from the transaction. These items could significantly impact our future financial results. Please see the "Forward-Looking Statements" section of this presentation for a discussion of certain risks to AtriCure's forward-looking statements.

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Creating a World Class AFib Platform

AtriCure to Acquire SentreHEART

- Expands addressable market opportunity substantially into EP
- Complements future offerings for the treatment of atrial fibrillation
- Consistent with philosophy for epicardial management of the left atrial appendage
- Bolsters strategy to build diverse portfolio with clinical differentiation

AtriCure now has the only clinical trials addressing the most complex and advanced forms of AFib

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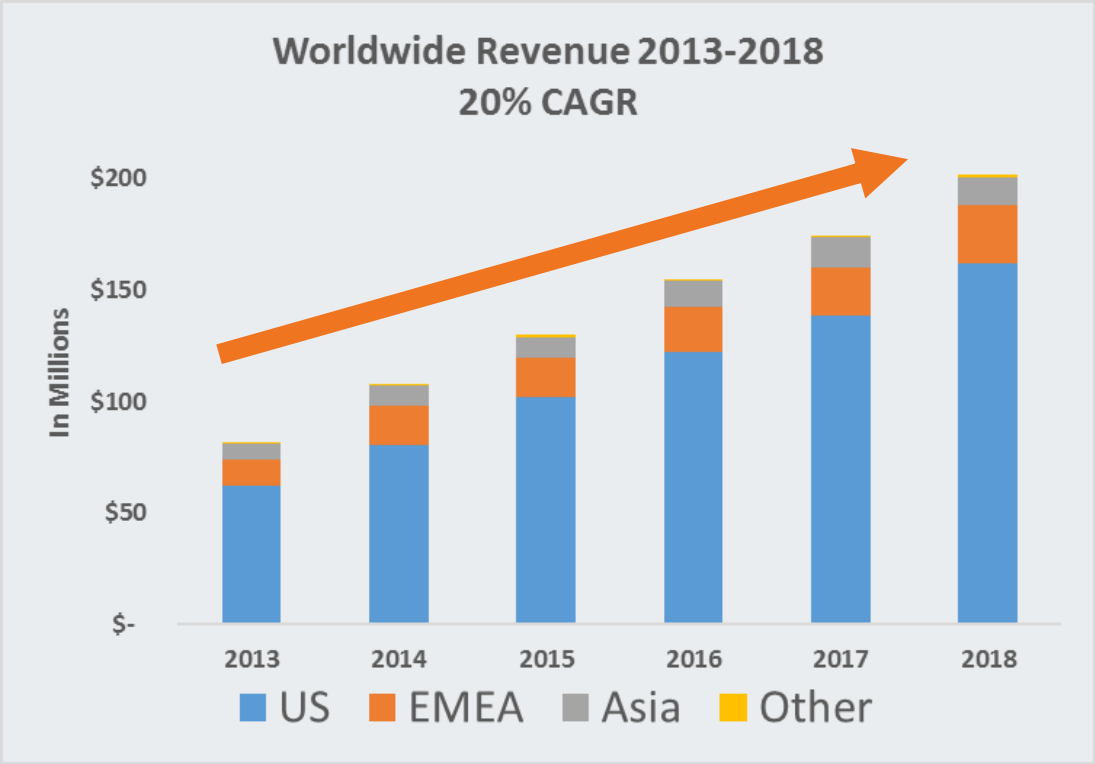
AtriCure – A Solid Foundation



27
Straight Quarters of Double-Digit YoY Growth

Consistent Growth
Tripling of Revenues since 2012

14.5%
H1 2019 Revenue YoY Growth

74% Gross Margin

~$100M
Cash + Investments as of 6/30/19

Strong Balance Sheet to Support Growth Initiatives

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AtriCure Strategic Overview

Addressing an underserved and growing population of patients	• Approximately 17 million chronic AFib patients globally • Current standard of care does not adequately address this population • **Addressing several multi-billion market opportunities**
Portfolio of Standalone/Minimally Invasive (MIS) solutions to drive long-term growth	• Two PMA trials underway for hybrid approaches; CONVERGE trial is top priority • Early in market development process – key driver of future growth • Greater than $1B global market opportunity
Current Appendage Management business driving growth	• Most widely used Left Atrial Appendage (LAA) device with almost 200,000 sold to date • Delivering novel products, driving over 25%+ growth consistently the past five quarters • Represents ~33% of business, up from 10% in 2012 • Greater than $1B global market opportunity
Can deepen penetration of Open Ablation through training	• Only PMA product for the surgical treatment of AFib • Product improvements and salesforce focus have driven growth • Recent guidelines have driven broader adoption – global leader in training and education • Greater than $500M global market opportunity

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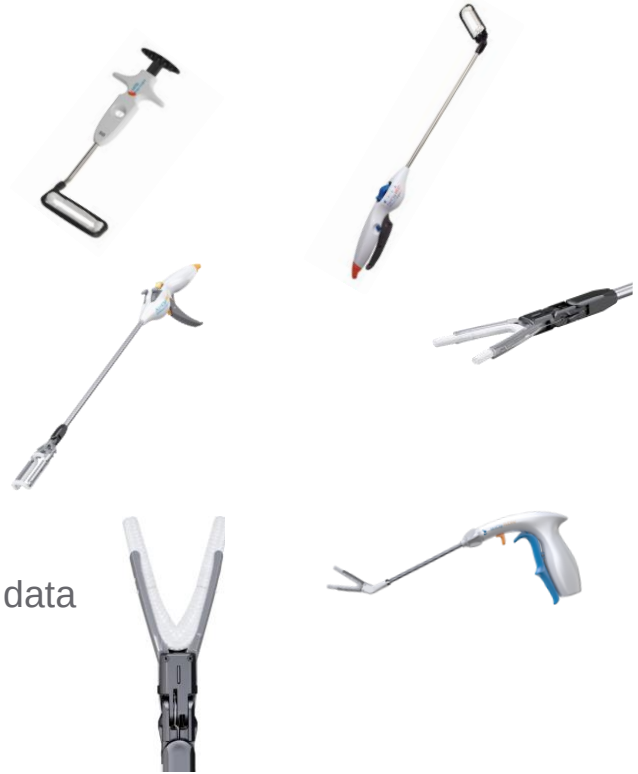
LAA Market is a KEY Part of Our Growth

- Penetrate concomitant ablations
  - New V-Clip platform, guidelines, papers
  - **Current growth trajectory is strong; currently 25%+**
- Establish and validate with MIS ablation market
  - DEEP and CONVERGE therapies studied in clinical trials
  - MIS Clip attachment rate in Convergent cases increasing
- Build “EP Clip” for sole therapy MIS market
- Validate stroke prevention and bleeding reduction with trial and data
- Billion $+ annual market opportunity



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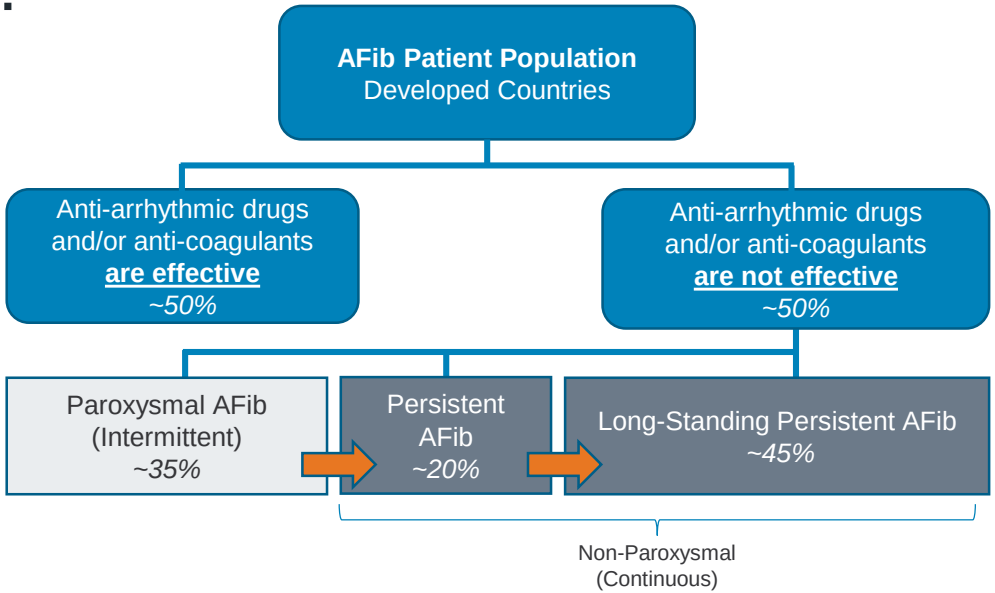
Where Do We Fit Today?

- Large percentage of the AFib population falls into persistent or long-standing persistent population, **representing a vastly underpenetrated market**
- Hybrid therapies (our CONVERGE and DEEP trials) offer an ablation solution for these patients
- We have expertise in epicardial ablation and appendage management technologies



- Our desire has been to develop and commercialize products with progressively less invasive profiles
- We believe that there are opportunities to grow our business organically and through acquisition
- **Each advancement leads to expanding our reach to AFib patients**

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Our Recent M&A History: Estech (2013) and nContact (2015)

- Estech and nContact transactions fit directly with our core business of surgical ablation
  - ✓ Similar sales channel
  - ✓ Complementary technologies
  - ✓ Revenue growth accretive to near-term results
- Able to leverage significant value from technology in future development
- Step towards expanding further into minimally invasive markets
  - ✓ Strengthen relationships with surgeons and EPs
  - ✓ Building more clinical science and differentiation with Converge trial
  - ✓ Desire long-term to diversify into the large EP market

SentreHEART Transaction Overview

An Opportunity to Expand Market and Accelerate Long-Term Growth Rate

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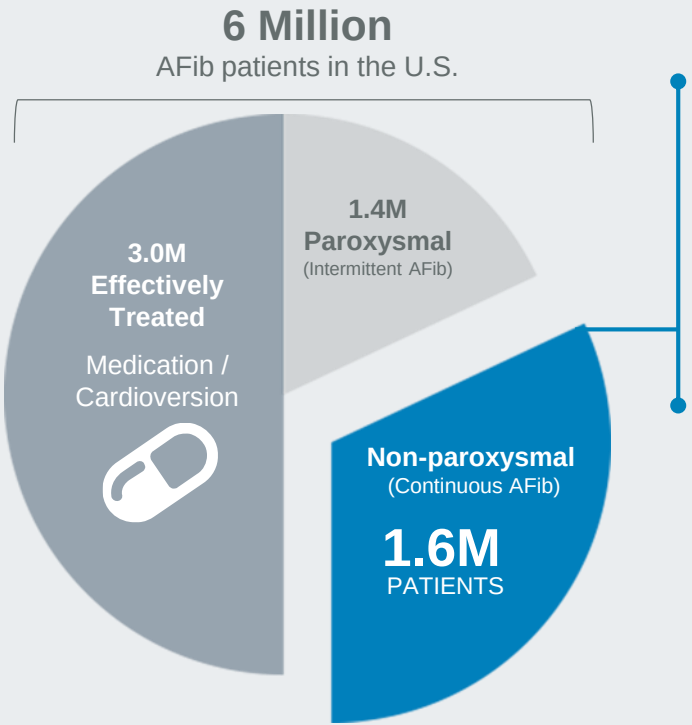
SentreHEART Company Overview

- Company founded in 2005 and headquartered in Redwood City, California
- Manufacturer of devices for remote delivery of sutures for tissue closure
- Devices currently being studied in the aMAZE IDE clinical trial
  - Evaluating the safety and effectiveness of the LARIAT System to percutaneously isolate and ligate the Left Atrial Appendage epicardially, as an adjunct to planned pulmonary vein isolation (PVI) catheter ablation
  - Persistent and Long-Standing Persistent AFib patient population
  - Randomized 2:1 versus catheter ablation alone

Total Addressable Market – US Only



AFib Patients that may benefit from Left Atrial Appendage Management (LAAM)

- Hybrid aMAZE procedures – using catheter ablation and Lariat system
- Lariat and AtriClip together offer physicians an epicardial approach to appendage management for this population

Conservative estimate of addressable LAAM market for this population is $2 to $5 billion at only 30% penetration[1]

- Catheter ablations being performed annually on non-paroxysmal patients represents less than 5% of the diagnosed population
- Capturing half of the patients receiving catheter ablation annually, even in this small population, is worth between $115 million and $350 million, depending on mix of MIS AtriClip and Lariat
- Broader opportunity for expansion into this large market as more and more non-paroxysmal patients are being treated

1. Assumes average pricing of $3,600 for MIS AtriClip and $11,000 for LARIAT system – reaching only 30% of the non-paroxysmal population

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Why Did We Buy It - Strategic Rationale

- **Direct entry into the Electrophysiology (EP) market**
  - EPs control the majority of patients with lone atrial fibrillation
  - EPs are more likely to adopt/recommend therapies they can “control”
  - Further solidifies our commitment and position in epicardial space for both AF and LAAM
  - We have an EP-focused sales force for our MIS business – infrastructure to scale with this product
- **Broadening clinical evidence in persistent/long-standing persistent AFib market**
  - Multiple trials underway to be a leader in this space: aMAZE, CONVERGE, DEEP
  - Excellent synergy with CONVERGE once approved, providing another option for appendage management
  - Complementary to endocardial catheter ablation – not competitive
- **Future boost to our already robust appendage management business**
  - Accelerates shift to high-growth EP market
  - Large total addressable market and accretive to long-term growth rate

Accelerates long-term growth rate with new catalyst and market opportunity

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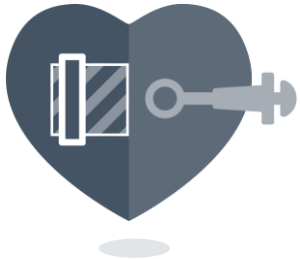
U.S. LAA Closure Management

Open LAA Growth Drivers

- Broadening awareness of benefits of LAA management (science and society endorsement)
- Technology-driven benefits (ease of use and closure)
- Possible retrospective stroke trial; electrical isolation labeling expansion; FLEX·V growth

OPEN & MIS



MIS LAA Growth Drivers

- PRO2 continues to gain traction w/ higher ASP
- Launch of a more versatile PRO·V in September 2017
- Possible labeling expansion for standalone (retrospective)
- Future opportunity for adding MIS Clips to other procedures

The acquisition of SentreHEART significantly expands our addressable market for LAAM beyond surgical and directly into the EP market

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Transaction Overview

- **Economics**
  - Up-front consideration consists of $40 million – mix of cash and stock
  - Contingent consideration components to be paid in a combination of cash and stock
    - Clinical Milestones – up to $140 million on achievement of certain clinical milestones, including FDA PMA approval
    - CPT Milestone – $120 million on approval of a Category 1 Current Procedural Terminology (CPT) Code
- **Key considerations**
  - Small up front payment with minimal shareholder dilution
  - Milestone payments tied to value-creating events, opening new markets
  - Nominal revenue contribution short-term; expecting long-term revenue growth acceleration
  - Delays profitability in the short-term, but leverages our strong balance sheet

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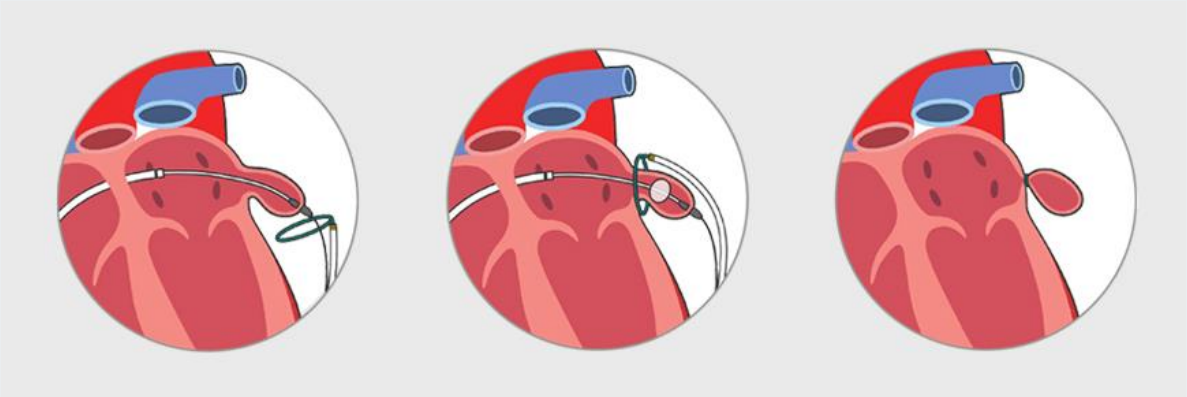
Therapy Overview

- Catheters used to deliver a suture loop, slip it around the LAA, and tighten it to close off the LAA
- Delivered by EP in catheter lab
- Percutaneous, minimally invasive approach utilizing techniques that are familiar to EPs



See “Supplemental Information” section for more procedure detail

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aMAZE Trial Overview

Description:

- Prospective, multicenter, randomized (2:1) controlled study to evaluate the safety and effectiveness of the LARIAT System to percutaneously isolate and ligate the Left Atrial Appendage
- Adjunct to pulmonary vein isolation (PVI) catheter ablation in the treatment of subjects with symptomatic persistent or longstanding persistent atrial fibrillation
- Randomized against PVI alone; superiority efficacy endpoint and design

Design:

The study is being conducted in two stages:

- Limited Early Stage (Stage 1): up to 250 subjects at up to 65 sites – COMPLETE.
- Pivotal Stage/ Phase III (Stage 2): up to 600 subjects at up to 65 sites – ONGOING.
- All subjects from both stages will be included in the primary analysis

Primary Outcome Measure:

- Freedom from episodes of atrial fibrillation > 30 seconds at 12 months post index pulmonary vein isolation
- Time Frame: 12 months following Pulmonary Vein Isolation catheter ablation procedure, measured by 24-hour Holter Monitoring

amaze
LARIAT® Clinical Trial

Current Status:

- *535 patients enrolled as of 8/9/2019*
- *Expect to complete enrollment in first half of 2020*
- *Expect PMA in 2022, will update with more specific timing as the trial progresses*

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Projected Financial Impact

Strong AtriCure balance sheet means no future financing requirements to complete the trial and commercialize

Short to Mid-Term

- Limited revenue contribution
- Modest impact to gross margin
- Expect to incur incremental costs to bring product to market
  - Focus on gathering clinical evidence, supporting PMA process, and securing reimbursement
  - For 2020, projecting total (combined) adjusted EBITDA* loss of less than $10 million

Long-Term

- Accretive to revenue growth
- Reinforce consistent gross margin target of 75%

* See press release issued 8/12/2019 for discussion regarding adjusted EBITDA, a non-GAAP measure

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Summary

Key Priorities following SentreHEART acquisition

- Immediate focus on completing aMAZE trial enrollment, then transitioning to PMA submission process
- Secure continued access program for additional clinical data in expanded patient populations
- Continue foundational work towards reimbursement
- Ensure seamless integration and minimal disruption to AtriCure

Strategic Rationale

- Direct entry into the Electrophysiology (EP) market
- Broadening clinical evidence in persistent/long-standing persistent AFib market
- Future boost to our already robust appendage management business

Accelerates long-term growth rate with new catalyst and market opportunity

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Supplemental Information

Note that citations/references for any comments, statistics, or figures in this presentation are available upon request.

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LARIAT Procedure

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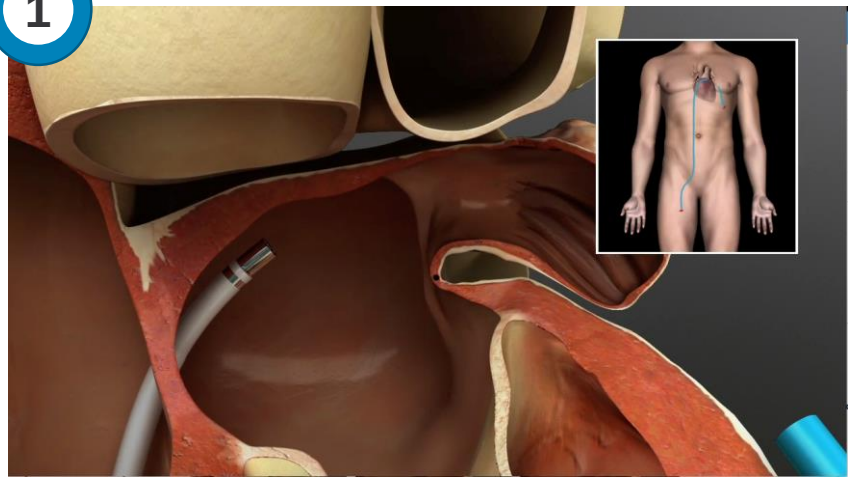
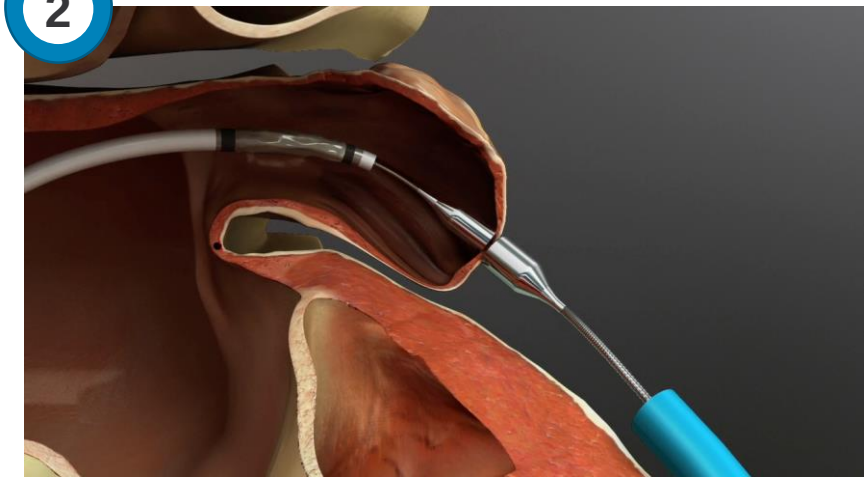


Access: Routine percutaneous techniques for pericardial and transseptal access are performed using fluoroscopy and transesophageal echocardiography.

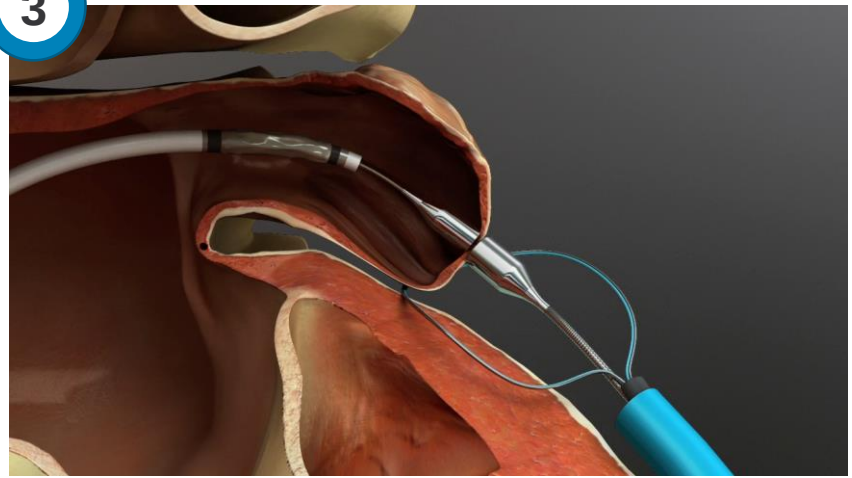
2



Delivery: Two magnet-tipped guidewires (FindrWIRZ) are attached to stabilize the LAA with minimal trauma and manipulation for delivery of the LARIAT.

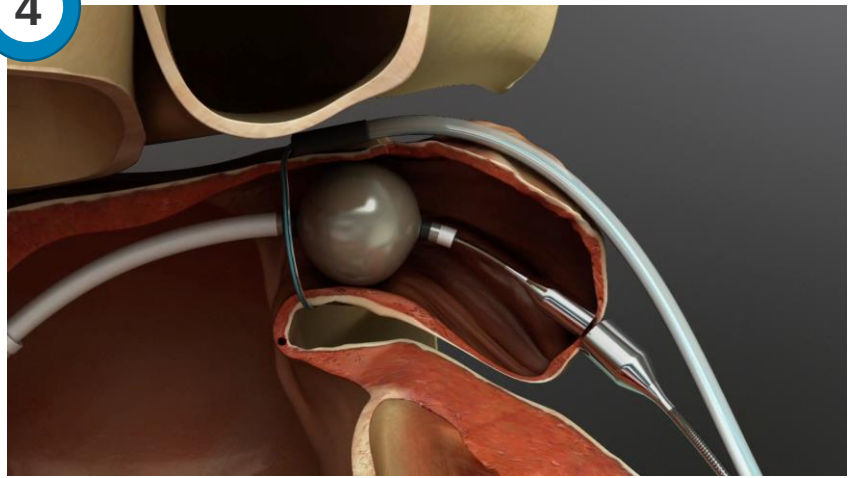
LARIAT Procedure

3



Delivery: The LARIAT snare is delivered over the epicardial FindrWIRE to the apex of the LAA.

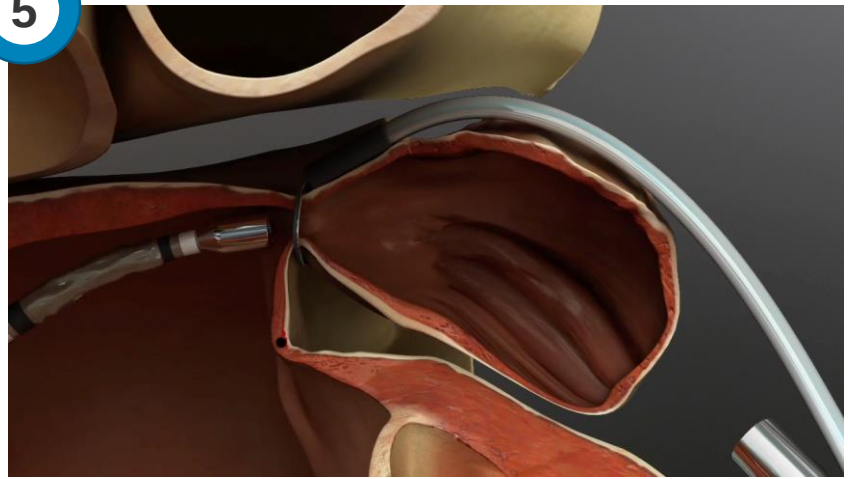
4



Capture: The LARIAT snare is positioned to the base of the LAA using the EndoCATH balloon for anatomic land marking of the optimal closure site.

LARIAT Procedure

5



Closure: The LARIAT snare is closed and the FindrWIRZ and the EndoCATH are removed prior to release and tightening of the suture.

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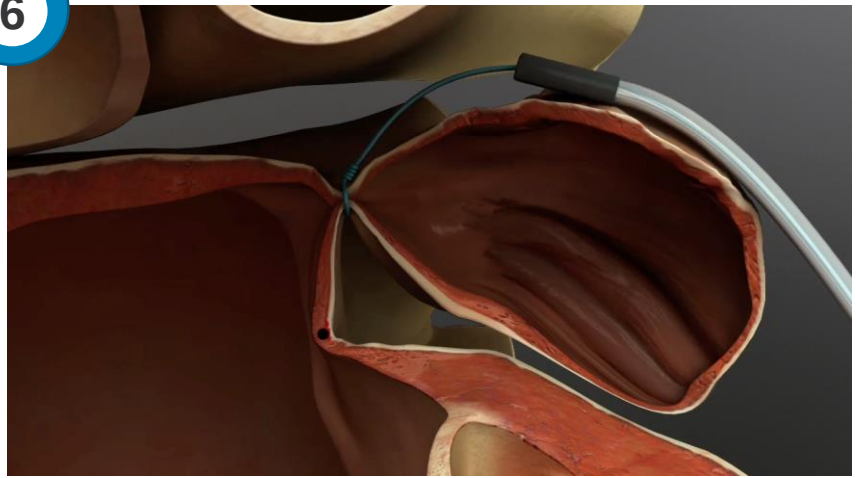
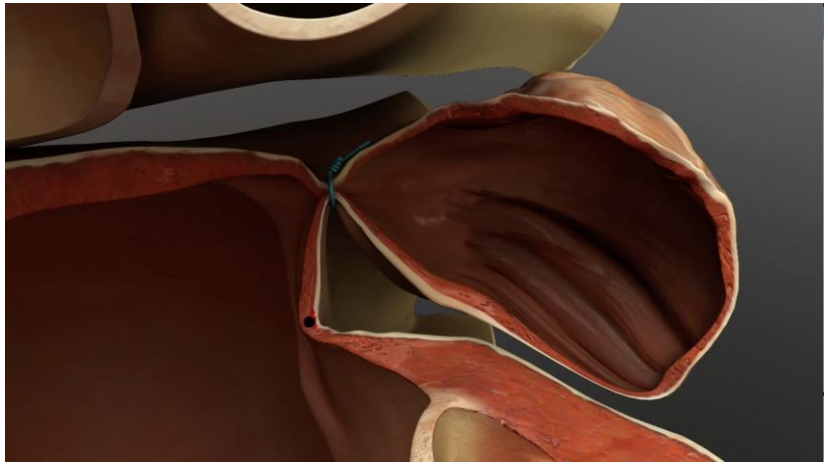


Removal: The suture is released and tightened at the base of the LAA and the LARIAT is removed. The SureCUT suture cutter is used to remotely cut the excess suture.

LARIAT Procedure



Result: The LAA is both mechanically and electrically isolated at its base. After approximately 90 days, the LAA will completely atrophy and disappear.