biostage

REGENERATIONS AHEAD

2017 | Transformational Year

Business Update Q2: August 14, 2017




Forward Looking Statements

This presentation contains forward-looking statements within the meaning of the federal securities laws. You can identify these statements by our use of such words as “before,” “track,” “will,” “should,” “could,” “anticipates,” “intends,” “guidance,” “objectives,” “optimistic,“ “future,” “expects,” “plans,” “estimates,” “continue,” “drive,” “strategy,” “potential,” “potentially,” “growth,” “long-term,” “projects,” “projected,” “intends,” “believes,” “goals,” “sees,” “seek,” “develop,” “possible,” “new,” “emerging,” “opportunity,” “pursue” and similar expressions that do not relate to historical matters. Forward-looking statements in this presentation may include, but are not limited to, statements or inferences about the Company’s or management’s beliefs or expectations, including with respect to the effectiveness and design of its product candidates, success of its collaborations, clinical trials and pre-clinical development efforts and programs, and its ability to obtain and maintain regulatory approval for its implant products, bioreactors, scaffolds and other devices we pursue, including for the esophagus or airway; the outlook for the life sciences industry and the field of regenerative medicine; the Company’s current products or products in development; the Company’s business strategy; the Company’s anticipated regulatory approvals; future revenues and earnings; the strength of the Company’s market position, business model and intellectual property rights; opportunities or potential opportunities in the field of regenerative medicine and related markets; the success of treatments utilizing the Company’s products or product candidates; the market demand and opportunity for the Company’s products, or the product candidates it is developing or intends to develop and the Company’s plans, objectives and intentions that are not historical facts.

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Q2 2017 Financial Review

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- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

- Q2 2017 net loss was $3.6 million, or $0.10 per diluted share, compared to $2.7 million, or $0.17 per diluted share, for Q2 2016
- Six months YTD 2017 net loss was $7.4 million, or $0.23 per diluted share, compared to $5.2 million, or $0.35 per diluted share, for the same period in 2016
- Secured financing providing a capital runway through 2019

2017 | Financial Stability and Speed to Market

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

Transforming into a clinical-stage company

Focused on value growth

Strong surgeon interest

Continued pre-clinical and clinical execution

Continually improving organizationally

Actively building vital capabilities

Expanding and deepening partnerships

BIOSTAGE 2017

Financed and Focused

Building on Momentum & Continuing to Build Value

Today | Sharing Our Plans for Continued Progress

Financial Stability and Clinical Prioritization

Financial Validation

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

FINANCIAL VALIDATION

- Biostage to close agreement with strategic investor, First Pecos that provides a runway through 2018
- More to follow on opportunity through future rights offering
- Chip Greenblatt and Dr. Saverio LaFrancesca are added to Board of Directors
- “Enough money to get to the finish line”

Clinical Validation

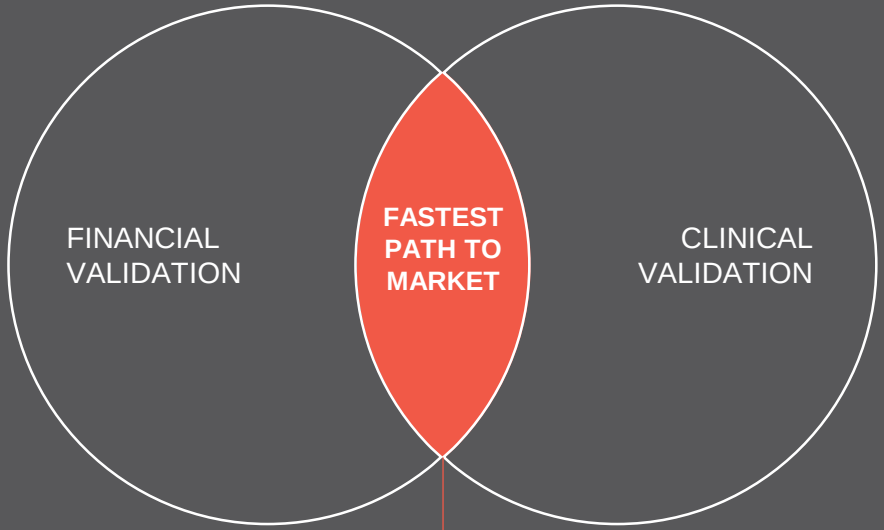
- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

CLINICAL VALIDATION

- Further clinical & regulatory validation of our Cellspan implant as evidenced by FDA single patient expanded access approval
- The patient is alive now 3 months from a successful surgery
- The Esophageal Cellspan Implant preformed as designed
- Biostage / Mayo Clinic and Biostage / UT Houston collaborative research presented at Scientific Conferences
- Pediatric surgeons showing strong interest

Development Prioritization: Esophageal Atresia

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

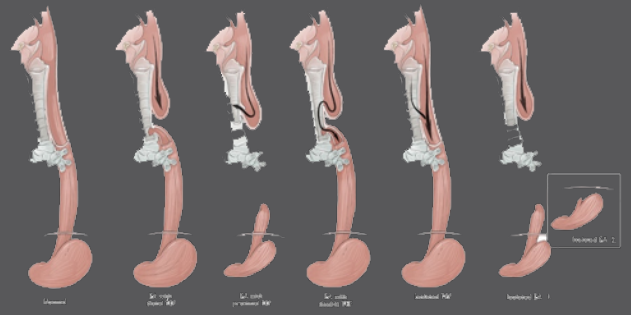


CELLSPAN PEDIATRIC ESOPHAGEAL IMPLANT

CLEAR AND MOST URGENT UNMET MEDICAL NEED | FDA PRIORITY REVIEW VOUCHER | PATIENTS WITH FEWER ALTERNATIVES

Esophageal Atresia | A Life-Threatening Condition and Urgent Need

Approximately 1 in 3,500 babies in the US is born with esophageal atresia



- Gap between upper and lower esophagus
- Congenital defect
- Active collaboration with Connecticut Children's Medical Center and UT Health in Houston
- May qualify for rare pediatric disease priority review voucher program under 21st Century Cures Act

Clinical & Financial Validation I Development Prioritization

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

Clinical Validation	Financial Validation	Development Status
First in patient use	Closed stock purchase agreement with First Pecos	Esophageal atresia chosen as lead program
Preclinical model for pediatric application	Extends runway through 2018	Continuing adult esophagus program
Conference participation	Chip Greenblatt appointed to Board	Adult IND to follow esophageal atresia
Posters and presentations	Opportunity to participate in rights offering	Esophageal atresia largest unmet need
Dr. Saverio LaFrancesca appointed to Board	“Enough money to get to the finish line”	Bonus: Securing eligibility for priority review voucher

2017 | Runway

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

Q1 2017
Q1 built on the strong foundation established in 2016
Added clinical validation

Q2 2017
Clinical & financial validation
Cellspan implant in patient

Q3 2017
Closed SPA with First Pecos
Prioritizing esophageal atresia
Rights offering
Continued platform development

Q4 2018
Continued collaborations
Key Opinion leader development
Continued studies across platform

Building Relationships and Clinical Evidence

biostage™

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

MAYO CLINIC

Dennis Wigle, MD, PhD
Chairman, Department of Thoracic Surgery

MassGeneral Hospital for Children™

Joseph Vacanti, MD
Co-Chair, Biostage Scientific Advisory Board

Connecticut Children's MEDICAL CENTER

Christine Finck, MD
Surgeon-in-Chief

McGOWAN INSTITUTE FOR REGENERATIVE MEDICINE
Regeneration Through Innovation™

Stephen Badylak, DVM, PhD, MD
Co-Chair, Biostage Scientific Advisory Board

UTHealth The University of Texas Health Science Center at Houston | McGovern Medical School

Charles S. Cox, Jr. MD
Director, Children's Regenerative Medicine

ALLIANCE for Regenerative Medicine

AMERICAN ASSOCIATION FOR THORACIC SURGERY
A Century of Modeling Excellence

American Pediatric Surgical Association

2017 | Value Creation Moment

- Securing financial runway
- Increasing clinical validation
- Prioritizing Esophageal Atresia

- Confluence of clinical and financial validation
- Focused on value growth
- Transforming into clinical-stage company
- Strong surgeon interest
- Continued pre-clinical and clinical execution
- Opportunities through rights offering
- Continually improving organizationally
- Actively building vital capabilities
- Expanding and deepening partnerships

BIOSTAGE 2017

Financed and Focused

Building on Momentum & Continuing to Build Value

Advancing Lead Program: Esophageal Atresia

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REGENERATIONS AHEAD

Thank You

Q&A