

# Regenerative Technology Investor Day

December 14, 2016  
Plainsboro, NJ



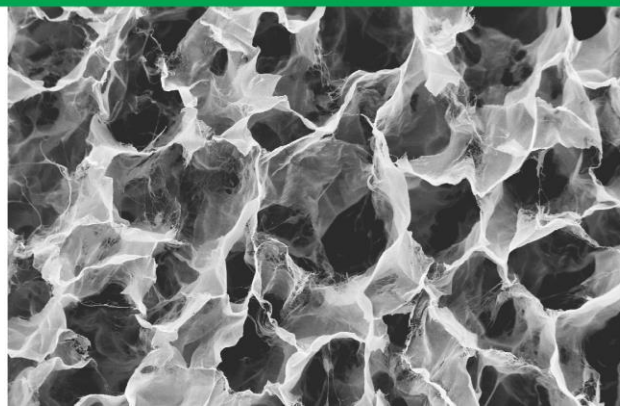


## Welcome

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**Angela Steinway**

GLOBAL HEAD OF STRATEGIC INITIATIVES  
AND INVESTOR RELATIONS



# Safe Harbor

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Certain statements made in this presentation are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. Among others, statements concerning management's expectations of future financial results, potential business acquisitions, government agency approvals, additional indications and therapeutic applications for medical products, biologics, and medical devices, as well as their outcomes, clinical efficacy and potential markets are forward looking. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from predicted results.

For a discussion of such risks and uncertainties, please refer to the information set forth under "Risk Factors" included in Item 1A of Integra's Annual Report on Form 10-K for the year ended December 31, 2015, and information contained in subsequent filings with the Securities and Exchange Commission. These forward-looking statements are made based upon our current expectations and we undertake no duty to update information provided in this presentation.

# Additional Disclosures

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This presentation includes discussion of products that have not been approved or cleared by the US Food and Drug Administration (FDA) for certain indications and are not available for sale in the US. In the US, the SurgiMend and SurgiMend PRS are currently indicated for use in plastic and reconstructive surgery, muscle flap reinforcement and hernia repair. Integra is pursuing a clinical study to gain FDA approval for SurgiMend in breast reconstruction.

Unless noted otherwise, all references to market sizes, market share positions, and market growth rates are Integra LifeSciences' internal estimates.

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# Agenda

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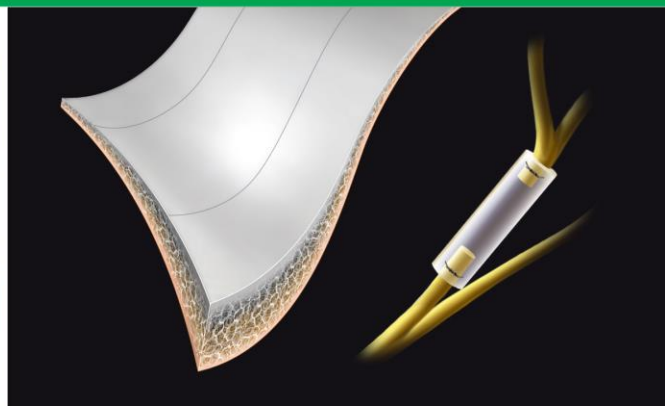
9:30am	Welcome	Angela Steinway, Global Head of Strategic Initiatives and Investor Relations
9:30 – 9:55 am	Regenerative Technologies & Strategy	Pete Arduini, President & CEO
9:55 – 10:15 am	Technology & Pipeline Review	Ken Burhop, Chief Scientific Officer
10:15 – 10:30 am	Reimbursement & Market Access	Joe Rolley, Vice President, Reimbursement and Market Access
10:30 – 10:45 am	Investor Q&A / Webcast Conclusion	
10:45 – 11:15 am	Product Demonstrations	
11:15 – 12:50 pm	Clinical Presentations	
12:50 – 1:00 pm	Closing Remarks	Pete Arduini, President & CEO
1:00 pm	Plant Tour and Departures	



## Regenerative Technologies & Strategy

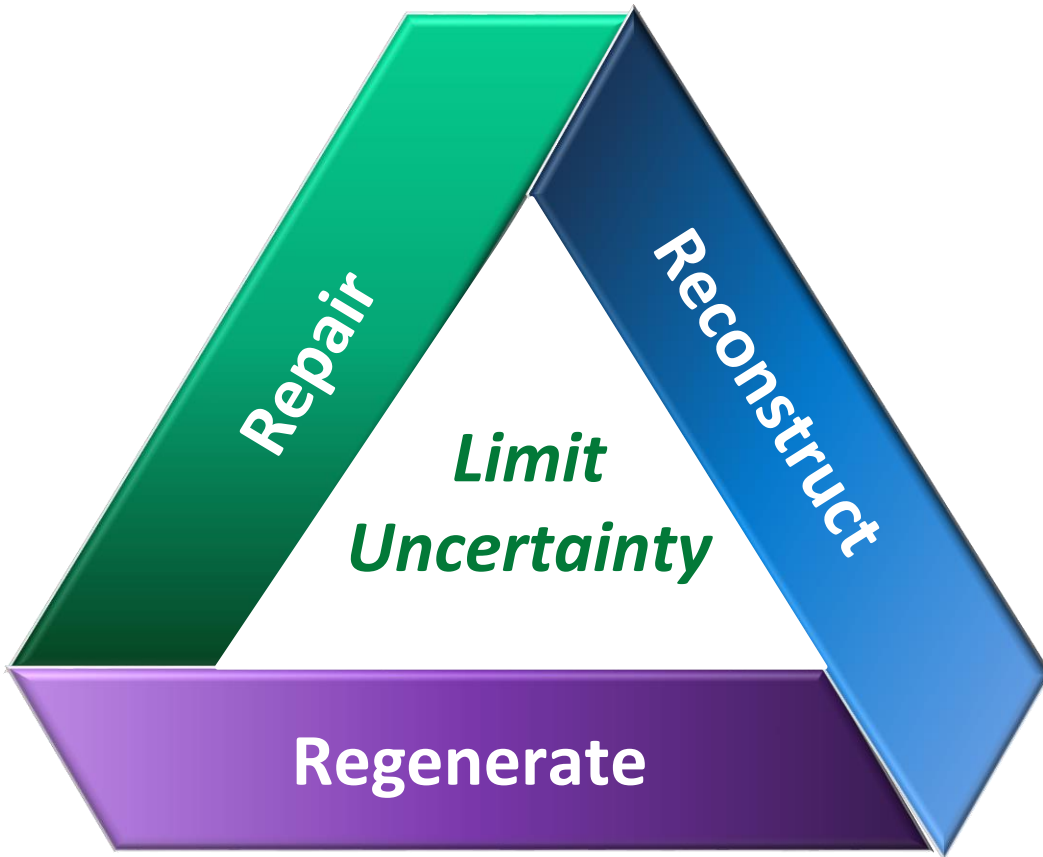
**Peter Arduini**

PRESIDENT & CEO



# What Are Regenerative Technologies?

Regenerative Technologies help  
the body heal naturally



Regenerative Technologies at Integra are:

**Technologies that protect the body...**

Allowing it to repair itself

**Engineered collagen...**

Scaffold for tissue to regenerate itself

**Allograft and xenograft matrices...**

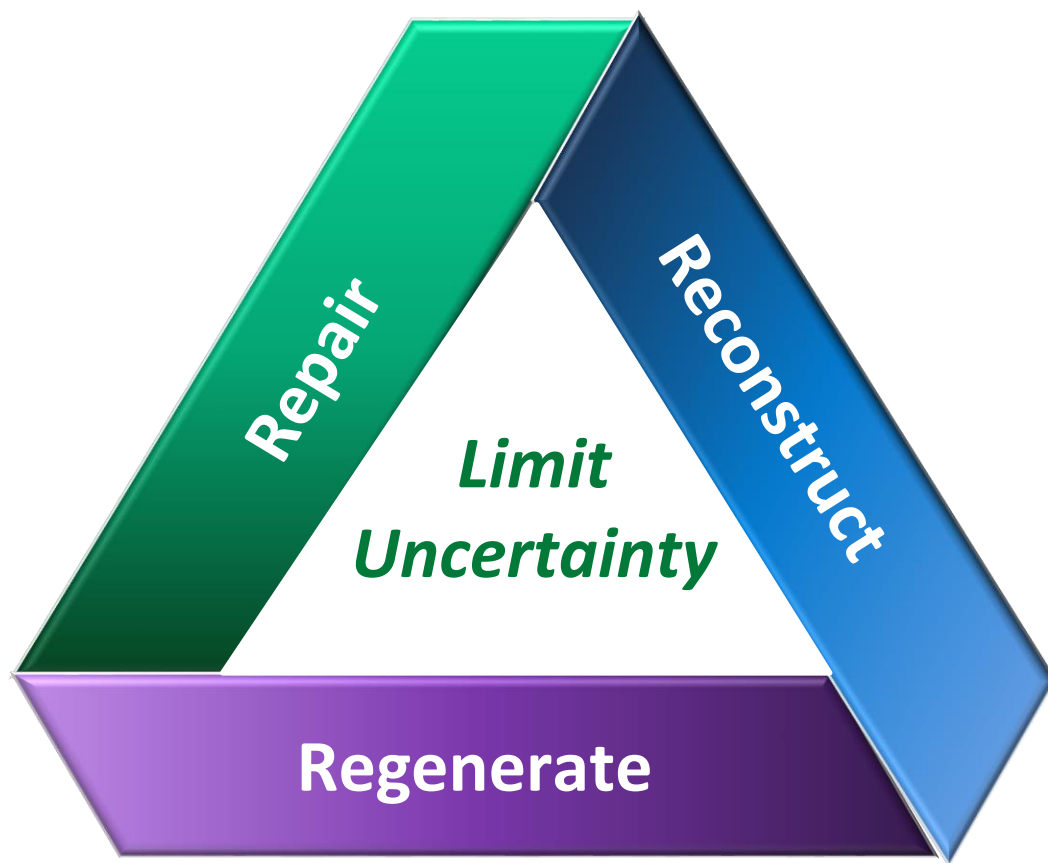
Support and reconstruct tissue

**Cells and growth factors...**

Stimulate regeneration

# Regenerative Technology Capabilities At Integra

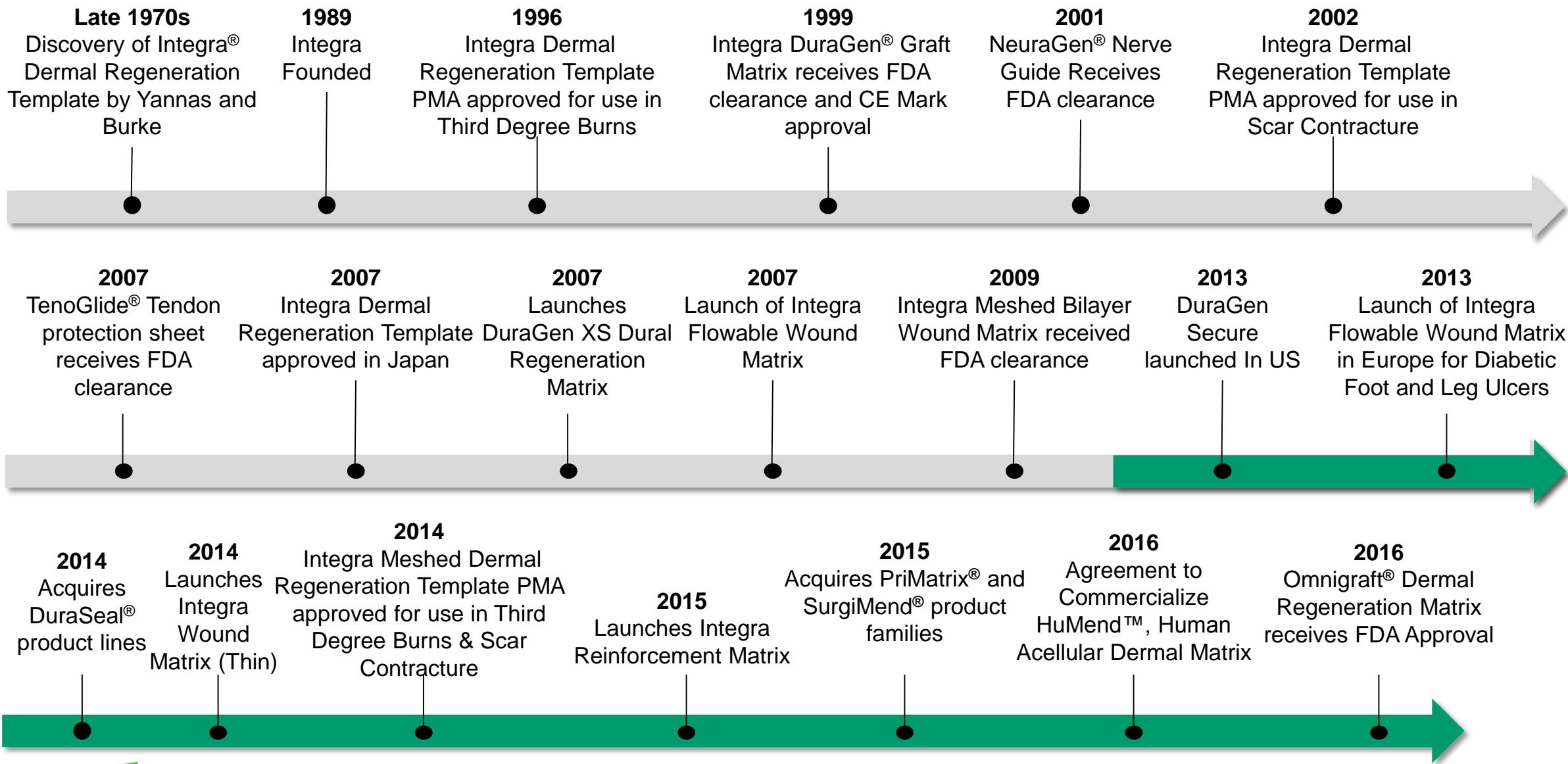
**Regenerative Technologies help  
the body heal naturally**



- History of Regenerative Product Innovation
- Deep R&D Experience
- Clinical Development Expertise
- Collagen Manufacturing Capabilities
- Market Access & Reimbursement
- Clinical Studies & Health Economics
- Broad Commercial Infrastructure



# Integra's Regenerative History



# Our Regenerative Markets

## Outpatient

### Chronic Wounds

DFU

Venous Ulcers  
Arterial Ulcers  
Pressure Ulcers  
Chronic Surgical Sites

### Surgical Wounds

Exposed Bone  
Exposed Tendon  
Limb Salvage  
Post-Mohs

## Inpatient / OR Call Point

### Burn & Trauma

Burns (2<sup>nd</sup> and 3<sup>rd</sup> degree)  
Complex Soft Tissue Injury  
DeGlovings  
Necrotizing Fasciitis

### Reconstructive

Ab Wall Recon  
Breast Reconstruction  
Oncology  
Contracture Release  
Keloids / Nevis

### Dural Repair

Craniotomy  
Chiari Malformation  
Meningioma  
Glioma  
Spinal Durotomy

3X Market  
Potential<sup>3</sup>

~ \$700 million Market<sup>1</sup>

Outpatient Global Advanced  
Wound Care Cellular Tissue-  
Based Products (CTP)

~ \$400 Million Market<sup>1</sup>

Inpatient Global Advanced Wound Care (CTP)

5X Market  
Potential<sup>3</sup>

~ \$1.3 Billion Market<sup>2</sup>

Global Breast and Incisional  
Hernia Regenerative Products

Breast >8%  
growth

Hernia ~3%  
growth

Mid single  
digit growth

~ \$3.5 Billion Market<sup>3</sup>  
Global Sealant, glue,  
hemostats, and adhesion  
prevention market

# Our Regenerative Customers

## Chronic Wounds

**Podiatrist**  
Dermatologist  
**Plastic Surgeon**  
**Vascular Surgeon**

## Surgical Wounds

**Vascular Surgeon**  
**Plastic Surgeon**  
Dermatologist  
Orthopedic Surgeon

## Burn & Trauma

Trauma Surgeon  
**Plastic Surgeon**  
**Vascular Surgeon**  
Orthopedic Surgeon

## Reconstructive

**Plastic Surgeon**  
General Surgeon  
Surgical Oncologist

## Dural Repair

**Neurosurgeon**  
Orthopedic Spine Surgeon

Tissue Technologies Product Portfolio

Regen Products

Technology Platforms

Sales Channel Call Points

Call Point

Call Point

International Distribution

Multiple Products, Technologies And Sales Channels Spanning The  
Breadth Of Our Customer Base

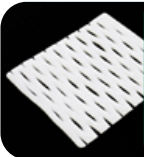
# Integra Regenerative Portfolio



DuraGen  
Suturable DuraGen  
DuraGen Secure  
Bovine Pericardium



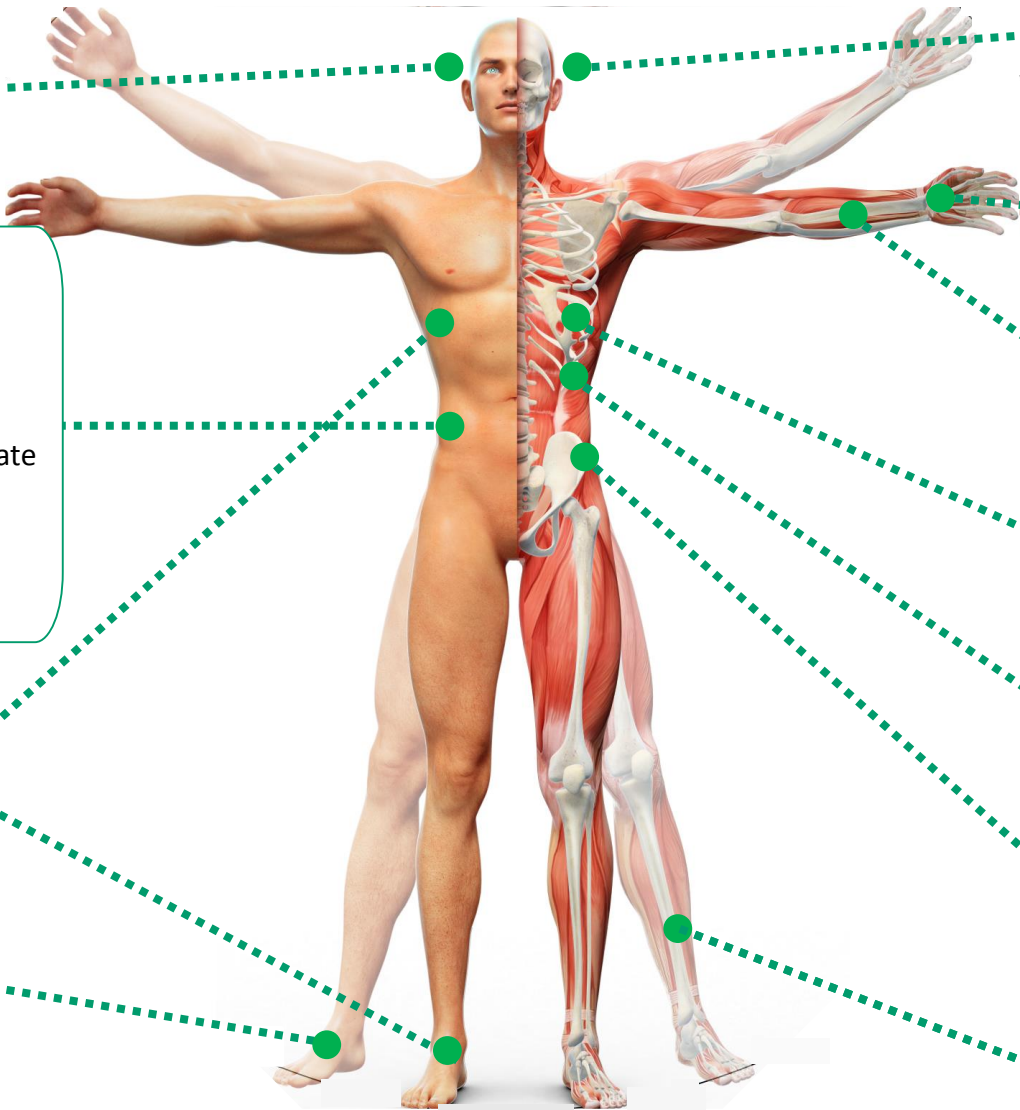
Integra Bilayer  
Meshed Bilayer  
Integra Wound Matrix  
Flowable Matrix Wound  
Integra Dermal Regeneration Template  
Meshed IDRT  
Single Layer (Thin) Skin  
Matrix Wound Dressing



PriMatrix  
PriMatrix Ag Antimicrobial



Omnigraft



DuraSeal  
DuraSeal Exact



NeuraGen Nerve Guide  
NeuraWrap™ Nerve Protector



TenoGlide  
Tendon Protector Sheet



Humend



Amniotic Membrane  
Placental Tissue Matrix



SurgiMend  
SurgiMend PRS



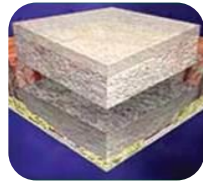
Integra  
Reinforcement Matrix



# Integra Regenerative Portfolio



Repair of Dura following:  
Meningioma  
Glioma  
Aterio Venous Malformation  
Head Trauma



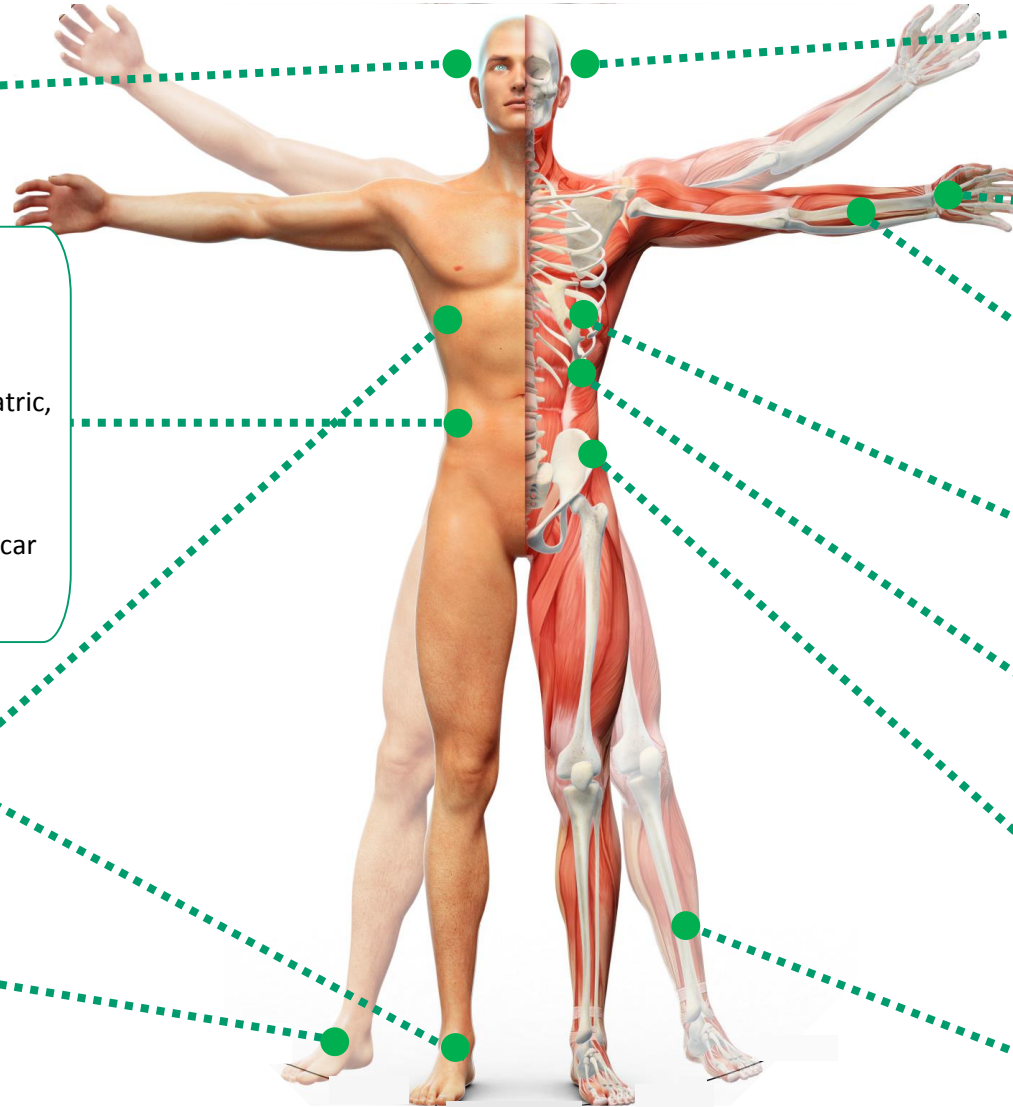
Partial and full thickness wounds  
Skin ulcers  
Surgical wounds:  
donor sites/grfts, post-Moh's surgery, post-laser surgery, podiatric, wound dehiscence  
Trauma wounds:  
abrasions, lacerations, skin tears, second- and third-degree burns, scar contracture  
Draining wounds



Skin ulcers  
Trauma wounds  
Second degree burns  
Surgical wounds  
Post-Mohs surgery  
Tunneled wounds



Diabetic foot ulcers



Cranial durotomy  
Spinal durotomy



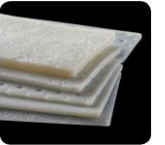
Repair of peripheral nerve gaps  
Management of peripheral nerve injuries



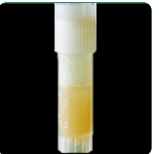
Protection of tendon injuries



Repair, reinforcement, or replacement of damaged or inadequate integumental tissue



Homologous use as a wound covering for surgical sites, voids, and tissue defects



Plastic & Reconstructive surgery  
Hernia Repair  
Soft tissue reconstruction



Reinforce damaged or ruptured tendons (e.g. rotator cuff, patellar, Achilles, quadriceps)





# Getting A Successful Regenerative Product To Market

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**Clinical need & global marketing capability**



**Deep R&D capabilities & multiple technology platforms**



**Clinical studies development expertise**



**Manufacturing drug-device capabilities**



**Market access & reimbursement**



**World class network of Key Opinion Leaders**



**Global commercial organization**

# Global Regenerative Growth Strategy

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**EXPAND** Regenerative Channels in Target Global Markets

**BROADEN** Clinical Indications and Market Access

**INVEST** a Higher Percentage of R&D into Regenerative Technology

**GROW** Partnerships within Ecosystem: Universities, Companies, etc.

**BUILD** Out Platform and Gain Scale through M&A

# Why Are We Investing In Regenerative Technologies

Large Growing Markets



Clinical History & Scientific Expertise



Value to Patients



Shareholder Returns



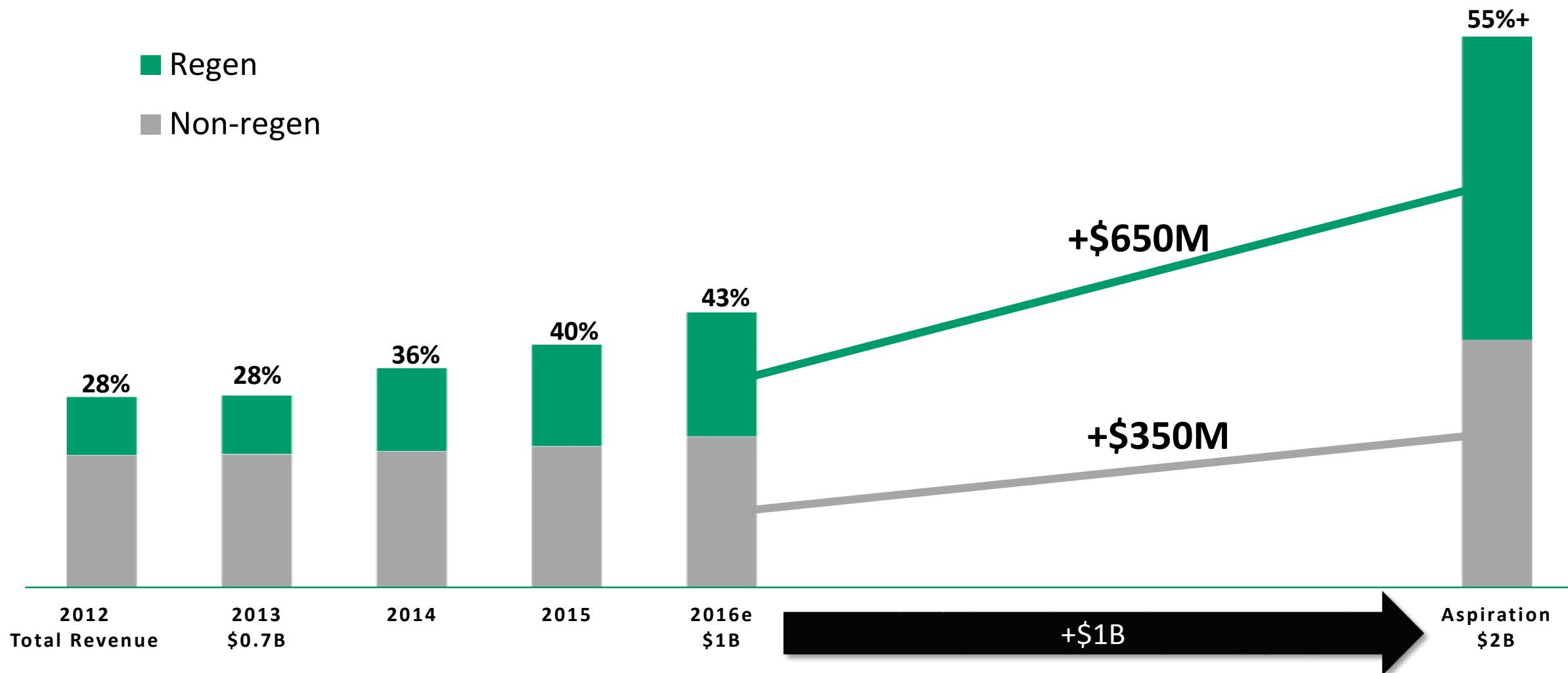
Trend is to help the body heal itself

Resulting in market leadership positions

Life changing & life sustaining products

Increased profitability & above market growth

# Regenerative Technologies: A Crucial Part Of Our Strategy



# How Do Regen Technologies Help Achieve Aspirational Goals

## Aspirational Goal

Revenue	\$2B
Gross Margin	72-73%
EBITDA Margin	30%

## What will it take?

55%+ of sales from high margin  
Regenerative Technologies

## How will we do it?

- 1) Extend our inpatient leadership positions to the outpatient advanced wound care market
- 2) Leverage our clinical, manufacturing and commercial experience to expand existing markets and enter new markets such as plastic and reconstructive surgery
- 3) Successful investments in R&D to drive new regenerative technology products
- 4) Leverage M&A to gain scale and supplement our technology platform



# Today's Webcast Presentations

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- **Our Technology and the Future of Regenerative Science**
  - The science of regenerative technologies
  - The future of regenerative technologies
- **Our Market Access Capabilities and the Evolving Healthcare System**
  - Working with payers, providers and patients
  - A value based system including health economics and bundling
- **Q&A**



Ken Burhop, PhD  
Chief Scientific Officer



Joe Rolley,  
Vice President,  
Reimbursement &  
Market Access

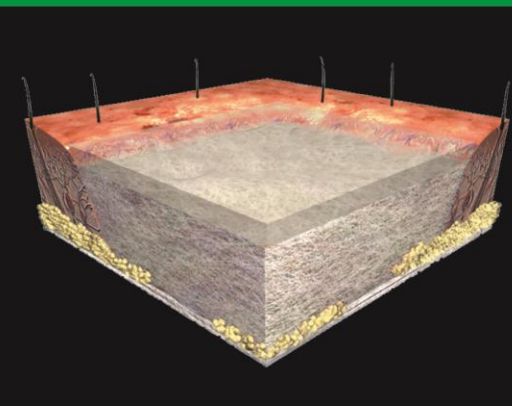
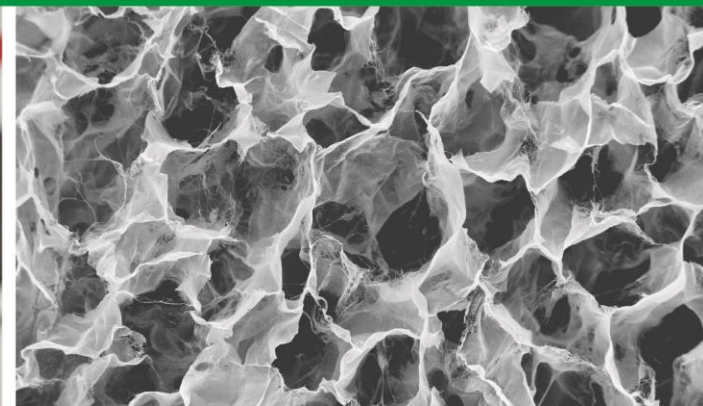


## Technology & Pipeline Review

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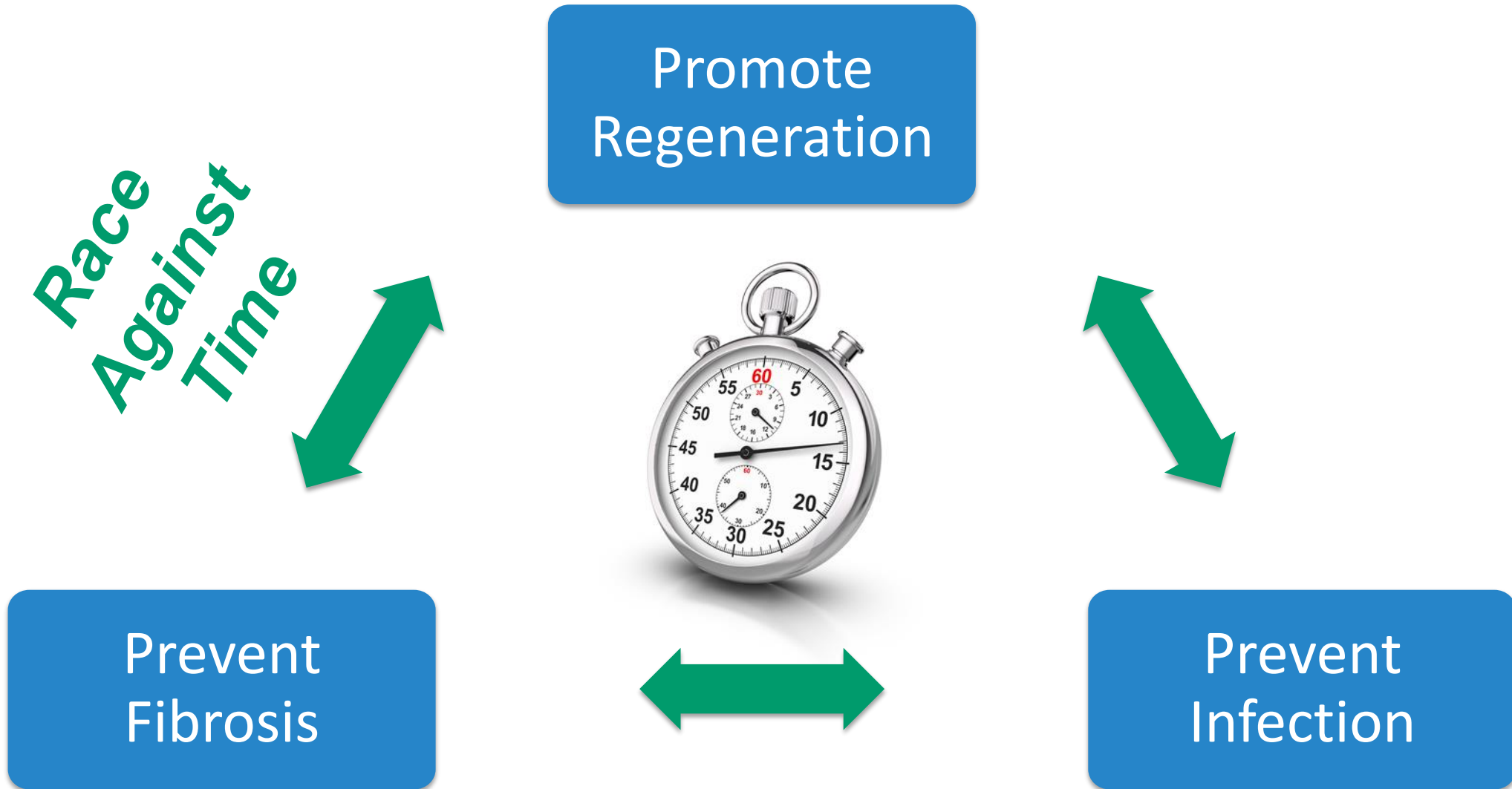
**Ken Burhop, PhD**

CHIEF SCIENTIFIC OFFICER



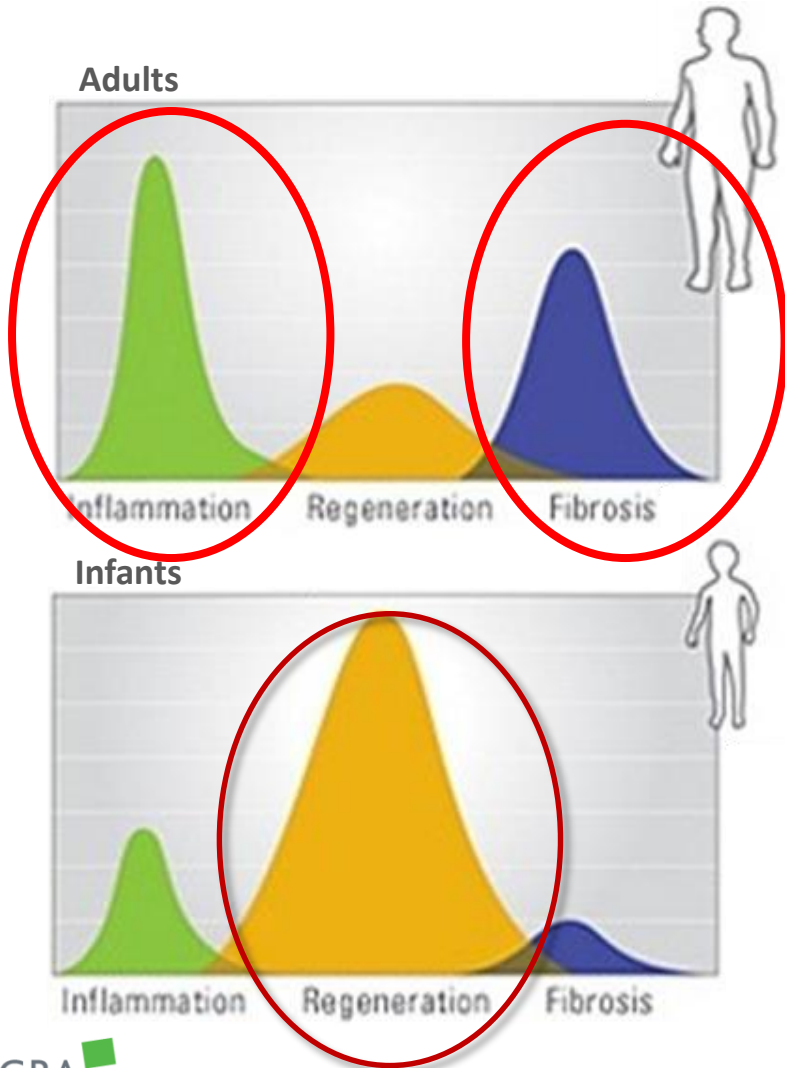
# Considerations For Tissue Engineering

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# Wound Healing: Repair vs. Regeneration

## Adult Healing Promotes Speed Over Regeneration



# Current Regenerative Technologies

## Autograft

A graft of tissue from one location to another of the same individual's body

Typically not processed

## Allograft

Tissue graft from a donor of the same species

May or may not be processed

## Xenograft

Tissue graft from a different animal species

Typically highly processed or engineered

## Synthetic

Created from chemical or naturally occurring biocompatible substances

Engineered

## Clinical and Product Development Considerations

<b>Fibrosis/Scar</b>	<b>Resorption time</b>	<b>Regulatory Pathways</b>
<b>Speed of Healing</b>	<b>Product Strength</b>	<b>Ease of Use</b>
<b>Infection</b>		<b>Cost</b>



# Integra's Regenerative Technologies Portfolio

Synthetic  
Allograft  
Xenograft



DuraGen



SurgiMend



IDRT



Omnigraft



NeuraGen



Flowable



Meshed



SurgiMend PRS



BMWD



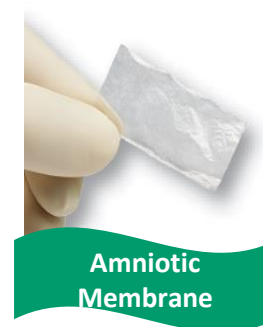
PriMatrix



TenoGlide



Thin



Amniotic  
Membrane



DuraSeal



HuMend

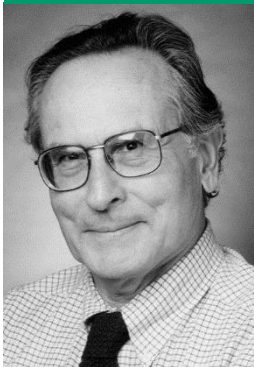


Placental Tissue Matrix

Multiple Technologies & Multiple Opportunities

# Early Pioneers Of Tissue Regeneration

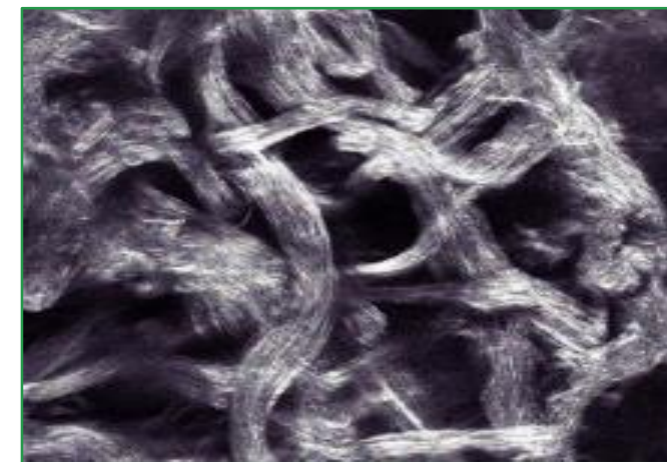
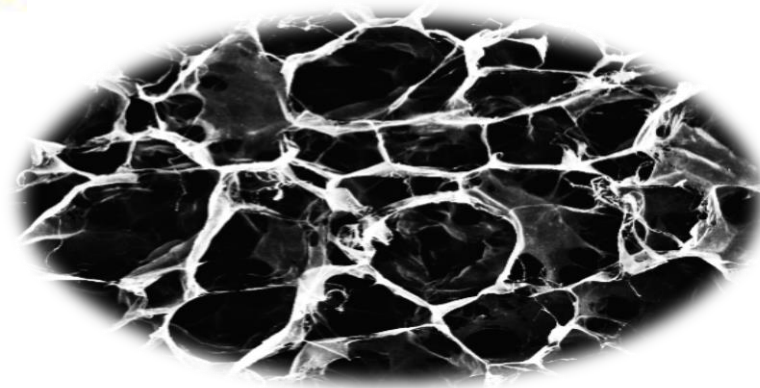
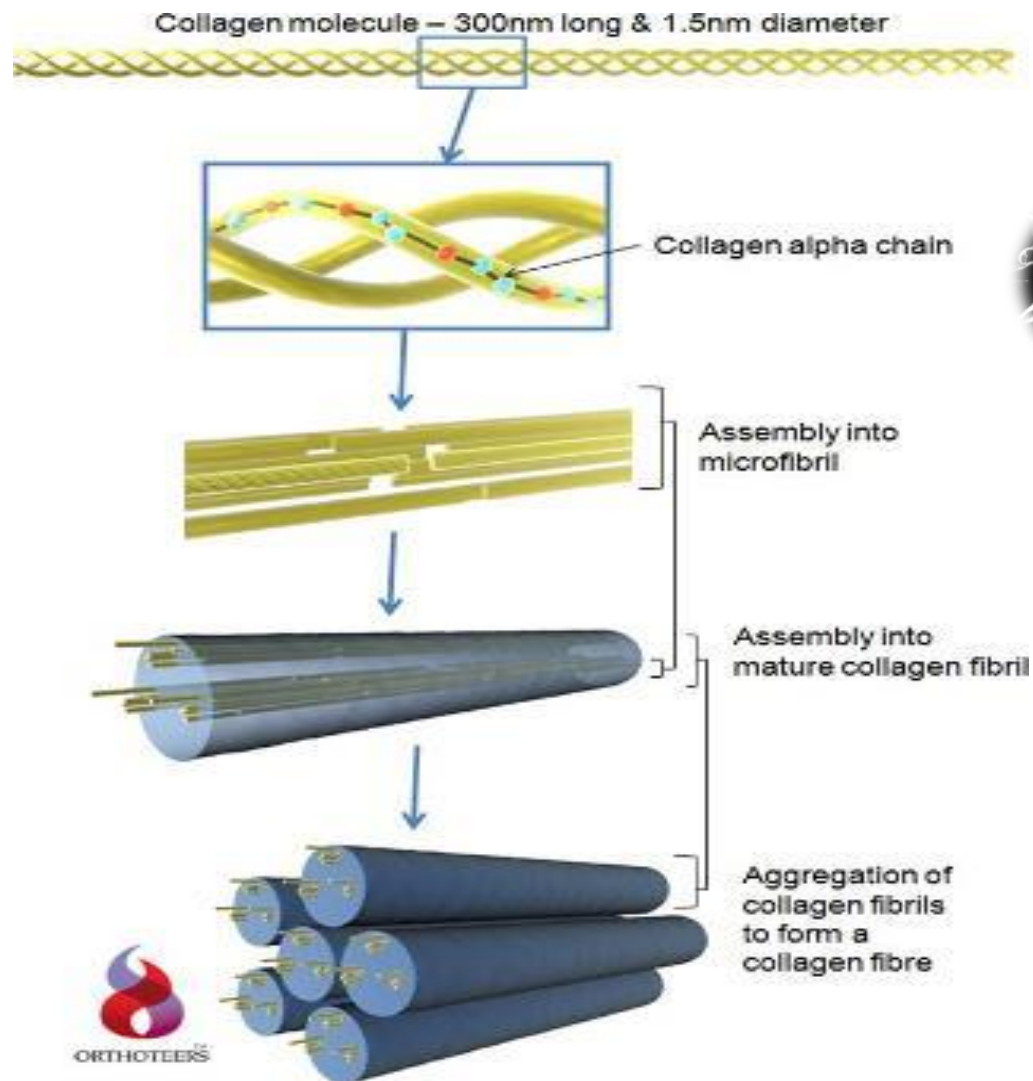
Dr. Yannas



Dr. Burke



Dr. Bell



Technology Upon Which Integra Was Founded In 1989

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Yannas and Burke thought the first experiments were a “failure” because the material did not increase the speed of wound healing.

The surprising outcome of the first experiments was that they were regenerating

**“Skin . . . Not Scar”**

# Why Collagen?

Collagen is a polymeric protein and a major component of the Extracellular Matrix (ECM) in animals

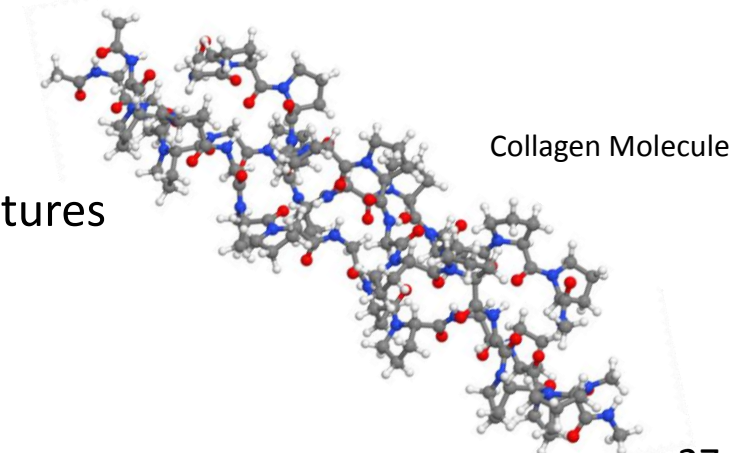
- **Natural Animal Protein**

- Ability to be degraded by naturally occurring enzymes
- Highly biocompatible
- Weakly immunogenic relative to the majority of proteins
  - Made even less so by processing methodology
- Binder of cells and growth factors
- Activator of wound healing process
- Other natural protein polymers include Silk, Keratin, Gelatin, Fibrinogen, Elastin, Actin, Myosin etc.



- **Natural Polymer**

- Polymer based structure is ideal for engineering into a wide range of structures
- Ability to control pore size, density and degradation rate





# How Does Integra Promote Regeneration?

- **Macro-structure**

- Upper silicone layer: temporary epidermis keeping moisture in and bacteria out
- Lower collagen sponge layer: temporary dermal layer

- **Biochemistry**

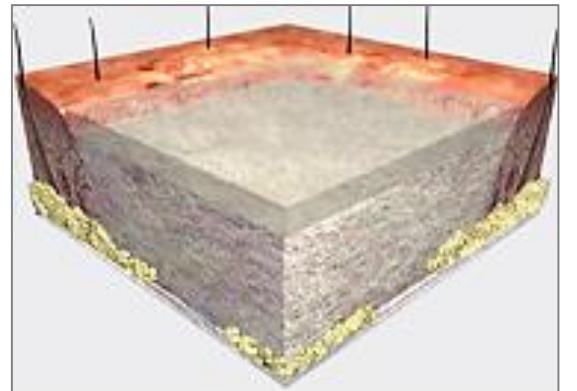
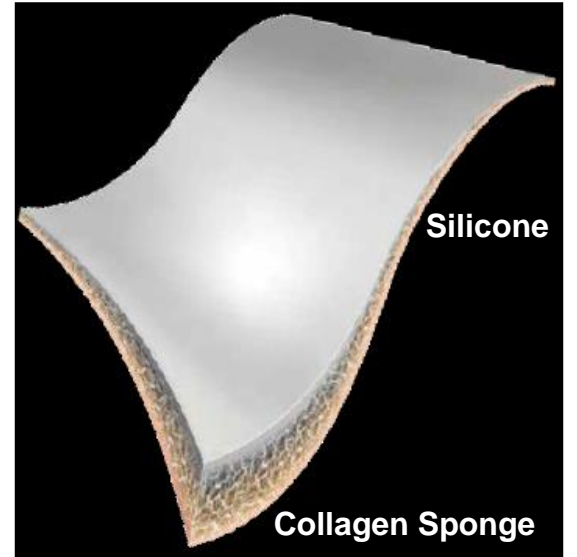
- Integra Collagen: lack of inflammatory and immune response
- GAG: helps to block platelet binding to collagen → reduction in inflammation and myofibroblast differentiation (>80% reduction)

- **Resorption**

- Matrix resorption rate reciprocal to rate of new tissue formation (3 – 5 weeks)
- Tailored resorption profile using stabilization/crosslinking methodologies

- **Pore Structure**

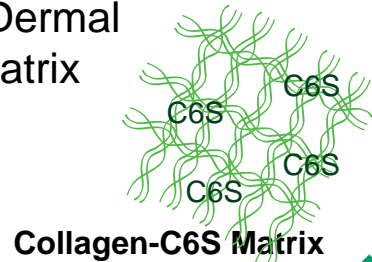
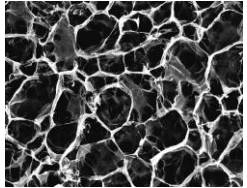
- Optimized for cellular and vascular ingrowth (70-200  $\mu\text{m}$ )
- Randomly oriented pores to prevent “linear” communication of contractile/ scar-forming cells (myofibroblasts)



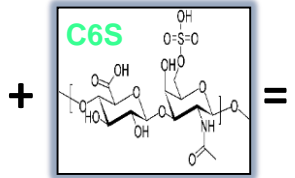


# “Bottom-Up” Versus “Top-Down” Approach

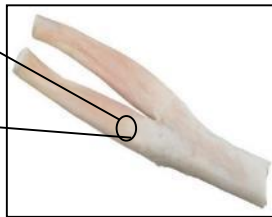
Bioengineered Dermal Regeneration Matrix



*Lyophilization & crosslinking*

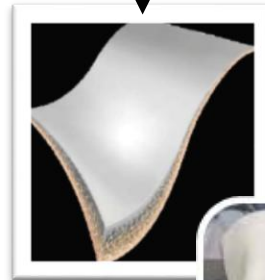


*Collagen purification & chondroitin six sulfate addition*



Bovine Tendon

Integra

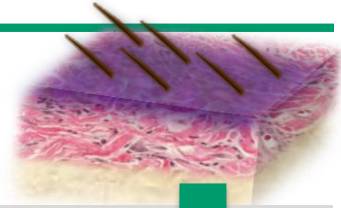


PriMatrix

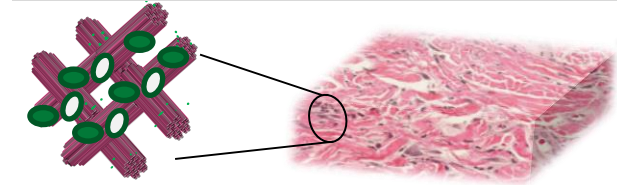
SurgiMend



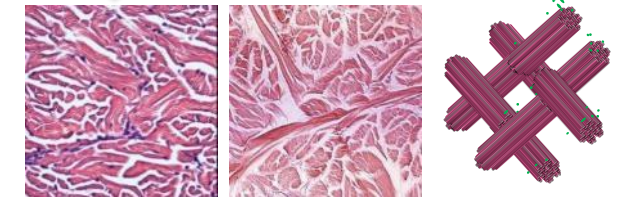
Bovine Skin



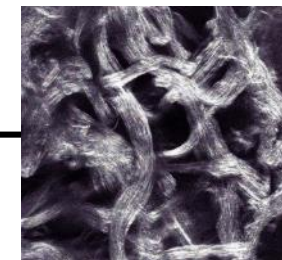
*Remove hair, epidermis, and subcutaneous tissue*



*Remove cells and non-collagenous components*



*Lyophilization*



Native Acellular Dermal Matrix

# Regenerative Technology Product Development Portfolio

## Primary Wound Management

Anti-microbial Adjuncts

Flowable Wound Bed Preparation

## Chronic Wounds

Outpatient Specific Solutions

Inpatient Specific Solutions

Ongoing Clinical Studies for Additional Products and Indications

## Burns & Complex Wounds

Cell Based Adjuncts

Matrix Protein Enhancement

Bioactive Recombinant Protein Enhanced

Ongoing Clinical Studies for Additional Products and Indications

## Plastic & Reconstruction

Enhanced Hernia Wall Graft Incorporation

Increased Adaptation & Structural Support for Improved Breast Cosmesis

Ongoing Clinical Studies in Breast Reconstruction & Abdominal Wall

Ongoing Clinical Studies in for Additional Products and Indications

## Peripheral Nerve

Drug Device for Short Gap

Drug Device & Matrix Enhancements for Long Gap

■ Product Development

■ Studies

# Clinical Infrastructure

## Ongoing post approval registry studies

Just completed successful  
Omnigraft trial for DFU

> 900 patient study for  
DuraSeal exact (spine)

## Team in place

Fully staffed &  
experienced clinical affairs  
team:

- Medical Affairs
- Clinical Operations
- Medical Writing
- Medical Safety

## Capacity to run 25-30 studies

Currently conducting:

- 19 clinical studies
- 30 Investigator Initiated trials
- US, EU, Japan and China

# Collagen As A Carrier – Our Capabilities Today

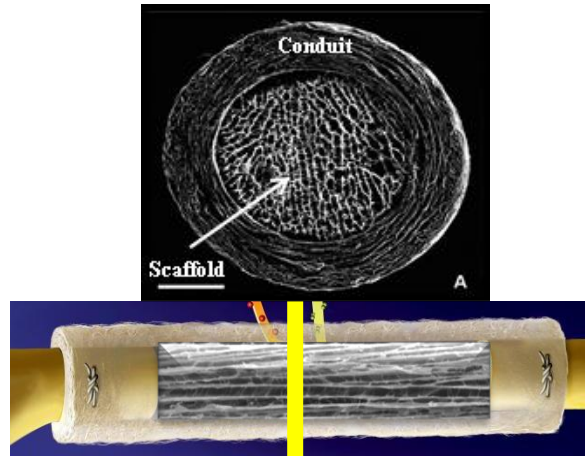
## Integra's ACS Product Used for Infuse



Multi-hundred million  
dollar product using  
Integra's ACS

Commercialized

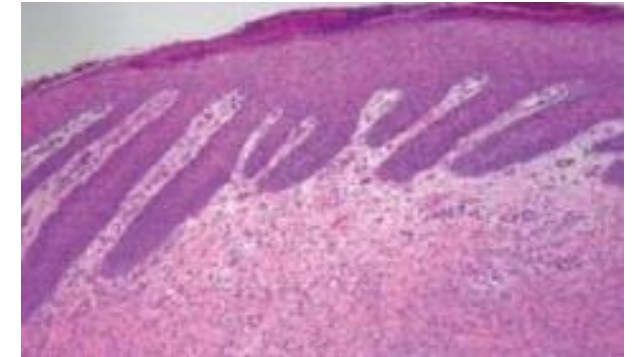
## INTEGRA Next-Gen Nerve Repair



To be the first  
Regenerative Drug-Device  
Combo Product marketed  
by Integra

In Development

## IDRT Matrix Formulated with Recombinant Tropoelastin

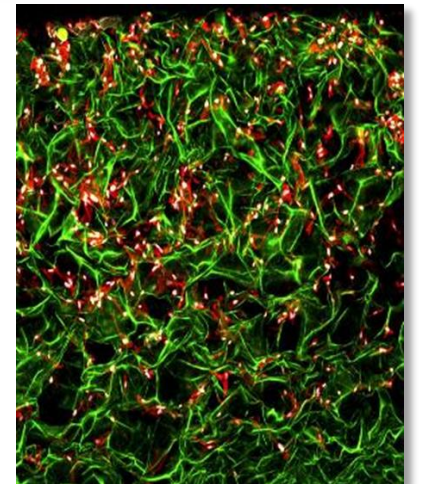
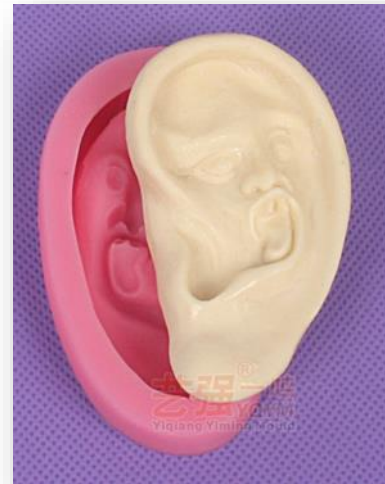
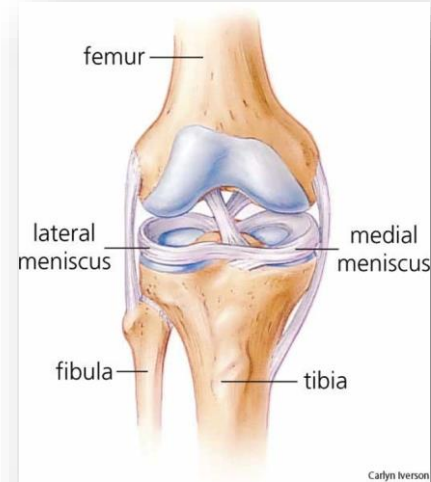
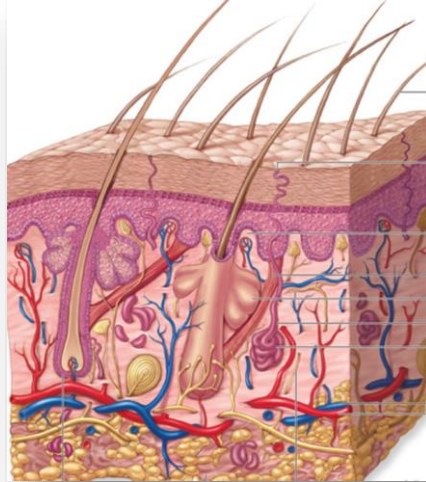
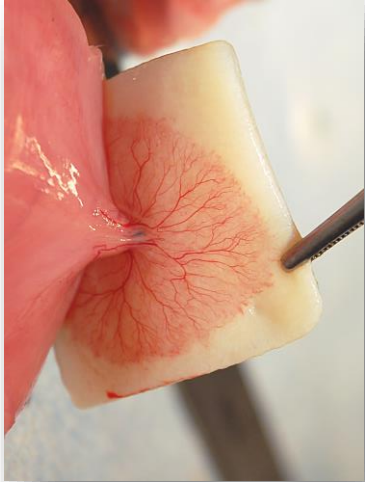


Faster deposition of a  
natural dermis and  
epithelial layer by 2 weeks

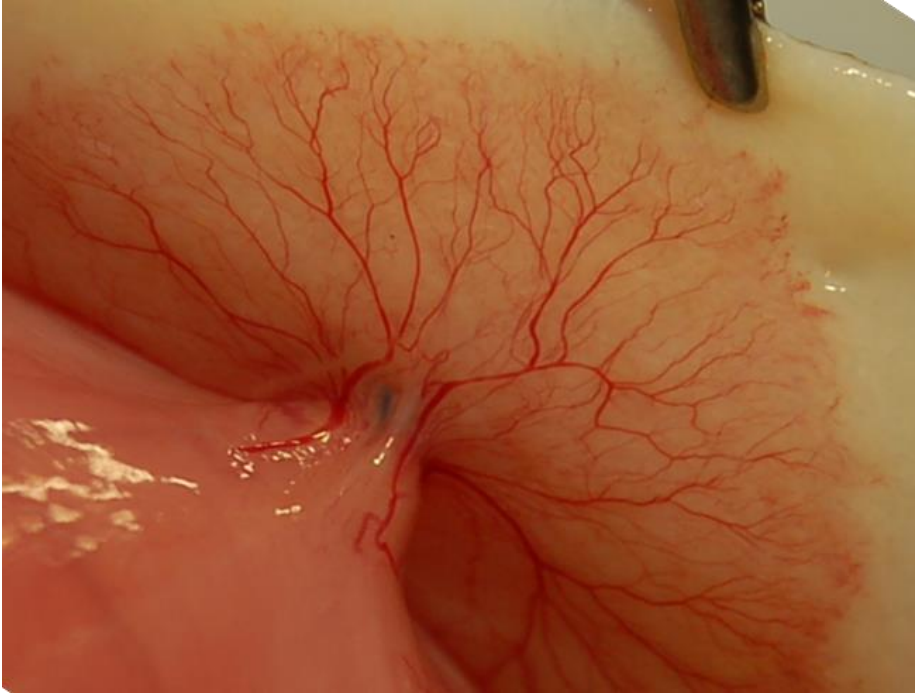
Exploratory



# Future Of Regenerative Technologies



# Organ & Tissue Generation: Use The Human Body As A “Bio-Incubator”

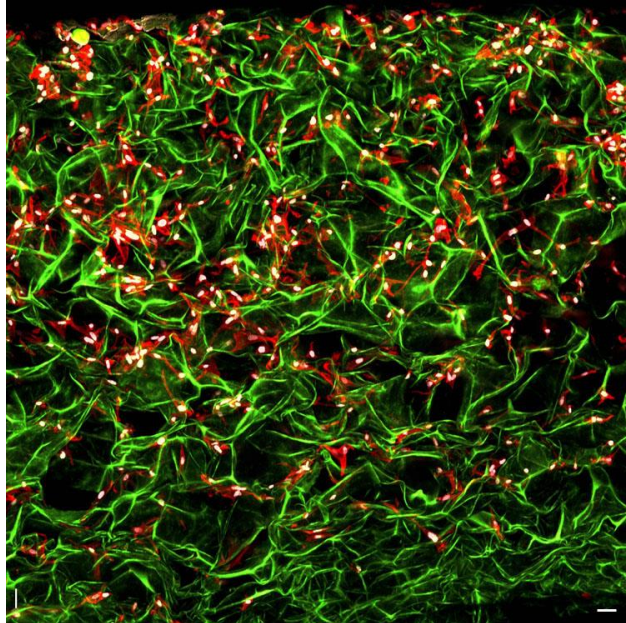


**Integra Products Support Vasculature Growth  
Leading To The Potential For Directed Tissue And Organ Generation**

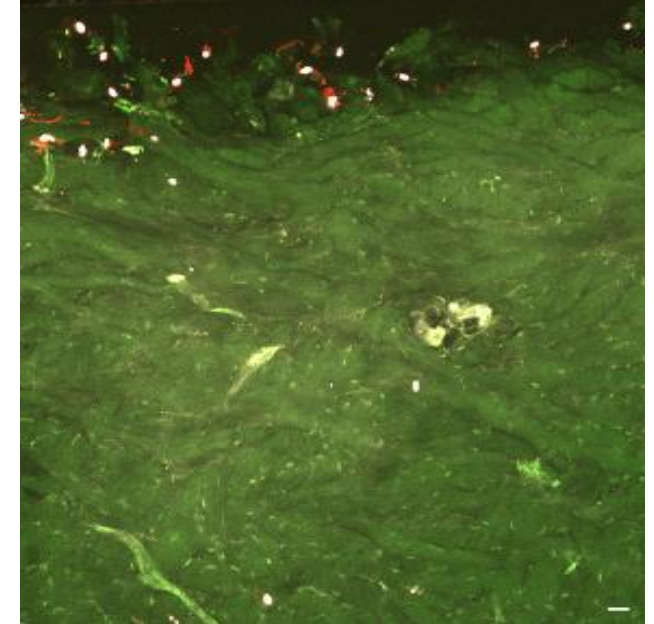
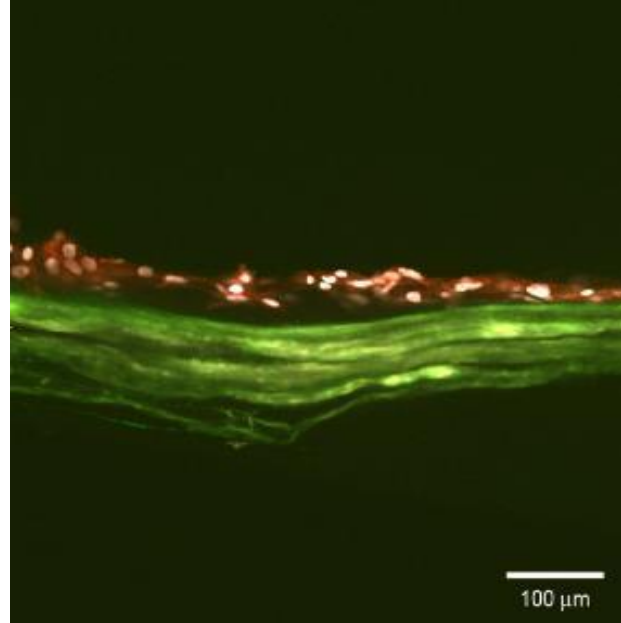


# Integra Wound Matrix & Adipose Derived Mesenchymal Stem Cells

Adipose Mesenchymal Stem Cell seeding efficiency (100K cells)



Vs.



## Integra

Seeding efficiency: **64.7% ( $\pm 21.0$ )**

Matrix depth=1.0mm

## Competitor A

Seeding efficiency: **29% ( $\pm 9.0$ )**

Matrix depth=0.1mm

## Competitor B

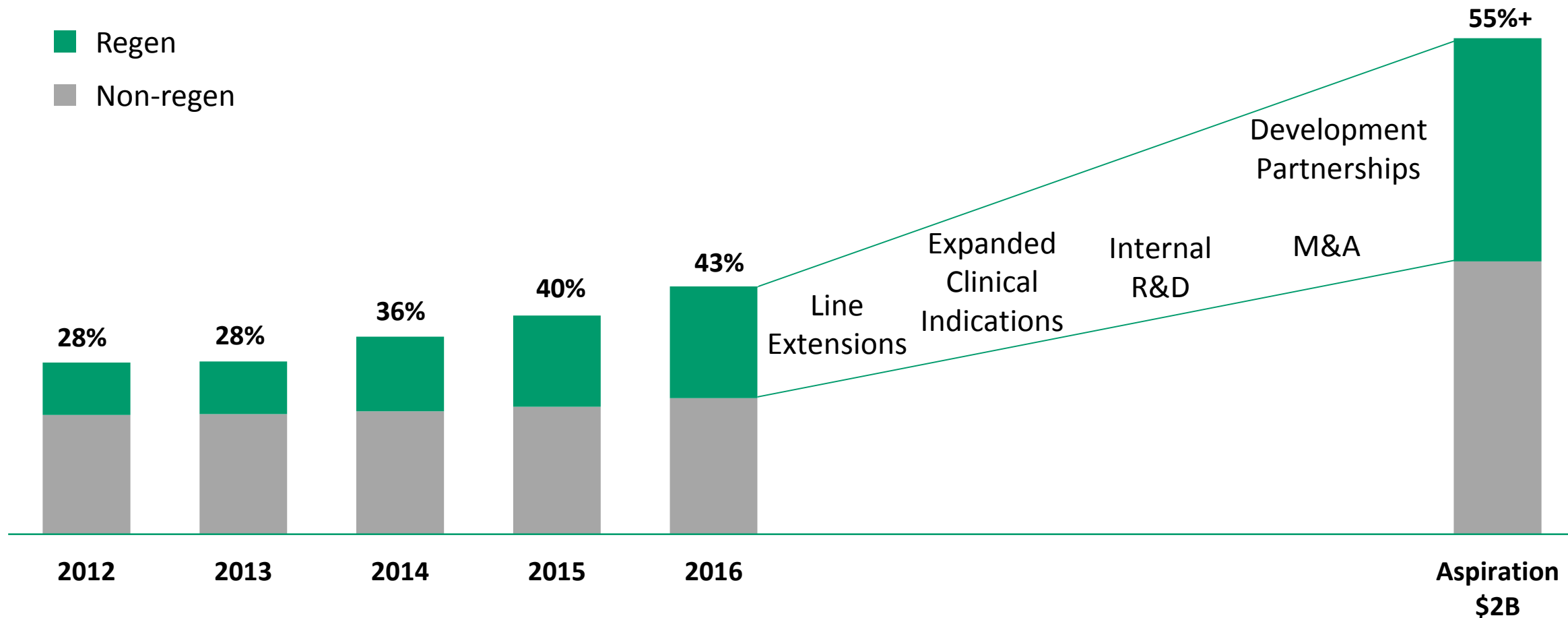
Seeding efficiency: **10.8% ( $\pm 1.2$ )**

Matrix depth=1.55mm

**Cells Demonstrated Greater Integration Into Integra Wound Matrix**

**Not All Matrices Are Created Equal!**

# Regenerative Technology Portfolio Drives Revenue Growth



**Leverage Technology Platform With Channel Expertise, Market Access And Business Development To Drive Leadership Position**



## Market Access & Reimbursement

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**Joseph Rolley**

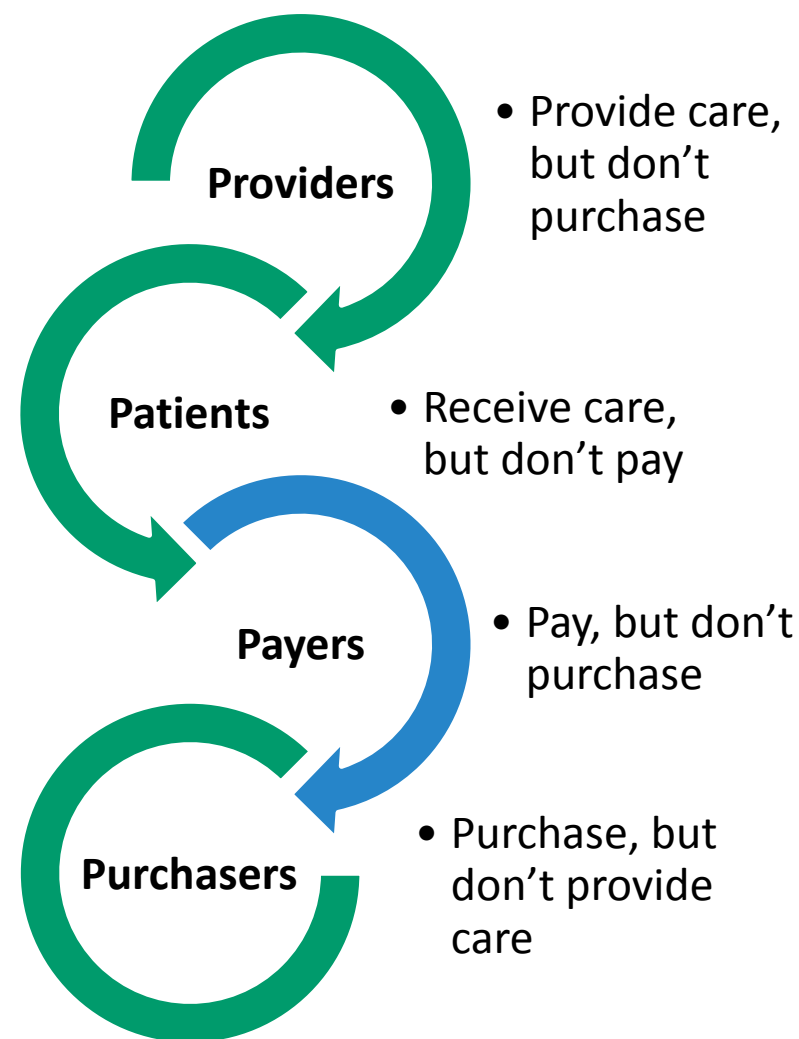
VICE PRESIDENT,  
REIMBURSEMENT AND MARKET ACCESS



# Innovation Alone Is Not Enough For Commercial Success

**Reimbursement and Market Access must be factored into the development plan from concept stage to launch and beyond**

- ✓ Coding
- ✓ Coverage Policies
- ✓ Payment
- ✓ Pre- and post-marketing evidence
- ✓ Health economics
- ✓ Health policy environment



# Market Access Drivers Vary by Care Setting & Payer Type

Sources of Revenue	Inpatient	Outpatient	Physician Office	VA System
	<div>Medicare: Prospective Payment System/DRGs</div> <div>Commercial: Negotiated Payment Rates</div>	<div>Medicare: Bundled Payments/ APC "Buckets"</div> <div>Commercial: Negotiated Rates and Average Selling Price</div>	<div>Medicare: Average Selling Price</div> <div>Commercial: Negotiated Rates and Average Selling Price</div>	<div>Federal Supply Schedule (FSS)</div>
Access Drivers	<div>✓ Value-based Purchasing</div> <div>✓ Quality "Pain Points"</div>	<div>✓ Price vs. Bundled Payment</div> <div>✓ Patient Co-Pays</div> <div>✓ Patient Outcomes</div>	<div>✓ Price vs. ASP</div> <div>✓ Patient Co-Pays</div> <div>✓ Patient Outcomes</div>	<div>✓ FSS</div> <div>✓ Price vs. Budget</div> <div>✓ Patient Outcomes</div>

**We Are Highly Focused On Maximizing Market Penetration Through Deep Understanding And Leveraging Of Market Access Drivers**



# Example: Inpatient vs. Physician Office Medicare Reimbursement

## Inpatient Procedure

### Salto Talaris® Total Ankle Prosthesis

#### Two separate payments:

- **Payment for the Facility**
  - ICD-10 Procedure and Diagnosis Codes crosswalk to one of 5 MS-DRGs, payment from \$10,704 to \$19,558
  - Payment for device included in DRG payment rate
- **Payment for the Surgeon**
  - CPT codes → payment for surgeon of approx. \$1,000

### Medicare Part A Market Access Drivers:

- ✓ ICD-10 Coding
- ✓ CPT Coding
- ✓ Clinical & Economic Evidence
- ✓ Clinical Champions
- ✓ Value Analysis Committee (VAC)
- ✓ Quality “Pain Points”

## Physician Office Procedure

### PriMatrix

#### Two separate payments:

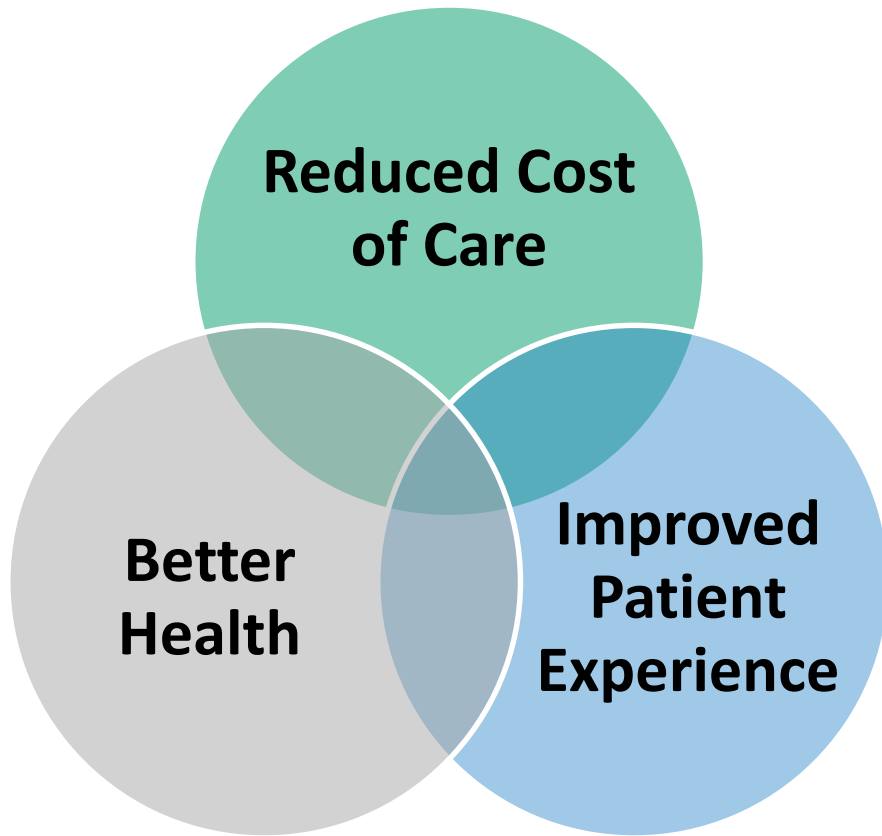
- **Payment for Physician**
  - CPT code 15275 (non facility) = \$151
- **Payment for the Product**
  - HCPCS Q4110 (PriMatrix)
  - ASP-based reimbursement based on product size
  - 4 cm x 4 cm (\$51 per sq. cm.) = \$811

### Medicare Part B Market Access Drivers:

- ✓ HCPCS Coding
- ✓ CPT Coding
- ✓ Clinical & Economic Evidence
- ✓ Clinical Champions
- ✓ Product Price vs. Reimbursement

# Affordable Care Act (ACA): *The Triple Aim*\*

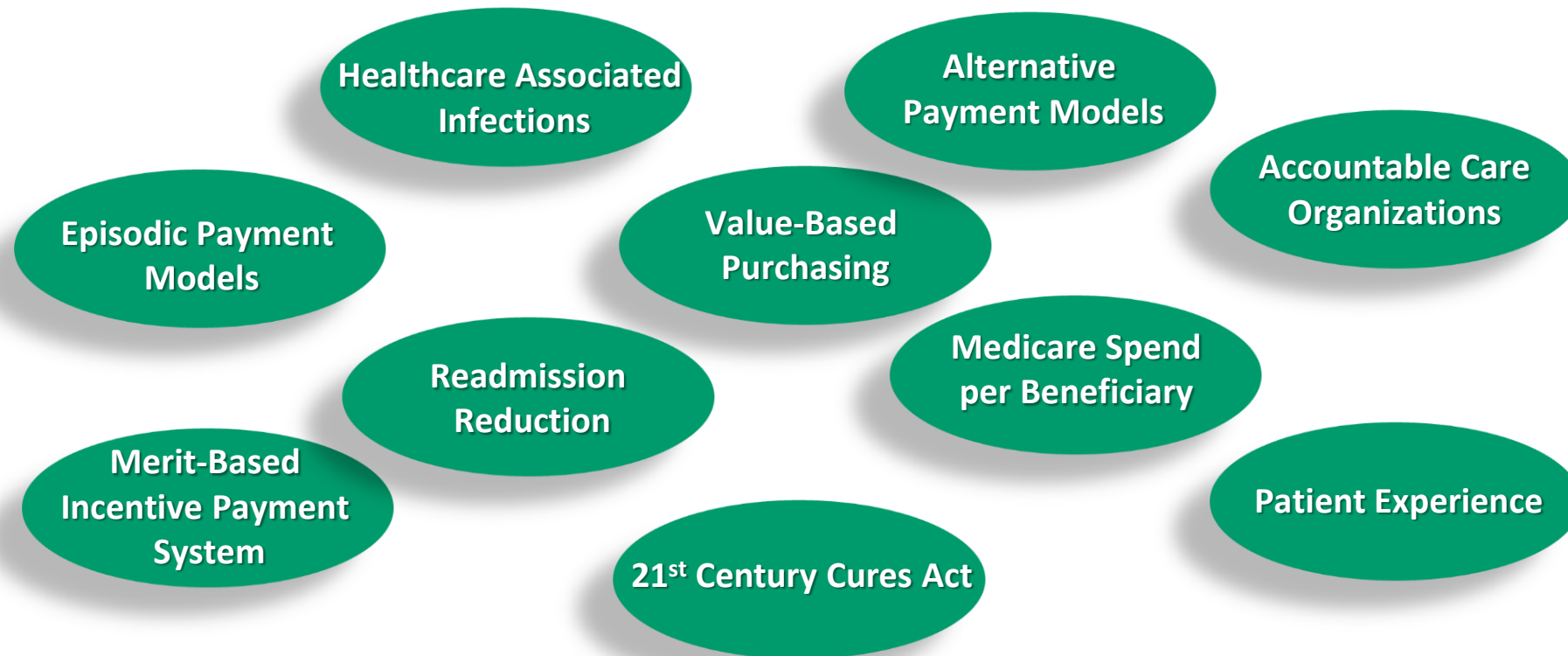
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- The ACA is not just about the insurance mandate
- ACA goals are to:
  - reduce growth in per capita spending
  - improve healthcare quality and patient outcomes
  - engage the patient in his/her own care
- Providers recognize you cannot achieve these goals through cost cutting alone

# Essential Elements Of The ACA-inspired Health Care Delivery Likely To Stay

Improving quality of care and outcomes, focusing on patient satisfaction and lowering total cost of care makes good business sense



ACA Set In Motion Fundamental Changes In Health Care Delivery  
That Are Now In Most Providers' DNA

# US Payer Environment Trends & Impacts

Risk Shifting  
Payers → Providers and Patients

- Value-Based Reimbursement
- Bundled Payments, Shared Savings Programs
- Increasing deductibles and co-pays

Payment for not just quantity,  
but also quality of care

Increasing Pressure to Reduce  
Total Cost of Care\*

- Medicare Spending per Beneficiary
- Shift from Acute to Post-Acute settings
- Insurer and provider consolidation

Increased spending ≠  
improved outcomes

Growth in Payer/Providers,  
Medicare Advantage, and  
Self-Insured Employers

- Blurring lines between Medicare & commercial policies
- Employer ACOs, “Accountable MDs”
- Personal Health Navigators

Stakeholders actively fighting  
high cost of care

Evolving/Increasing Evidence  
Requirements\*

- Commoditization pressures
- Clinical and Health Economic evidence
- Real World Evidence (RWE)

“Can it work? Does it work?  
Is it worth it?”

\* Evolving OUS as well

# Integra Is Leveraging The Changing Payer Environment

## Risk Shifting

- Strategic pricing initiatives
- Value-based Reimbursement payer initiatives
- Field-based payer negotiation team

## Reducing Cost of Care

- Building HEOR function / capabilities
- Health economic models and field-based tools
- Value-Based Selling

## Stakeholder Involvement

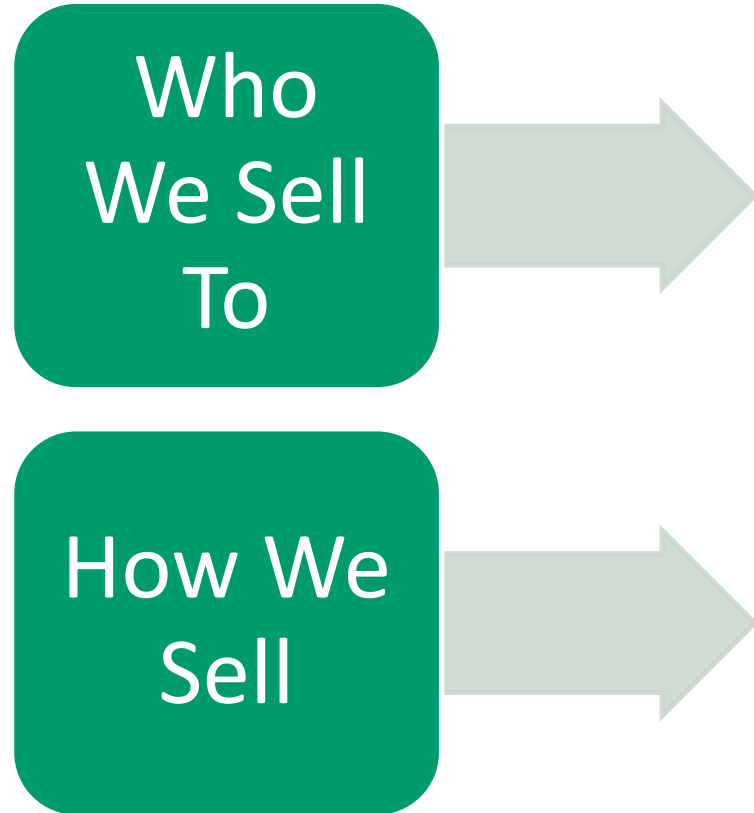
- Proactive health policy agenda
- Capitol Hill, CMS and trade association engagement
- KOL and patient advocacy

## Evidence Requirements

- Post-marketing data gathering of Real World Evidence (RWE)
- “VAC-ready” launches
- Payer-focused evidence planning



# Our Selling Approach Is Also Adapting To New Payer Models



Pre-ACA

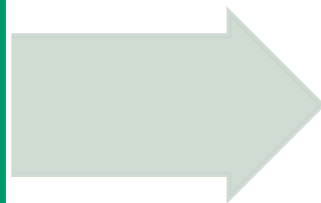


**Feature – Benefit – Price**

# Our Selling Approach Is Also Adapting To New Payer Models

Who  
We Sell  
To

How We  
Sell



Post-ACA



**Value – Based Selling**

Pre-ACA



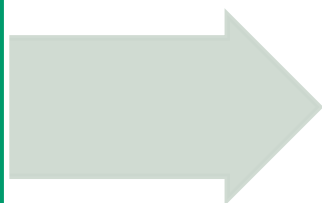
**Feature – Benefit – Price**

# Our Selling Approach Is Adapting To New Payer Models

Who  
We Sell  
To



How We  
Sell



2017+



Value – Based  
Payer Negotiation

Pre-ACA



Feature – Benefit – Price

Post-ACA



Value – Based Selling

# Continuous Drive To Improve Market Access

## Reimbursement Excellence

- ✓ Submission-to-Decision Process
- ✓ Coverage Policy Denial Appeals
- ✓ Metrics & Dashboards

## Capabilities Expansion

- ✓ Health Economics
- ✓ Value Messaging
- ✓ Field-based Payer Strategies Team
- ✓ Government Affairs
- ✓ Global and Enterprise Support

## Organizational Effectiveness

- ✓ Evidence Planning
- ✓ Reimbursement Training Programs
- ✓ Staff Development

**Positioning For Leadership In Evolving Healthcare Model**

# Regenerative Technology Investor Day

December 14, 2016  
Plainsboro, NJ

