



Corporate Presentation

Hong Kong

February 2017

Paul Anderson
Managing Director



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Company Overview



Delivering breakthrough products in regenerative medicine

Cell therapies:

- ▶ **Ortho-ATI®**. World's leading stem cell therapy to regenerate tendons
- ▶ **Ortho-ACI®**. 3rd generation arthroscopic cartilage repair
- ▶ Actively engaging strategic partners in US and Japan

CelGro® regenerative medicine collagen device

- ▶ Highest quality collagen scaffold to enhance soft tissue and bone regeneration
- ▶ Platform technology
- ▶ EU(CE Mark) and US(510K) approvals in progress



Corporate Overview



Experienced team to execute

CEO	Paul Anderson	<ul style="list-style-type: none">• Verigen• Genzyme• Biomet
CSO	Prof. Ming Hao Zheng	<ul style="list-style-type: none">• Verigen• Genzyme• UWA
Executive Chairman	Dr Stewart Washer	<ul style="list-style-type: none">• Cynata• Minomic
Director	Matt Callahan	<ul style="list-style-type: none">• iCeutica Inc• Botanix Pharmaceuticals• Dimerix
Director	Prof. Lars Lidgren	<ul style="list-style-type: none">• UN Bone and Joint Chair• Biomet• Uni. Lund
Director	Qui Xiao Zhao	<ul style="list-style-type: none">• Shenzhen Lightning Digital• Technology Co Ltd

Key Facts

ASX	OCC
Share Price	AU\$0.47 (@22nd Feb 2017)
Ordinary Shares on Issue	101.4 million
Market Cap	AU\$47 million
Options & Warrants outstanding	24.3 million
Cash at bank	AU\$8 million (@ 2 Feb 2017)

Shareholding Structure

Shareholders 3,500

Directors & Management 30%

60%

Top 20

Global Need & Opportunity



Orthocell is deal ready and positioned for growth

Ageing population and rising musculoskeletal disorders

- Demand for safe, efficient, cost effective treatments
- Global soft tissue repair market - US\$7B in 2013 expected US\$10B by 2020

Superior products with compelling clinical evidence

- Ortho-ATI® Tendon Regeneration - 380 patients treated
- Ortho-ACI® Cartilage Regeneration - 390 patients treated
- CelGro® - Paradigm shift in soft tissue repair

Validated pathway to market and tech transfer ready

- Optimised manufacturing facility in Australia approved for commercial production

Significant partner interest

- Large pharma currently investing/partnering in cell therapies and scaffolds/devices
- Recent M&A deals show strong interest for innovative treatments



Product Pipeline

Near term regulatory approvals

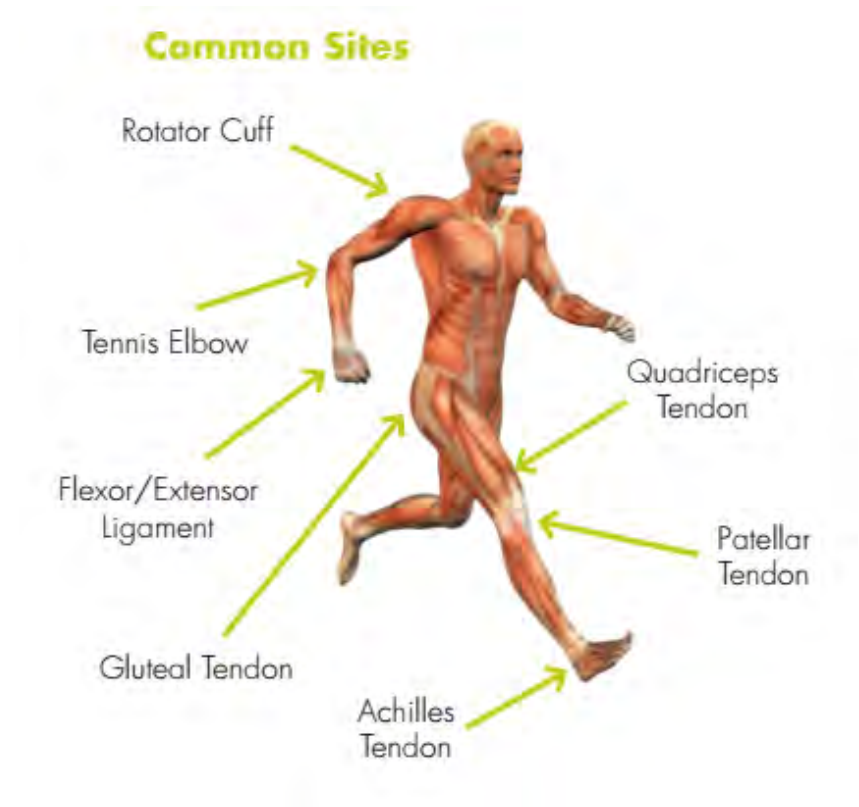
Product	Current Applications/Study	Stage of Development			Markets	Regulatory Targets ¹	
		Discovery	Pre-clinical	Clinical		0-6 months	Thereafter
Ortho-ATI[®]	Tennis elbow, gluteal, patella, achilles & rotator-cuff				AUS, SG, HK, NZ		PMDA (JP) PreIND (US) ARTG (AUS)
Ortho-ACI[®]	Knee & ankle cartilage repair				AUS, SG, HK, NZ		Asia Pacific ARTG (AUS)
CelGro[®]	Dental, guided bone, soft tissue regeneration					CE Mark (EU)	FDA (US) ARTG (AUS)
	Rotator-cuff tendon repair						CE Mark (EU) FDA (US) ARTG (AUS)
	Peripheral nerve repair						CE Mark (EU) FDA (US)
	Cartilage repair						CE Mark (EU)
Pipeline	Ligament replacement - ACL, growth factors, lab grown tendon						In development

1. Orthocell's estimates for regulatory applications

Ortho-ATI[®]

Autologous Tenocyte Implantation

- ▶ Breakthrough regenerative medicine therapy
- ▶ Multiple tendon applications
- ▶ TGA Licence
- ▶ Published long term clinical data

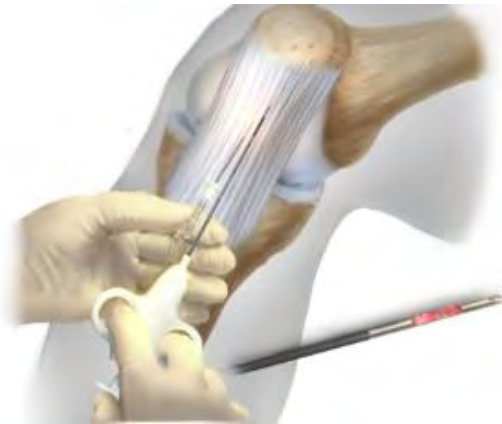


Collaboration with Johnson & Johnson Innovation

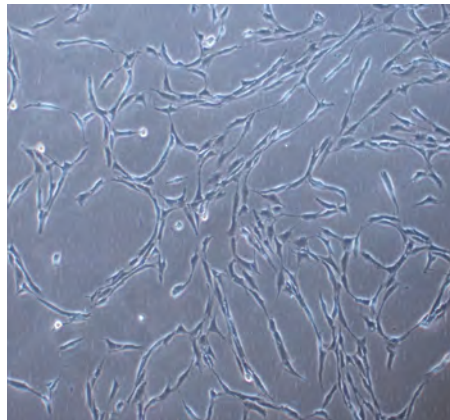
- ▶ Collaboration agreement signed January 2017
- ▶ Cooperative study designed to support US pivotal study
- ▶ Planned to commence in Q1 2017 and will be enrolling 20 patients, randomized to receive either Ortho-ATI[®] or corticosteroids.
- ▶ The trial will be led by Professor Allan Wang, current President of the Australian Elbow and Shoulder Society.
- ▶ The DePuy Synthes companies are part of the Johnson & Johnson Family of Companies
- ▶ DePuy Synthes offers the world's most comprehensive portfolio of orthopaedic and neuro products as well as services for joint reconstruction, trauma, spine, sports medicine, neuro, cranio-maxillofacial, power tools and biomaterials.

Two stage, minimally invasive, walk-in & walk-out process.

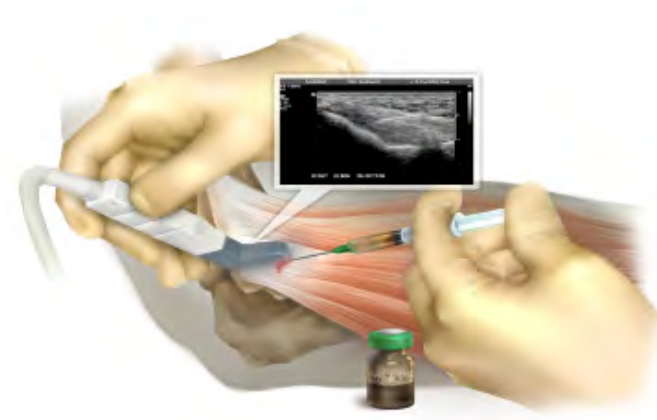
1. Biopsy procedure



2. Tenocyte cultivation

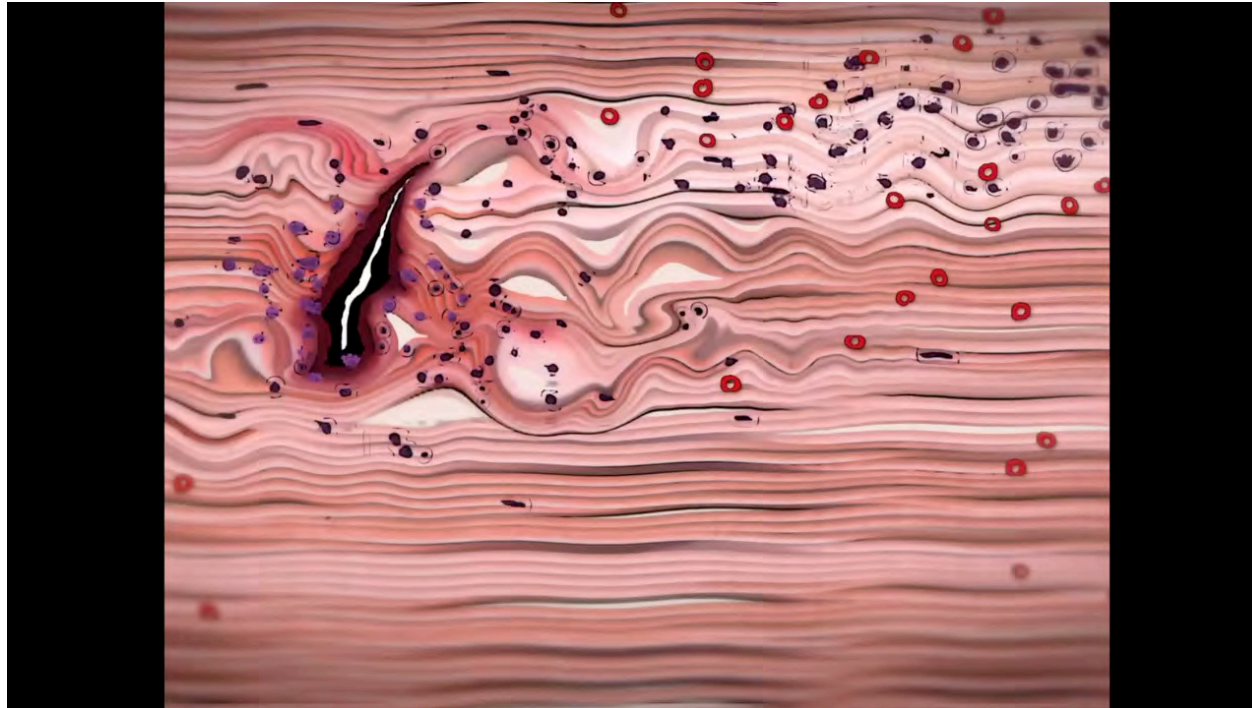


3. Ultrasound guided tenocyte implantation



4-5 week end-to-end process

MOVIE 1.1 Ortho-ATI[®] and tendon repair



Only therapy addressing underlying pathology Long term efficacy

	Ortho-ATI [®]	PRP	Corticosteroids	Surgery
Minimally invasive	✓	✓	✓	✗
Long term durability	✓	+/-	✗	+/-
Safe	✓	✓	+/-	+/-
Cost effective	✓	+/-	+/-	✗

Total cost of surgery is up to four (4) times more than Ortho-ATI

Clinical data supports efficacy and durability

Over 300 patients treated with Ortho-ATI

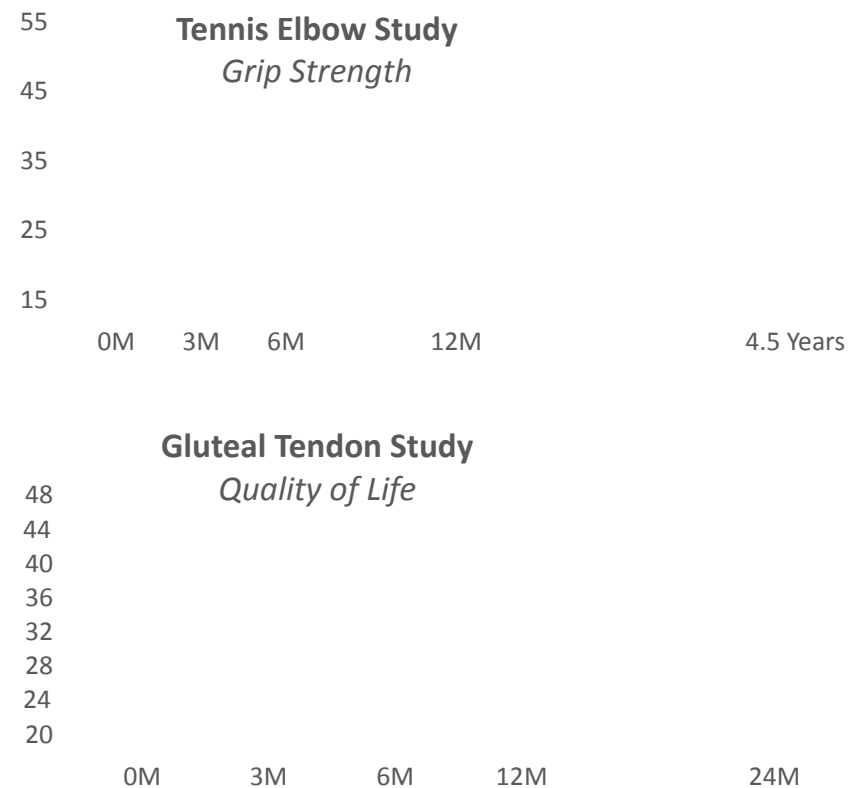
Clinical trials confirm Ortho-ATI is safe, durable and cost effective

Patients failed all previous treatments, with average over 30mth symptoms

207.6% increase in grip strength at 4.5yrs: tennis elbow

148.1% increase in quality of life, 2yr durability reported: gluteal tendon

88% of patients returned to work: workers compensation retrospective study



Orthocell is tech transfer ready

AUS and US addressable markets

- ▶ Tennis elbow market >\$850M
- ▶ Rotator cuff market >\$900M

Regulatory targets

- ▶ US application (IND) in preparation
- ▶ AUS application (ARTG) in progress
- ▶ JP application (PMDA) commencing

Strategic partnering

- ▶ Discussions ongoing with US & EU potential partners
- ▶ Discussions in Japan underway to leverage abridged approval process

THE AUSTRALIAN NEWSPAPER OF THE YEAR

“How stem cells gave violinist her life back”

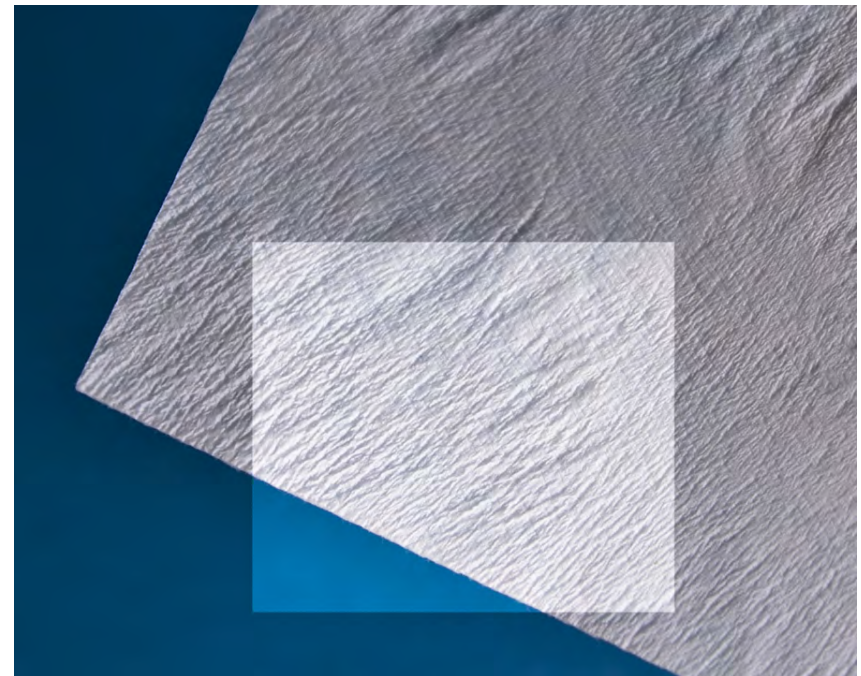


Jasmine Trebse got back her mobility six months after Orthocell's treatment. Picture: Colin Murty

CelGro[®]

A true regenerative medicine scaffold

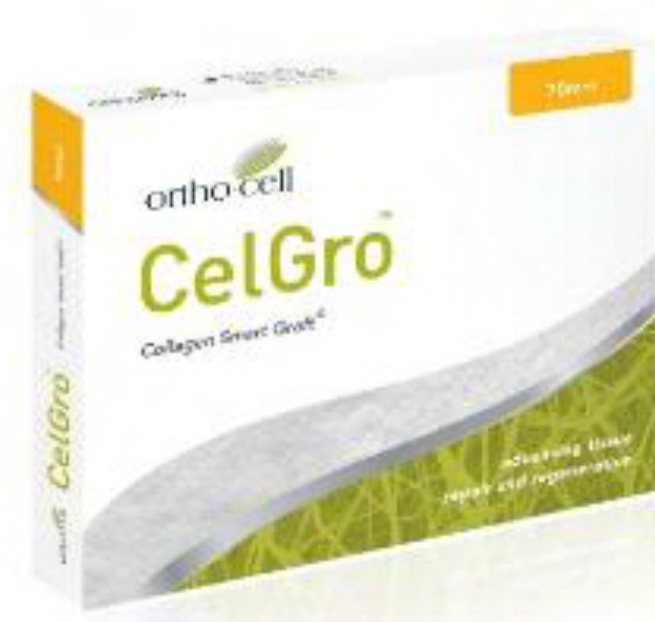
- ▶ Highest quality available
- ▶ Multiple applications



CelGro[®] is a true regenerative medicine scaffold manufactured by Orthocell to augment soft tissue

A paradigm shift in soft tissue reconstruction

- ▶ Regenerative medicine focus in design and development
- ▶ Highest quality scaffold available that directly meets the requirements of soft tissue reconstruction
- ▶ Versatile platform with applications in bone, tendon, nerve, MATT and others
- ▶ Cell/scaffold combined product
- ▶ Fit for purpose



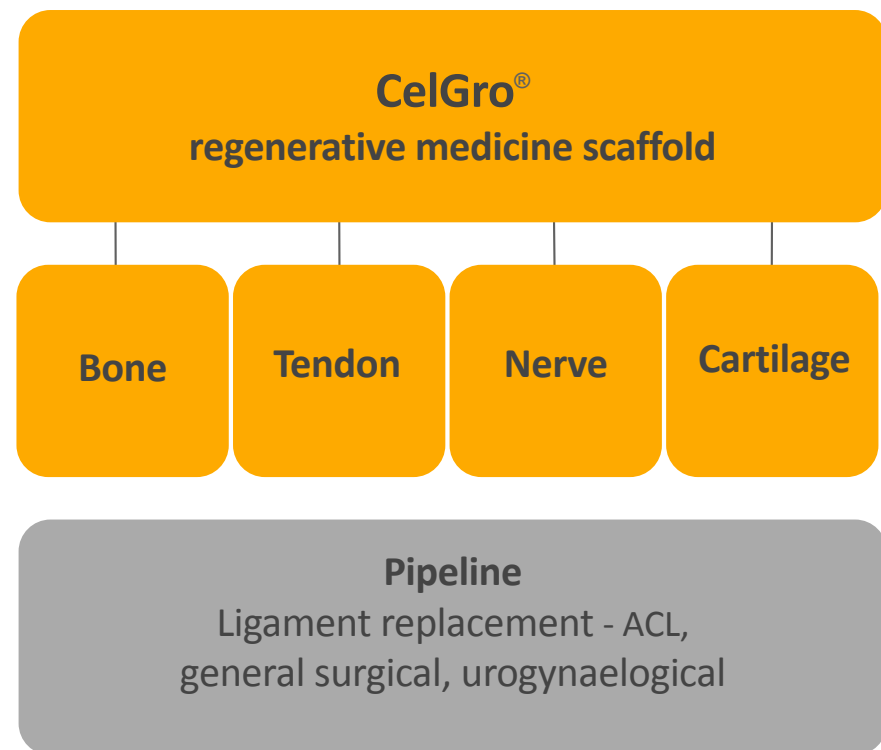
Key Benefits and Features



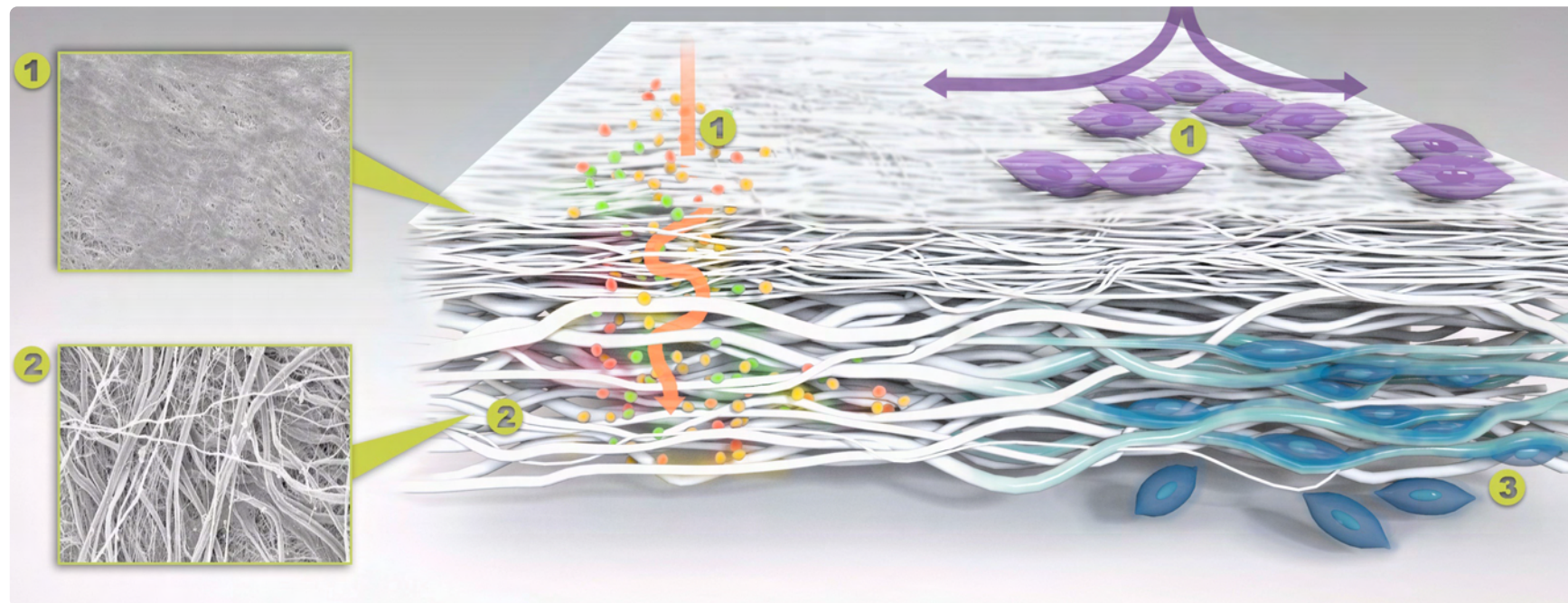
CelGro[®] is a platform technology with significant competitive advantages

Superior soft tissue and bone repair qualities

- ✓ Guided tissue repair / optimal tissue integration and remodelling
- ✓ Versatile platform
- ✓ Proven compatibility, pure collagen and acellular
- ✓ High tensile strength
- ✓ Highest quality raw material globally available



How CelGro[®] Works



1. Smooth layer

Densely packed collagen
Passage of fluids

2. Rough layer

Loosely arranged collagen
Applied to tissue defect

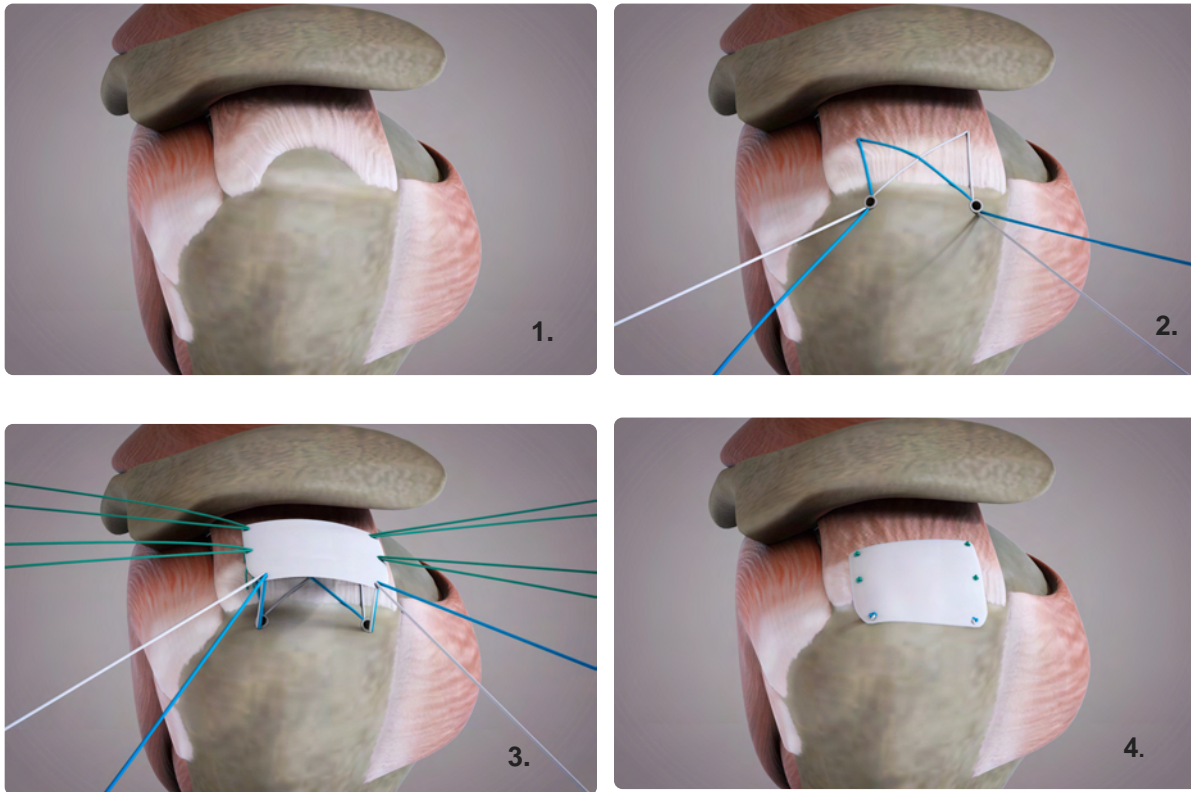
3. Tissue remodelling

Integration of cells
Guiding quality tissue regeneration

Tendon Opportunity



Applications - rotator cuff



Opportunity



650,000

**# annual rotator
cuff procedures
suitable for Celgro ^{1.}**

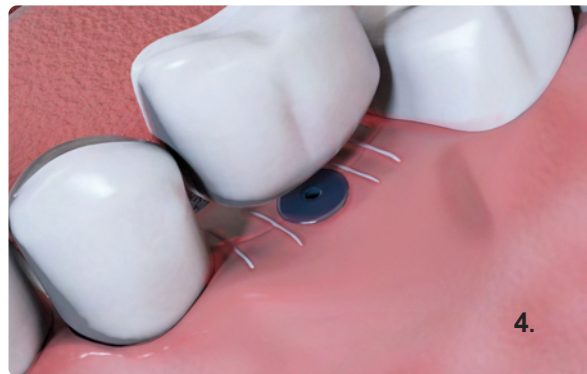
\$1.6
billion

**Value of
addressable market
in rotator cuff
surgeries ^{1.}**

1. US, JP, EU & AUS

Dental Opportunity

Applications - Dental



2 million

**# annual dental
membranes used in
conjunction with
bone graft
substitutes ¹.**

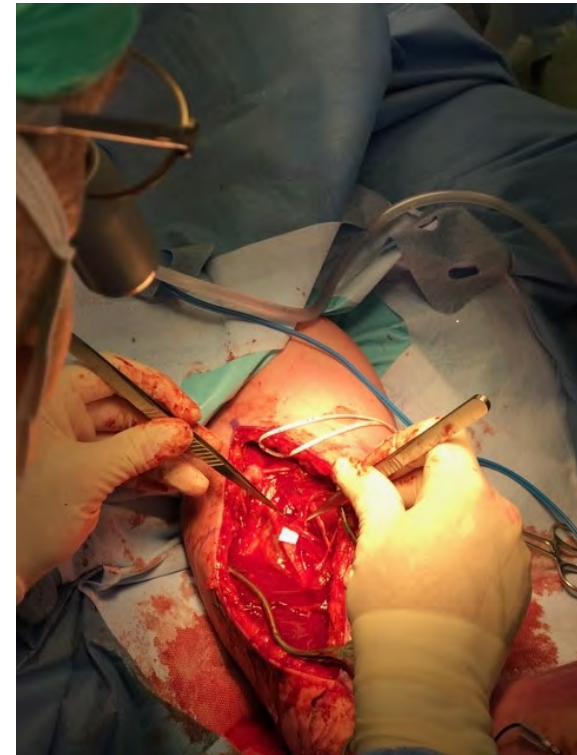
\$800
million

**Value of addressable
market in dental ¹.**

1. US, JP, EU & AUS - 2015

Nerve Opportunity

- Twenty million Americans suffer from peripheral nerve injury caused by trauma and medical disorders
- \$150 billion spent in annual health-care dollars in the US
- Devastating impact on a patient's quality of life
- Clear unmet market need for a fit for purpose pure collagen scaffold:
 - ✓ Superior handling qualities
 - ✓ Biocompatible
 - ✓ Guides nerve regeneration
 - ✓ Accelerates healing



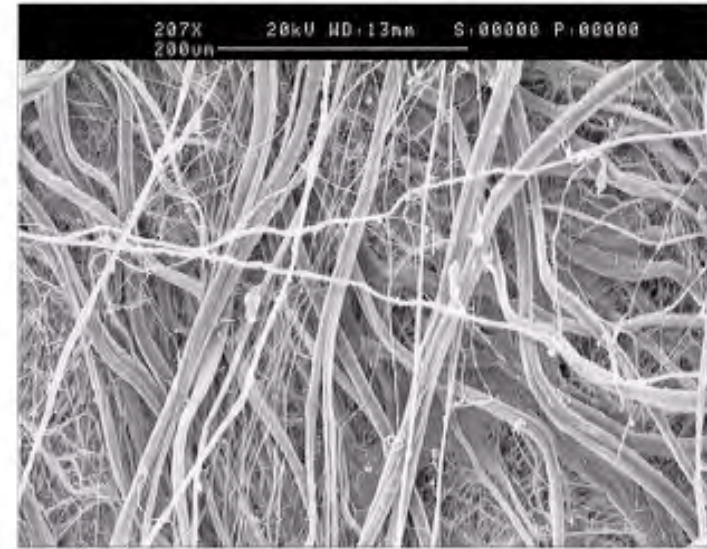
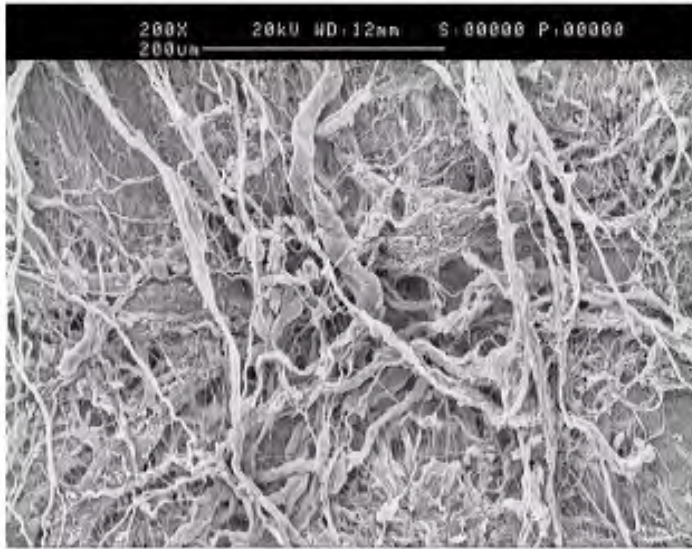
Competitors Limitations



Competitors limitations include: not fit for purpose, poor integration and limited application

	Dental			Tendon		Nerve	
	CelGro®	Biogide® (porcine mesentery)	BioMend Extend® (bovine tendon)	GraftJacket® (human dermis)	Tissuemend® (bovine dermis)	AxoGuard® (porcine s.i.s)	Neuroflex® (bovine tendon)
Highest quality raw material	✓	✗	✗	✗	✗	✗	✗
Proven compatibility	✓	✓	+/-	+/-	+/-	+/-	+/-
Native bi-layer structure	✓	✓	✗	✗	✗	✗	✗
Strong mechanical properties	✓	+/-	✓	✓	✓	✓	✓
Versatile platform	✓	✗	✗	✗	✗	✗	✗
Superior handling characteristics	✓	+/-	+/-	+/-	+/-	+/-	+/-

The CelGro[®] Advantage



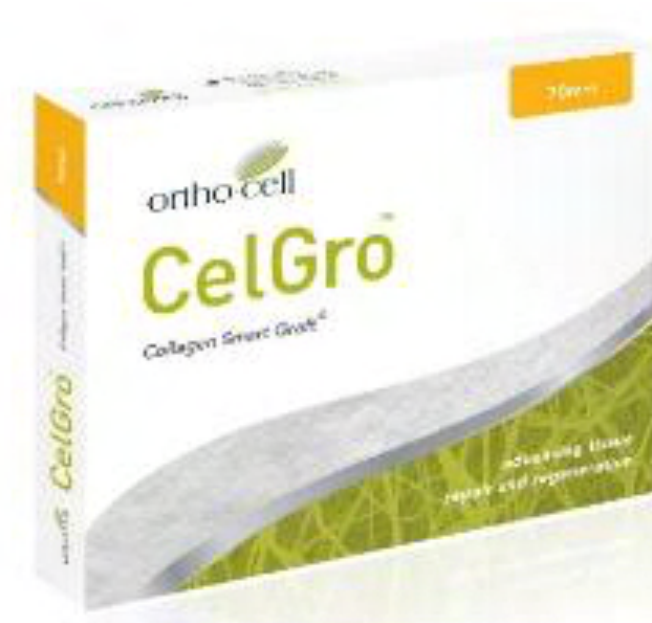
EU approval for “guided bone regeneration and soft tissue reconstruction” in final stages

EU approval provides a foundation for regulatory applications in US (FDA), JP (PMDA) and AUS (ARTG):

- ✓ Tendon
- ✓ Nerve
- ✓ Cartilage

Strategic Partnering & Distribution

- EU discussion continue for Dental application
- US and Japan commenced



Next Generation Pipeline

Strong product pipeline:

CelGro®

- ACL ligament replacement
- collagen powder for bone void fillers

Lab Grown Tendons

- laboratory manufactured human tendon
- replacement tendons for hands and other applications

Growth Factors

- tissue specific growth factor 'Cell Factory'
- off the shelf growth factors - bone, cartilage and tendon

These pipeline products and concepts are early stage opportunities that require further research and development prior commercialisation



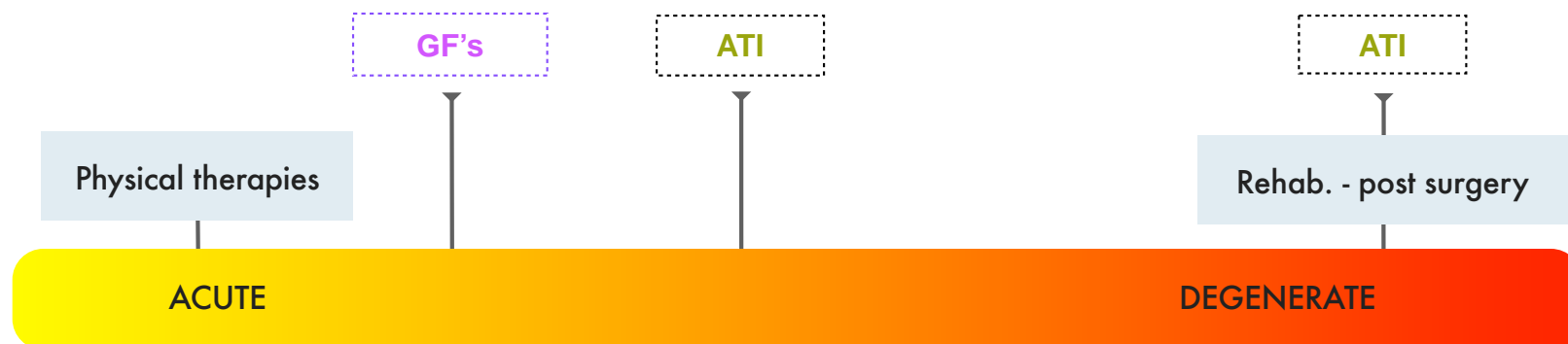
Lab grown tendon



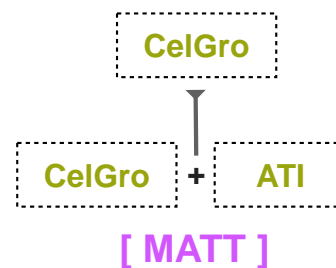
ACL Ligament Replacement

Tendon Therapy Continuum

Non-Surgical



Surgical



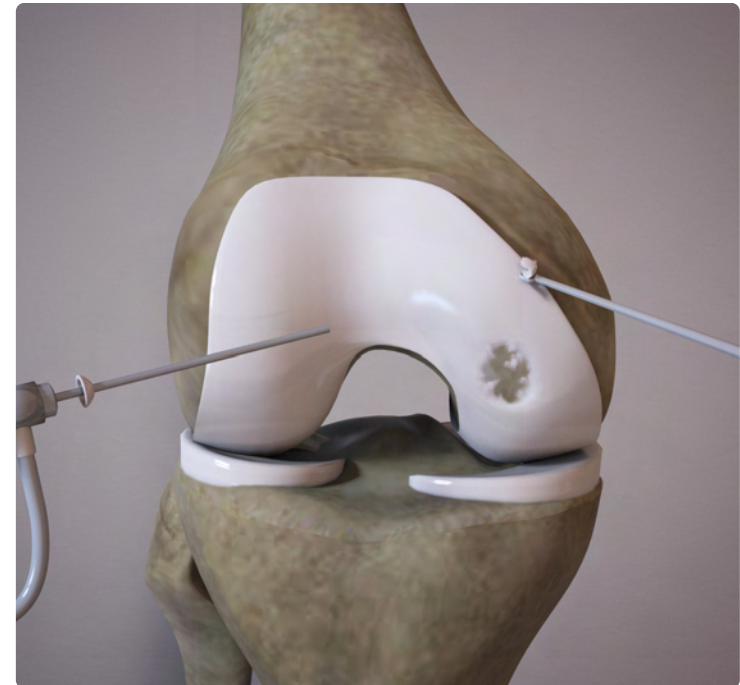
Pipeline product
Current product

CelGro - Regenerative Medicine Scaffold
G.F - Growth Factors
ATI - Autologous Tenocyte Implantation
MATT - Matrix Augmented Tendon Therapy

Ortho-ACI[®]

Autologous Chondrocyte Implantation

- ✓ Gold standard cartilage repair
- ✓ Multiple applications



Arthroscopic 3rd generation autologous chondrocyte implantation

FDA approves first autologous cellularized scaffold for the repair of cartilage defects of the knee (December 13, 2016)

Ortho-ACI is the gold standard intervention for symptomatic defects of the articulating cartilage of the joints, predominately the knee and ankle (lesions greater than 2cm²)

Over 380 patients treated in AUS, HK and SG

Highly customised, highest quality cells, lesion-focused treatment therapy

Significantly more cost effective treatment

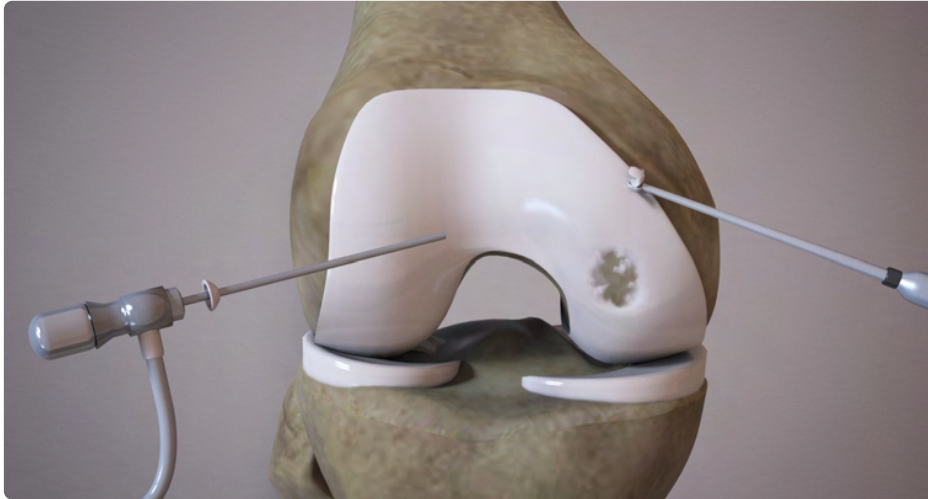
Therapeutic Goods Administration (TGA) license

MI-19052008-LI-002420-11

Orthocell is the only accredited manufacturer and supplier of ACI in SE Asia



1. Biopsy procedure



2. Seeding scaffold in theatre



3. Arthroscopic implant



4. Implant completed



Upcoming Milestones



Regulatory applications and approvals

- CelGro® - EU approval for “Guided Bone Regeneration and Soft Tissue Reconstruction”
- CelGro® - Regulatory applications/approvals for Dental, Tendon and Nerve in EU, US, AUS and JP
- Ortho-ATI® – Advance US tendon and ligament application (pre IND meeting)

Generating further clinical data

- CelGro® - dental study completion and publication submission
- CelGro® - interim trial results for tendon, cartilage and nerve studies
- Ortho-ATI® v Surgery for tennis elbow interim results
- Ortho-ATI® Gluteal Tendon study and Workers Compensation retrospective study publication

Strategic partnering

- CelGro® - EU partner/distributor deal for the Dental application
- Ortho-ATI® - US/AUS partnering deal
- Ortho-ATI® and Ortho ACI® – Japan partnering/licensing deal

Investment Highlights



- **Superior products**
- **Significant de-risked opportunity**
- **Clear pathway to large markets**
- **Strong partner interest**
- **Expertise to partner and execute**



Advancing tissue repair and regeneration

Paul Anderson
Managing Director

