



RepliCel™

Using Cells for Healing



OTCQB: REPCF

TSXV: RP

FRA:P6P2

COMPANY UPDATE

May 2017

Safe Harbour Statements

As used in this investor presentation (the "Presentation"), the terms "we", "us", "ours", "RepliCel" and "Company" mean ReliCel Life Sciences Inc., a British Columbia, Canada corporation, and our wholly-owned subsidiary, Trichoscience Innovations Inc., as applicable.

Statements included in this Presentation that do not relate to present or historical conditions are "forward looking statements". Forward-looking statements are projections in respect of future events or our future financial performance. In some cases, you can identify forward-looking statements by terminology such as "may", "should", "intend", "expect", "plan", "anticipate", "believe", "estimate", "predict", "potential", or "continue", or the negative of these terms or other comparable terminology. Forward-looking information presented in the Presentation include: (1) that the Company has near term revenue potential; (2) with respect to the RCI-02 dermal injector device, that: the Company will complete manufacturing and testing of prototypes in 2017 sufficient to support the filing of a CE mark application; the dermal injector will be launched in the European market and will generate revenue in 2018; an agreement will be reached with respect to the licensing of the dermal injector device once the prototypes are built and tested; (3) with respect to the RCS-01 (skin rejuvenation), that: clinical trial data is expected in Q1 2017; and the data generated from clinical trials may lead to a potential licensing deal; (4) with respect to the RCT-01 (tendon repair), that: clinical trial data is expected in Q1 2017; and the data generated from clinical trials may lead to a potential licensing deal; (5) with respect to RCH-01 (pattern baldness), that: clinical data from a study being conducted in Japan is expected in 2018/2019; the product has the potential to be launched in the Japanese market as soon as 2018 and the data generated from clinical trials may lead to a potential licensing deal.

Various assumptions or factors are typically applied in drawing conclusions or making the forecasts or projections set out in forward-looking information. Those assumptions and factors are based on information currently available to our Company, including information obtained from third-party industry analysts and other third party sources. In some instances, material assumptions and factors are presented or discussed elsewhere in this Presentation in connection with the statements or disclosure containing the forward-looking information. You are cautioned that the following list of material factors and assumptions is not exhaustive. The factors and assumptions include, but are not limited to: (1) no unforeseen changes in the legislative and operating framework for the business of our Company; (2) a stable competitive environment; and (3) no significant event occurring outside the ordinary course of business such as a natural disaster or other calamity.

These statements are only predictions and involve known and unknown risks which may cause actual results and the Company's plans and objectives to differ materially from those expressed in the forward-looking statements, including: the risk that the Company will not obtain CE mark clearance or other necessary regulatory approvals; the risk that there will be delays enrolling clinical trial participants; the risk that the Company will receive negative results from the Company's clinical trials; the effects of government regulation on the Company's business; risks associated with Shiseido obtaining approval for its clinical trial; risks associated with the Company obtaining approval for its clinical trial in Germany; risks associated with the Company obtaining all necessary regulatory approvals for its various programs in Canada, the USA and Germany; risks associated with the Company's ability to obtain and protect rights to its intellectual property; risks and uncertainties in connection

with the outstanding issues alleged by Shiseido in connection with the License and Co-development Agreement; risks and uncertainties associated with the Company's ability to raise additional capital; the viability and marketability of our cell replication technologies; our failure to successfully implement our marketing plan; the development of superior technology by our competitors; the failure of consumers and the medical community to accept our technology as safe and effective; and other factors beyond the Company's control.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity or performance. Further, any forward-looking statement speaks only as of the date on which such statement is made, and, except as required by applicable law, we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for management to predict all of such factors and to assess in advance the impact of such factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statement.

Readers should consult all of the information set forth herein and should also refer to the risk factor disclosure outlined in the Company's annual report on Form 20-F for the fiscal year ended December 31, 2015 and other periodic reports filed from time-to-time with the Securities and Exchange Commission on Edgar at www.sec.gov and with the Canadian Securities Commissions on Sedar at www.sedar.com.

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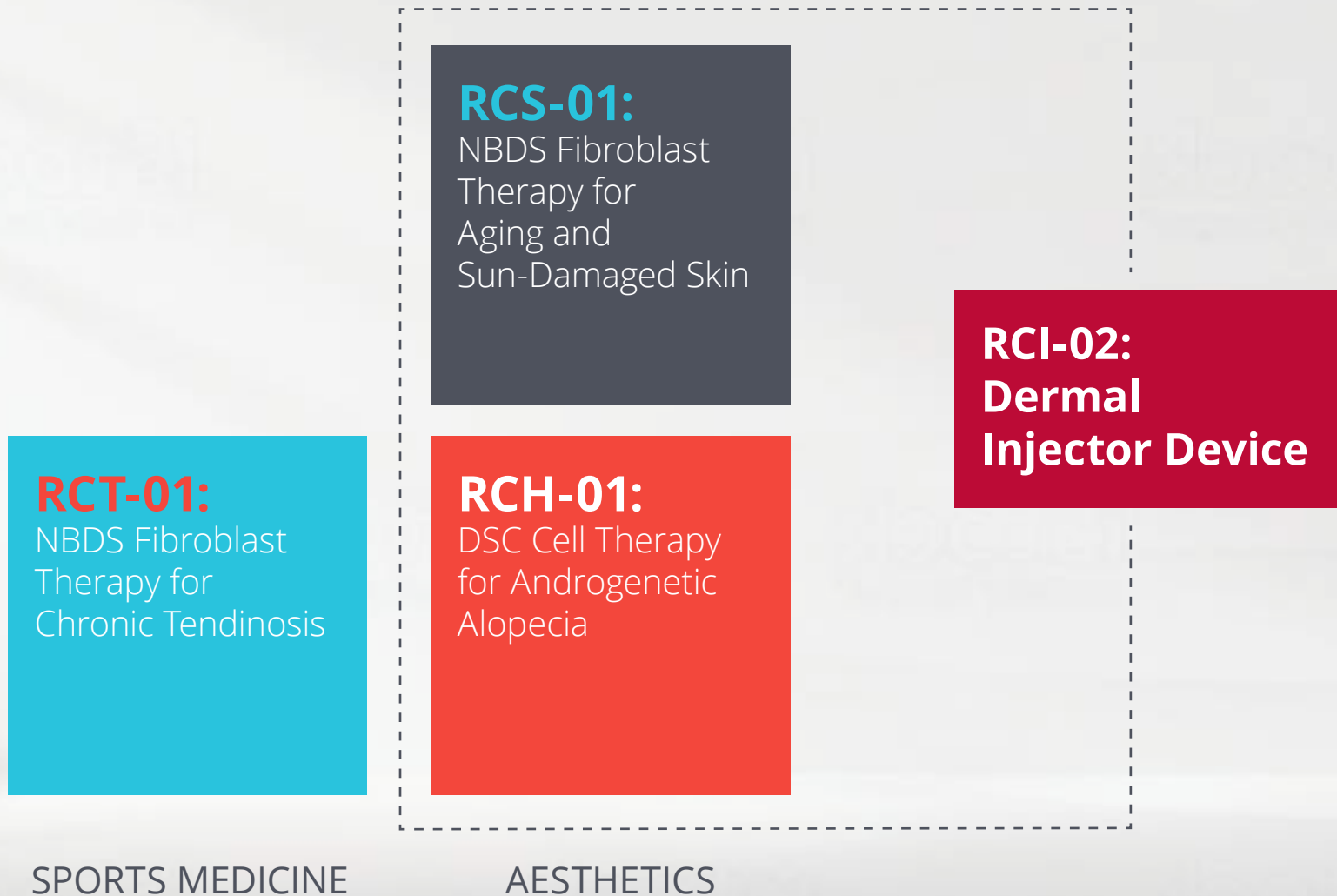
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A REVOLUTION IN SPORTS MEDICINE AND AESTHETICS.

We are a regenerative medicine company with innovative cell therapy technology providing unparalleled skin rejuvenation, tendon regeneration, and hair regrowth.



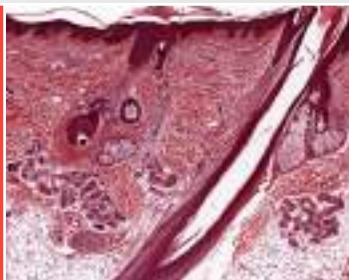
Three applications, two biologics, one game-changing delivery platform



How RepliCel's Innovative Cell Manufacturing Process Works



1 Condition Diagnosed



2 Biopsy taken from scalp



3 Cells isolated from hair follicle



4 Cells grow (5-8 weeks)



5 Cells mixed with carrier and frozen



6 Cells injected into patient using proprietary delivery device

Patented Dermal Injection Device – A Catalyst for Innovation



Patented Dermal Injection Device – A Catalyst for Innovation

Electronic injection activator (improves over manual plunger)

The RCI-02 dermal injector is designed to deliver cells, dermal fillers, drug and biologics

- Digital controls program for Depth, Volume, Rate of dispersion
- Provides exact repeatable dispersion across 3 dimensions
- Removes human variability
- Built-in Peltier element reduces need for anesthetics
- Near-term commercial launch

Pre-filled Disposable Cartridges

RepliCel is the **only** Company using cells derived from hair follicles.

The Hair Cycle: From growth phase to resting phase

Cellular structure of a hair follicle bulb disaggregates during the regression to resting phase.



GROWTH PHASE
Anagen = up to 3 years



DISASSEMBLY PHASE
Catagen = 3 weeks



FOLLICLE QUIESCENCE
Telogen = 2-3 months



CELL REASSEMBLY
Telogen = 2-3 wks



GROWTH PHASE
Anagen = up to 3 yrs

Tendon Repair



The **impact** of losing tendon function

The mom who loves to run but has **had to stop** due to **achilles tendinosis**

The worker **no longer able to perform his job** because of **chronic tendon pain**

The passionate golfer living with **golfer's elbow** who would **do almost anything** to enjoy a **pain-free round**

656,211

Annual incidence rate
of mid-portion Achilles
tendinopathy in
North America only¹

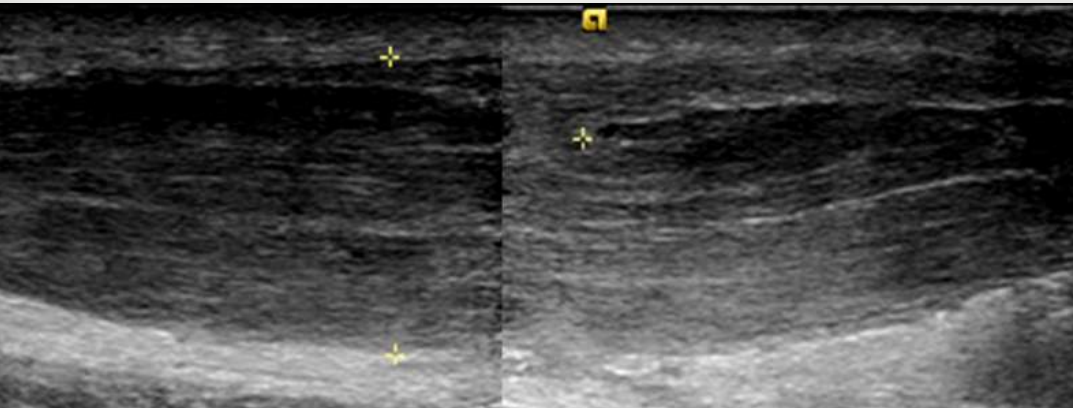
232,000

Estimated annual number of
Achilles tendon sports injuries in
the US (2002)²

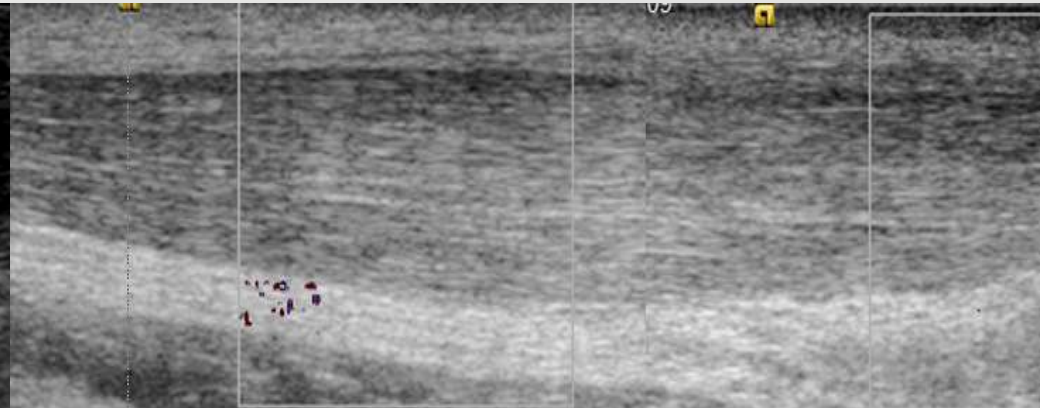
4%

of all patients seen
in sports clinics have
Achilles tendinosis

63 YEAR OLD MALE



Ultrasound Image Before Treatment - Day 1



Ultrasound Image After Treatment - 6 Months

- 3-years of **chronic pain**
- **Failed eccentric loading**, casting & platelet rich plasma
- **Chronic tendinosis:** unorganized tissue formation



- Pain **reduction**
- Tendon thickness **reduction**
- Organized **tissue formation**
- **Healing complete:** return to normal tendon structure

PAST CLINICAL: Phase 1 Achilles Tendinosis¹

Treatment with adipose-derived
dermal fibroblasts

24 patients
(unilateral disease)

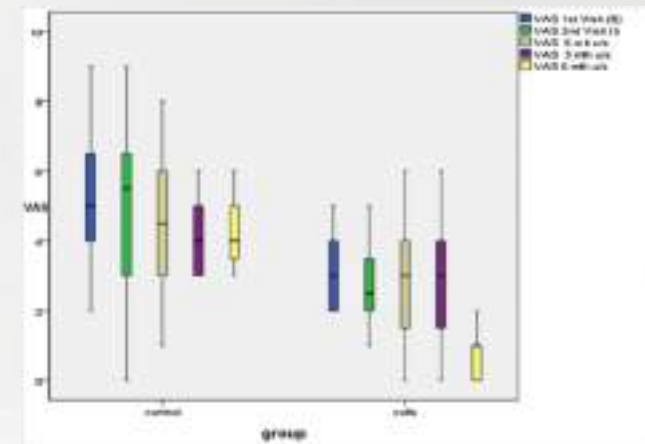
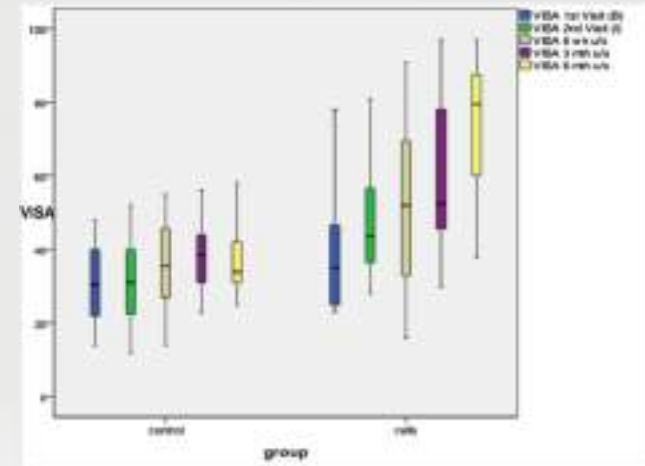
12 treated, 12 controlled
Mean age 45.2 years (20 male, 12 female)
VISA questionnaire & VAS scores
@ 6 months

**VISA
median values**
($p < 0.001$)

Cell group improved 127%
Control improved 11%

**VAS
median values**
($p < 0.001$)

Cell group decreased 66%
Control decreased 20%



¹ Source: D. Connell et al, JBJS 2012

PHASE 1/2A CLINICAL TRIAL

Randomized (3:1) double-blind,
placebo-controlled trial at
UBC Sports Medicine Clinic
(8 participants)

Primary Endpoint: Safety

Secondary Endpoint: Efficacy at 6 months

LICENSING STATUS

Active Licensing Discussions
are Currently Underway

Final Results: Trial met its goal of establishing a complete safety profile at 6 months and showed no serious adverse events related to the study treatment or injection procedure. Most clinically material improvements seen 6 months after receipt of injections include:

VISA-A Scale of Achilles Tendon Injury Severity

RCT-01 participants had an overall 15.3% improvement in total score compared to baseline. Two patients showed select measures of near-complete recovery in function (by VISA-A scoring).

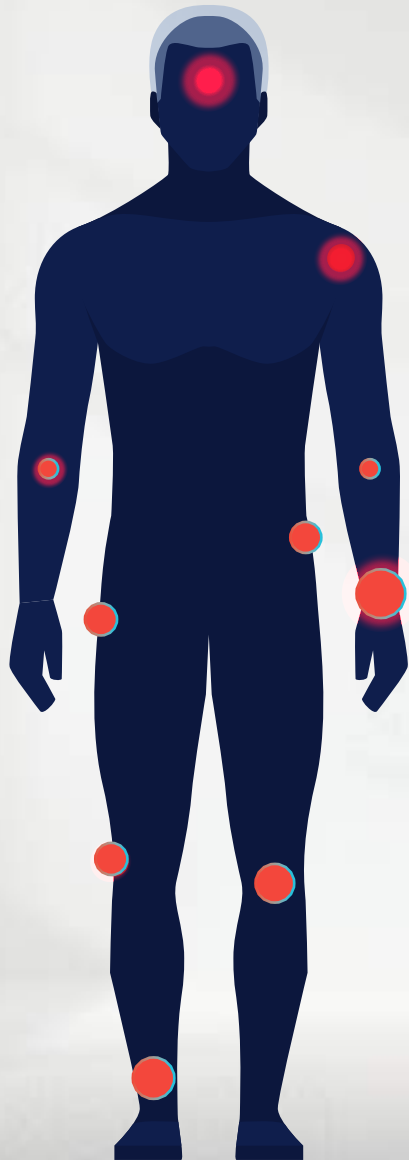
VAS Scale of Pain Severity

Four out of five RCT-01 participants had an average VAS improvement score of 62.9% over baseline, demonstrating clinically relevant signals of improvement in pain on loading (running/jumping).

Three out of five RCT-01 participants had an average VAS improvement score of 55.2% over baseline, demonstrating improvement in pain on palpation.

Two patients showed select measures of near-complete elimination of pain (by VAS scoring).

One Therapy, Numerous Applications



Gluteus
Medius

Rotator
Cuff

Adductor

Patellar

Tennis Elbow

Golfer's Elbow

Hamstring
Insertion

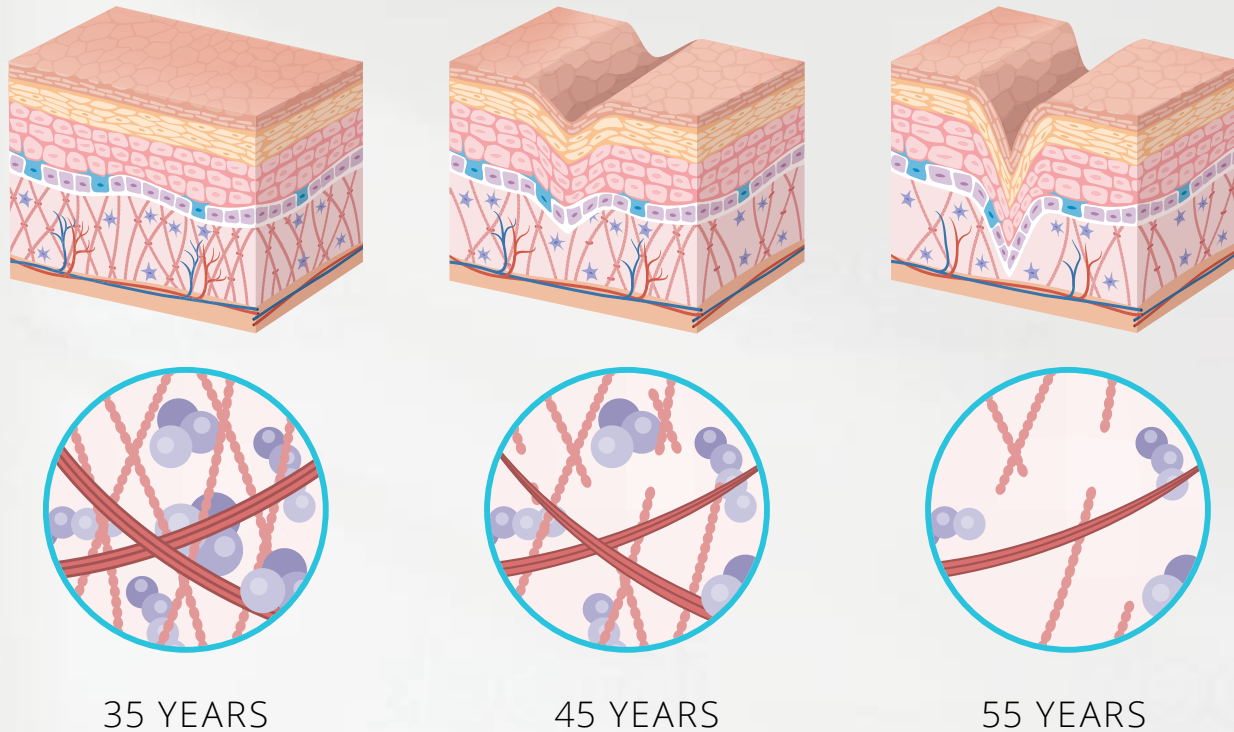
Hip Flexor

Dermal Rejuvenation

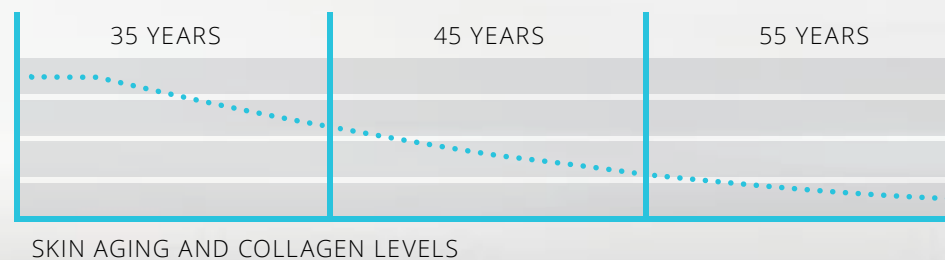
“The **impact of aging skin** may cause depression, social anxiety, lack of confidence and social isolation.”

“It's more than vanity that drives people's desperation to look good. **Your body image accounts for about 1/4 to 1/3 of your self-esteem**, and your self-esteem is a major influence on your overall psychological health.”

Impact of Aging and UV-Damaged Skin



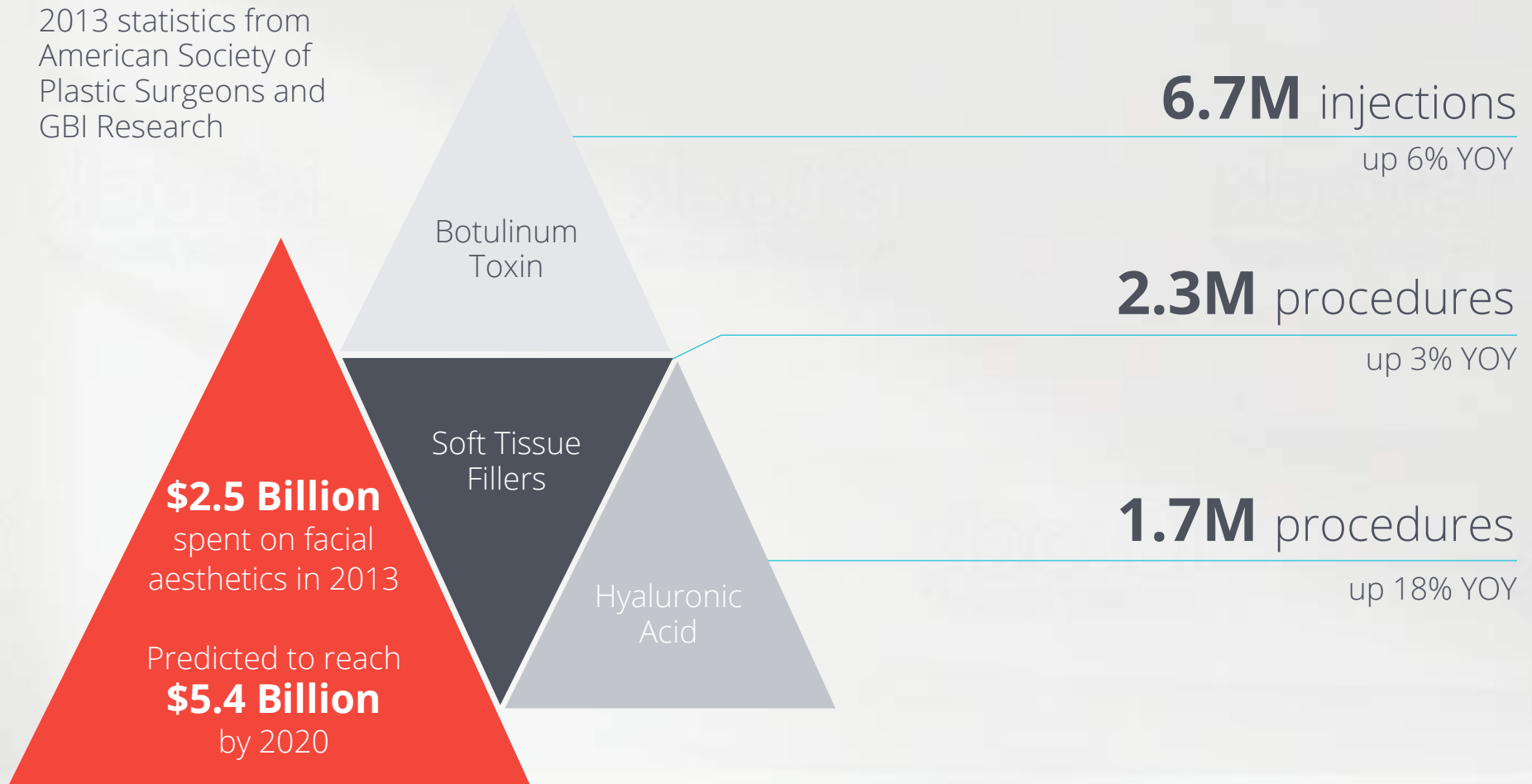
UV exposure appears to be responsible for **80%** of visible facial aging signs*



*Source: Flament, F., Bazin, R., Laquieze, S., Rubert, V., Simonpietri, E., & Piot, B. (2013). Effect of the sun on visible clinical signs of aging in Caucasian skin. Clinical, Cosmetic and Investigational Dermatology

Market Size - Global Aesthetics Market

2013 statistics from
American Society of
Plastic Surgeons and
GBI Research



PHASE 1 CLINICAL TRIAL

Phase 1 randomized,
double-blinded, placebo-controlled
trial at IUF Leibniz-Institut für
umweltmedizinische Forschung
(Germany) (17 Participants)

Primary Endpoint: Safety & Tolerance

Secondary Endpoint: Efficacy at 6/12 months

Interim Results: No serious adverse events at the interim point of the trial were reported.

With respect to efficacy, the nearly two-fold increase in gene expression of collagen-related biomarkers in the skin, after a single injection of RCS-01 was so profound that the results are considered statistically significant, and expected to correlate with increased collagen fibers. Increased collagen production and reduced collagen degradation, is associated with fewer wrinkles and the repair of sun-damaged skin.

CLINICAL DATA BY YEAR END

LICENSING STATUS

Active licensing discussions
are underway

Pattern Baldness



"I'm a 42 year-old woman suffering from alopecia. **I cry myself to sleep** at least once a week."

"I'm a 24-year old who **feels the impact of my baldness** on my career and social life on a daily basis."

Androgenetic Alopecia affects an estimated

50M men
30M women

in the United States alone.

1

There is currently only one FDA-approved treatment for female androgenetic alopecia. This has an average success rate of **1 in 5** with a reversal in efficacy upon cessation of use.

Market Size - Hair Loss Treatments

2015 Practice Census
Results – International
Society of Hair
Restoration Surgery
All figures in USD

358,109 surgical patients

697,372 non-surgical patients

Hair
restoration
Patients

\$2.5B spent on surgical procedures

\$3.5 Billion
spent on all
hair loss treatments

99%
of all products being
marketed are completely
ineffective.

PHASE 2 CLINICAL STUDY

Japan
(ongoing)

Potential Market Launch. Costs covered by Shiseido, Data expected 2018. Potential near-term market launch.

Germany
(pending)

Dosing & treatment frequency trial

Clinical trial application to be filed by year-end in preparation for dosing frequency

Primary Endpoint: Hair Density

PHASE 1 STUDY RESULTS:

Study results from first-in-human, five-year clinical trial firmly establishes product safety. Efficacy data collected from all 19 patients, while not statistically significant, provides useful and potentially exciting insights into the product's potential and confirms ongoing clinical and product development strategy:

- At 24 months, the average hair density increase for seven top-tier responders from the 2012 trial was 8.3% over baseline
- Three of these seven trial participants maintained a >10% increase in density over baseline
- The largest increase in hair density over baseline observed in this group was 21% at 24 months
- This group demonstrated a sustained response at 24 months, which averaged a 4.2% increase over baseline hair density
- While there was a high degree of variability in hair density between individual participants at 24 months post-injection compared to baseline, an overall stabilization of hair loss was observed among all the patients treated per protocol

ROW LICENSING

Strong ongoing interest by several parties including multinational companies in the aesthetic industry, including Shiseido (Japan)



- Geographic license for pattern baldness only for Japan, China, Korea and ASEAN nations
- \$35 Million (\$4M upfront, \$31M in sales milestones & royalties)
- Joint product and clinical development, shared data
- Market launch triggers milestone payment & sales royalty payments

In transition from early-stage pre-revenue company to near-term revenue generator

2017

Q1:

- Interim analysis of 6-month post-injection safety and efficacy data from the Phase 1/2 trial of RCT-01
- Interim analysis of 6-month post-injection safety and efficacy data from the Phase 1 trial of RCS-01
- Final analysis of 5-year safety data as well as 12 and 24-month post-injection efficacy data from the original phase 1 trial of RCH-01 for which 6-month interim analysis of safety and efficacy was published in 2012.

2018

Q2 2018:

- Expected Data Readout from clinical study of RCH-01 – Japan
- Device anticipated to be completed for 2018 market approval (CE mark) and launch

Strong Near-Term Clinical Pipeline

Indication	Product	Phase	Data	Location
Chronic Tendinosis	RCT-01	1/2	2017 Q1	Canada
Aging and Sun-damaged Skin	RCS-01	1	2017 Q1	Germany
Pattern Baldness	RCH-01	1	2017 Q1	Georgia
Pattern Baldness	RCH-01	2	2018	Japan*

*Funded by Shiseido – See RepliCel's news release of 26 September 2016 for an updated status of RepliCel's ongoing relationship with Shiseido as a licensee and development partner which remains the subject of some ongoing disagreement between the parties.

Actively engaged in licensing and co-development deals over the next 24 months

Maximum shareholder value creation is in discovery to mid-stage clinical development

Company is structured to minimize its own infrastructure and leverage partners for commercialization.

With a multinational partnership already in place with Shiseido*, RepliCel will focus the first round of additional partnerships for its biologics around geographic licenses for the Asian markets, with initial commercialization in Japan.

A multinational partnership for the device is expected to be the Company's next major deal

*Funded by Shiseido – See RepliCel's news release of 26 September 2016 for an updated status of RepliCel's ongoing relationship with Shiseido as a licensee and development partner which remains the subject of some ongoing disagreement between the parties.

Capital Structure

OTCQB: REPCF TSXV: RP FRA:P6P2

Current market cap. (approx.) ~\$25M

Total money raised through equity to-date ~\$25M

Total revenue to-date \$3.8M (initial Shiseido licensing payment)

Current Monthly Burn Rate ~\$180,000

Shares Outstanding (Basic/FD) 18.3M common shares issued and outstanding
(post-consolidation completed in Aug 2016) 32.8 Diluted

As at April 28, 2017

David Hall
Chairman

Mr. Hall served as CEO and President of RepliCel Life Sciences from 2012 through 2015. Previously, Mr. Hall consulted to government, pharma industry, biotech, eHealth and NGO's for two years. For the prior 15 years, Mr. Hall was a business founder, CFO, CCO, Treasurer and Secretary of Angiotech Pharmaceuticals Inc. Mr. Hall is a Past Chair and board member of Life Sciences BC and current director of Providence Health Care Research Institute and VANC Pharmaceuticals.

Geoff MacKay, BSc
Director

Mr. MacKay is currently CEO of AVROBIO Inc. Previously, he spent 11 years as CEO of Organogenesis Inc. a leading cell therapy business. He also has a strong pharma heritage, having spent 11 years at Novartis. Mr. MacKay is Chairman of the Board of MassBio, Chairman of the Board of the Alliance of Regenerative Medicine, Advisory Council to the Health Policy Commission for Massachusetts, Deans Advisory Council Western University School of Podiatric Surgery, and Chairman of Audit Committee of the Center for Commercialization of Regenerative Medicine (C.C.R.M.).

Peter Lewis, CA
Director

Mr. Lewis is a chartered accountant and partner with Lewis and Company, a firm specializing in taxation law since 1993. His areas of expertise include tax planning, acquisitions and divestitures, reorganizations and estate planning. Mr. Lewis is a sought after educator, having taught and presented taxation courses at the Institute of Chartered Accountants of British Columbia and the Canadian Tax Foundation.

Dr. John Challis, PhD
Director

Dr. Challis is an internationally-recognized researcher in the fields of physiology, obstetrics and gynaecology. He is a Fellow of the Royal Society of Canada, Fellow of the Royal College of Obstetricians and Gynecologists, and Fellow of the Canadian Academy of Health Sciences. He has published more than 500 scientific papers and articles, trained more than 70 graduate students and postdoctoral fellows and has served as President of several professional associations in his field of research.

Hugh Rogers, BSc, LLB
Director

Mr. Rogers is an entrepreneur and lawyer with broad private and public company experience in business management, regulatory compliance, finance and investor relations. Recent work includes corporate finance advisory positions in a range of industries from health sciences and agribusiness to mining and oil and gas.

He is currently VP of Finance with 3D Signatures Inc. Mr. Rogers holds a B.Sc. and LLB. He is a member in good standing of the Law Society of British Columbia.

Board & Management (cont'd)

R. Lee Buckler, B. Ed, LLB
President, CEO & Director

Former Managing Director of Cell Therapy Group, Mr. Buckler served six years as the Executive Director of the International Society for Cellular Therapy and just over two years as Director of Business Development for Progenitor Cell Therapy.

Mr. Buckler co-founded Cell Therapy News and Blog, serves on numerous editorial advisory boards, industry conference advisory boards, is an advisory board member for BioCision, Phacilitate Cell & Gene Therapy and RoosterBio, and is on the Board of Directors for Hemostemix.

Dr. Rolf Hoffman, MD
Chief Medical Officer

Dr. Hoffmann is a European-based clinical researcher who has spent decades researching the fields of pattern hair loss, alopecia areata, endocrinology of the hair follicle and hair follicle morphogenesis.

He is working clinically in his private practice, as a teaching professor in the Department of Dermatology for Marburg University, as well as a researcher on histopathology on hair diseases, where he has published chapters in text books. Dr. Hoffmann has participated in dozens of clinical hair studies and consulted for a variety of large companies on hair matters.

Dr. Kevin McElwee, PhD
Chief Scientific Officer

Dr. McElwee, co-discoverer of the Company's technology, is an Associate Professor in the Department of Dermatology and Skin Health at the University of British Columbia, and Director of the Hair Research Laboratory in the Vancouver Coastal Health Research Institute at Vancouver General Hospital (VGH).

He has worked as a hair research scientist for 12 years and has published over 70 medical journal articles, research abstracts and academic book chapters on hair loss research.

Tom Kordyback, CA
Chief Financial Officer

Tom Kordyback is a Chartered Accountant and a member of the British Columbia Institute of Chartered Accountants with over 25 years of experience in corporate finance and management for emerging growth companies. He currently serves as a director of Silver Sun Resources Corp., a public Canadian-based resource company.

**Darrell Panich,
MSc, PMP, CPM**
Clinical Consultant

An experienced clinical trial management specialist, Mr. Panich has managed multinational clinical research studies in more than 15 different countries for over 20 different pharmaceutical and biotechnology companies.

**Dr. Ross G. Davidson,
MBChB. FRCS (C). DABOS,
Chairman**

Dr. Davidson is the past president of the National Hockey League Physicians Society, past head physician and orthopaedic consultant for the Vancouver Canucks Hockey Club (NHL), past orthopaedic consultant to the Vancouver Grizzlies Basketball Team (NBA), past orthopaedic consultant to Allan McGavin Sports Medicine Centre, and past orthopaedic consultant to the Canadian Football League Players Association.

Dr. Davidson held the position of clinical professor, department of orthopaedics at the University of British Columbia until 2000.

Dr. Davidson is a highly regarded and sought-after lecturer having presented more than 60 lectures and presentations and is published in 17 scientific publications on sports-related injuries and treatments.

**Dr. Jack E. Taunton, MSc
MD Dipl Sports Medicine
(CASEM) FACSM**

Dr. Jack Taunton is a visionary and leader in the field of sport medicine. He is a Professor Emeritus Faculty of Medicine, Division of Sports Medicine at the University of British Columbia and Director Sports Medicine at Fortius Sport & Health.

He has a clinical practice in sports medicine at the Allan McGavin Sports Medicine Centre where he was the director for over 25 years after co-founding the centre in 1979. Thirty years ago, he co-founded Sportmed BC while president of the Sports Medicine Council of Canada.

He was the Chief Medical Officer (CMO) for the Vancouver 2010 Olympic and Paralympic Winter Games and CMO for Canada at the Sydney Olympics, two Pan American and two World Student Games. Dr. Taunton was the Team Physician for the Vancouver Grizzlies NBA team during its time in Vancouver.

**Dr. David A. Connell,
MBBS**

Dr. David Connell is a recognized international authority on muscle and tendon injuries. He has his own private practice dedicated to musculoskeletal radiology and is an associate professor in the Faculty of Medicine at Monash University in Australia.

He has a long history of treating world class athletes from the Royal Ballet, UK Athletics and national teams in football, rugby and cricket. He has authored 91 publications and has spoken at major meetings in 19 different countries.

Dr. Connell is the past-president of the Australasian Musculoskeletal Imaging Group, sits on the editorial board of five journals, and is an instructor on the Erasmus MRI European diploma.

2017 – Poised for growth and momentum

THE ONLY REGENERATIVE MEDICINE COMPANY USING HAIR FOLLICLE CELL THERAPY

We are the only Company using cells derived from hair follicles to potentially heal damaged skin and tendon tissue—offering hope for people with conditions beyond repair.

POTENTIAL TO REVOLUTIONIZE SPORTS MEDICINE AND AESTHETICS

This innovative cell therapy technology has the potential to revolutionize two large consumer-pay markets where few solutions exist.

MULTIPLE ASSETS ADDRESSING CONDITIONS WITH SIGNIFICANT UNMET NEED

Multi-product portfolio diversifies risk over several programs in two different markets.

NEAR-TERM COMMERCIALIZATION AND REVENUE

Patented injection device could generate sales and revenues as early as 2018 in Europe, and then in the U.S.

EXCEPTIONAL TIMING AHEAD OF IMPORTANT CATALYSTS

Three biologic products in Phase I and II human clinical trials all demonstrated highly-favourable results, and are attracting interest from other potential licencing partners; first could reach the Japanese market in 2018.

MANAGEMENT IS COMMERCIALY-FOCUSED AND STRATEGIC

Aggressively pursuing licensing and co-development deals over the next 24 months.

TIGHT CAPITAL STRUCTURE

Small float and low market capitalization.



RepliCel™

Using Cells for Healing



CONTACT

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lee@replixel.com

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TSXV: RP
FRA:P6P2

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