




## Corporate Overview


# Forward-Looking Statements

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**“We aim to pioneer a new branch of  
medicine, based on transplanting specific  
cell types into the body”**



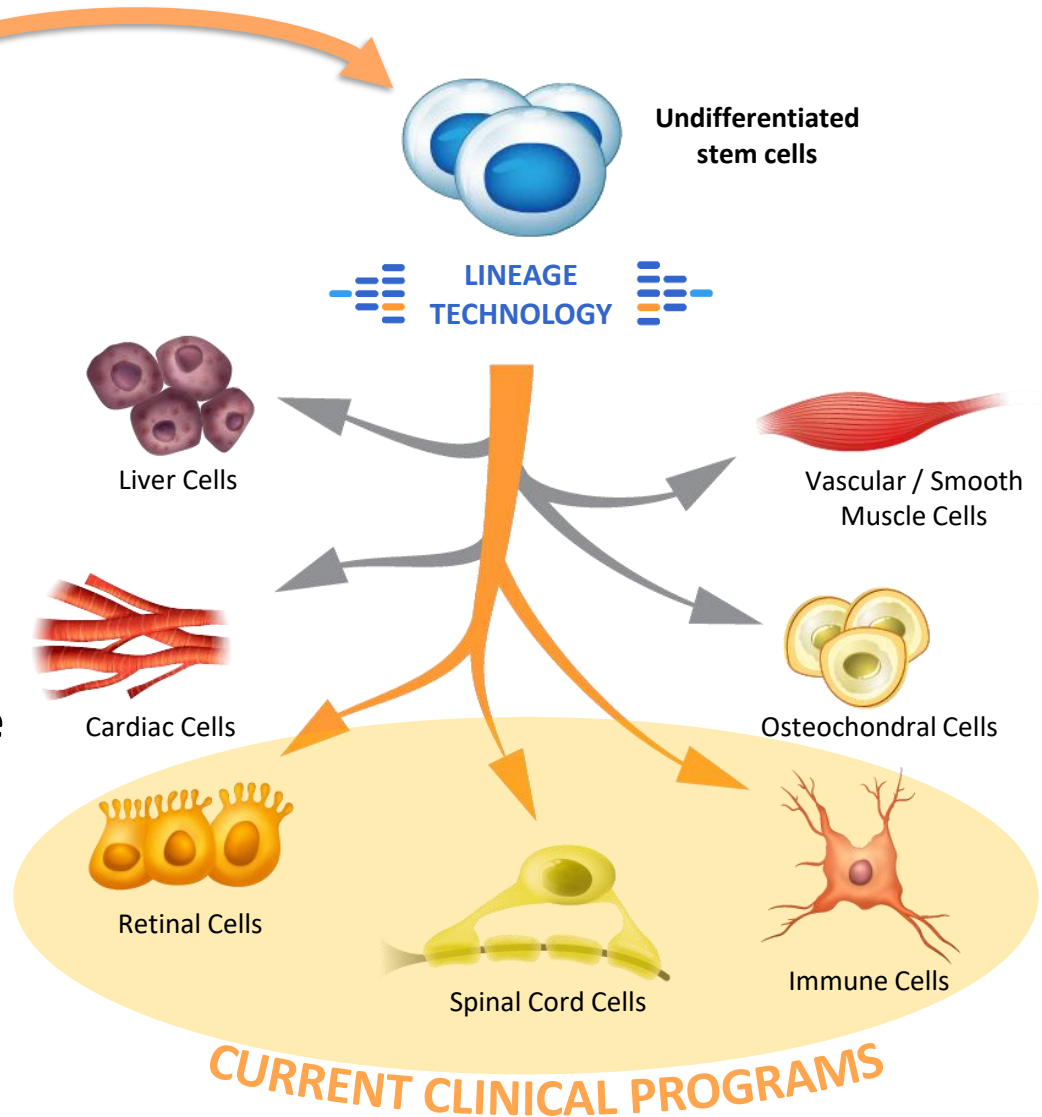
## **Business Overview**

# Lineage Cell Therapeutics – Investor’s Overview

Innovative Approach	- Transplanting “off the shelf” cells to treat serious medical conditions
Unique Advantage	- Can manufacture an unlimited supply of specialized cell types from established pluripotent cell lines
Three Clinical Programs	- <b>OpRegen</b> : Phase 1/2a in Dry Age-Related Macular Degeneration with GA - <b>OPC1</b> : Phase 1/2a in Cervical Spinal Cord Injury - <b>VAC2</b> : Phase 1 in Non-small Cell Lung Cancer (oncology platform)
Differentiated Clinical Data	- Three cases of retinal tissue <u>restoration</u> observed in dry AMD patients - One-third of spinal cord patients gained <u>2 levels</u> of motor function - Potent <u>induction of immune responses</u> observed in cancer patients
Market Opportunity	- Billion-dollar commercial potential for each program
Financial Position	- ~\$56.2 million in cash and cash equivalents as of March 31, 2021
Market Capitalization	- ~\$352 million as of May 13, 2021

# Lineage Technology Platform – Allogeneic Cell Transplants

- The Lineage Platform starts with a frozen vial of *self-renewing stem cells*
- These pluripotent cells can become *any* cell type in the body
- Lineage's proprietary processes create *only* the cell type which is desired
- No alterations are made to the cell's DNA
- Commercial-scale production occurs from a single vial of cells





# Competitive Advantage: In-House Manufacturing and Know-How

Lineage's competitive advantage is the *differentiation* of an *unlimited* supply of pluripotent stem cells into specialized cell types

## Capabilities

- Cell banking and handling
- Process development
- Manufacture of clinical trial material
- Scale-up in multi-liter bioreactors
- Multiple clean rooms for parallel GMP production runs







## Facilities



**Cell Cure Neurosciences**  
(Subsidiary)

**Backed by hundreds of cell therapy-related patents**

# Pipeline and Validating Partnerships

Clinical Programs	Financial Support Received	Phase 1	Phase 2a	Next Steps
<b>OpRegen® (RPE Cells)</b> Dry AMD with Geographic Atrophy (GA)	 רשות החדשנות Israel Innovation Authority <b>\$16M</b>			Enrollment completed
<b>OPC1 (Oligodendrocytes)</b> Spinal Cord Injury (SCI)	 CALIFORNIA / STEM CELL AGENCY <b>\$14M</b>			Data collected; planning for Phase 2b/3
<b>VAC2 (Dendritic Cells)</b> Non-Small Cell Lung Cancer (NSCLC)	 CANCER RESEARCH UK <b>\$10M</b>			1 patient left to enroll



AMD is the **leading cause** of  
irreversible vision loss in the US

*Source: aao.org*

OpRegen<sup>®</sup> : RPE Cell Transplants to Treat Dry AMD

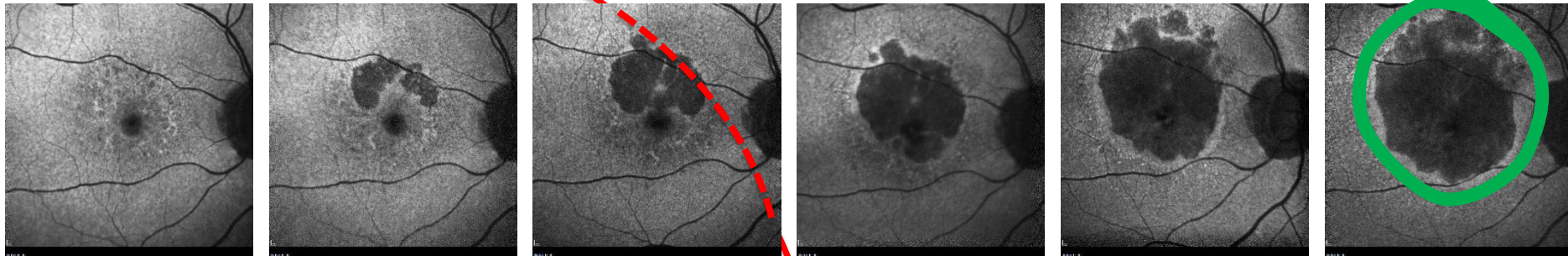


# Dry AMD Can Lead Rapidly to Blindness

## Visual acuity over time...

20/20  
(normal)

The area of geographic atrophy or “GA” grows larger as retinal cells die



2012

2013

2014

2015

2017

2019

20/200  
(legally blind in 3 years)

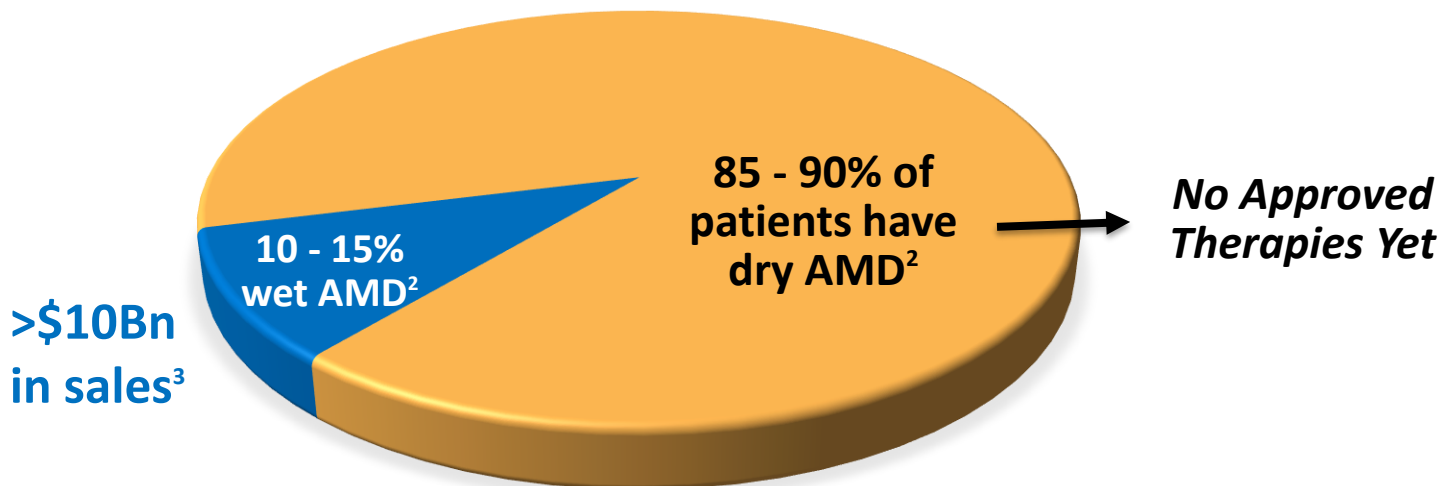
Dry AMD involves the  
progressive loss of retina  
cells, which can lead rapidly  
to blindness

20/640

# Multi-Billion Dollar Market Opportunity in the U.S.

**Age-related Macular Degeneration (AMD) (all forms) afflicts ~11 million people in the United States**

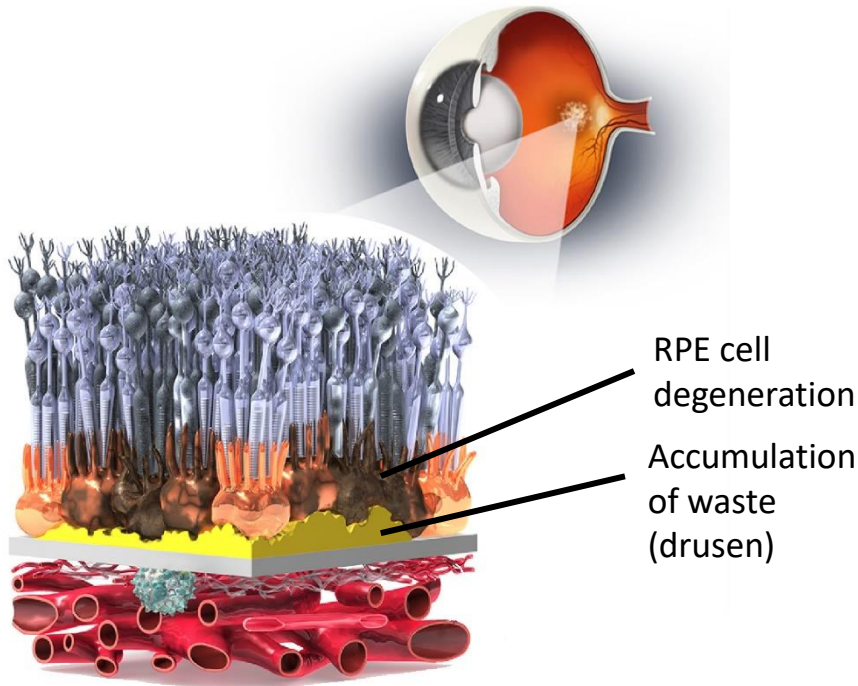
Type of AMD	% of AMD Cases	FDA Approved Therapies
Wet AMD	10 – 15%	Lucentis & Eylea (\$10 Billion in annual sales)
Dry AMD	85 – 90%	None



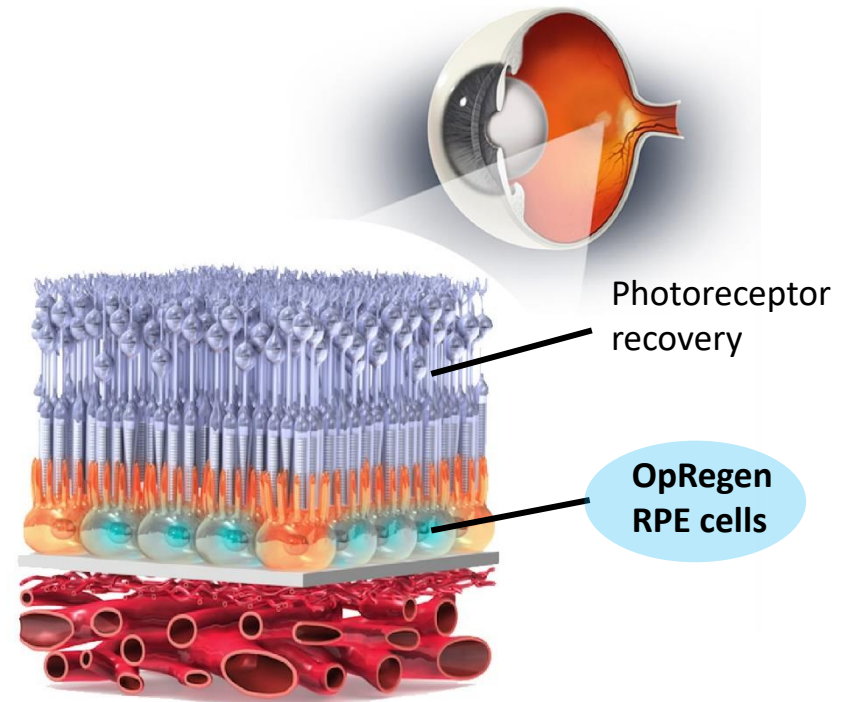
Sources: (1) Bright Focus Foundation. Macular Degeneration Facts & Statistics: Bright Focus Foundation. <http://www.brightfocus.org/macular/about/understanding/facts.html>; (2) JM Seddon, Epidemiology of age-related macular degeneration. (AP Schachar, S Ryan eds.) Retina, 3rd ed. St. Louis, MO: Mosby; 2001;1039-50; (3) 2018 product sales summary based on publicly reported revenue figures for Lucentis and Eylea.

# Lineage Approach – OpRegen, an RPE Cell Transplant

- Dry (atrophic) AMD involves the loss of retinal cells, creating an area of geographic atrophy (GA), which causes impaired vision and blindness
- OpRegen is an injection of **RPE cells** beneath the retina, to replace lost retinal cells, recover function, and preserve or improve vision



Pre-Transplant



Post-Transplant

# Commercial-Scale Manufacturing Capabilities

- **OpRegen consists of >99% pure RPE cells**
  - Uses NIH-approved line was established >20 years ago
  - Extensive functional and identity characterization performed on each batch
  - No genetic modifications are made to the cells
  - No residual pluripotent cells detectable in clinical material
- **Immediate-use “thaw and inject” formulation**
  - No dose preparation is required
  - From frozen cells to injection device in 5 minutes
- **Current production scale is 5 billion cells per 3-liter bioreactor**
  - Equal to 2,500 clinical doses/batch
  - Further scale-up can be performed in larger or parallel reactors



# Dry AMD Competitive Landscape

**Only Lineage has shown clinical evidence of retinal restoration**

## Cell Therapy

- **Lineage Cell (Ph1/2)**
- Astellas (Ph1/2)\*
- Regen. Patch (Ph1/2)
- jCyte/Santen (Preclinical)

*\*Via acquisition of  
Ocata Therapeutics for \$379M*

## Oxidative Stress Approaches

- Alkeus (Ph3), Vitamin A “dimers”
- Allegro (Ph2), integrins
- Stealth Bio (Ph2), mitochondria
- Boehringer (Ph1), inflammasome


## Complement Inhibition/ Anti-Inflammatory MOA

- Apellis (Ph3)
- Iveric (Ph3)
- Roche (Ph2)
- Annexon (Ph 2)
- NGM (Ph1)


## Gene Therapy

- Gyroscope (Ph1/2)
- Hemera/Janssen (Ph1)
- Novartis (Preclinical)<sup>†</sup>

*†Via acquisition of VedereBio for \$280M*



## OpRegen Phase 1/2a Clinical Trial Interim Results



**Replace and Restore**



# Phase 1/2a OpRegen Clinical Trial - Promising Interim Results Continue

## STRUCTURE:

- **3 OpRegen treated patients have shown evidence of retinal tissue restoration**
  - Earlier and first-known clinical report of restoration has been maintained for 3 years
  - Reductions in drusen waste material observed in some patients

## FUNCTION:

- **83% of all Cohort 4 patients experienced increased BCVA** (4.5mo to ~3y post-treatment)
  - Visual acuity continues to decline in the majority (83%) of untreated eyes
- **Encouraging interim data collected on patient-reported visual function, reading speed, and microperimetry**

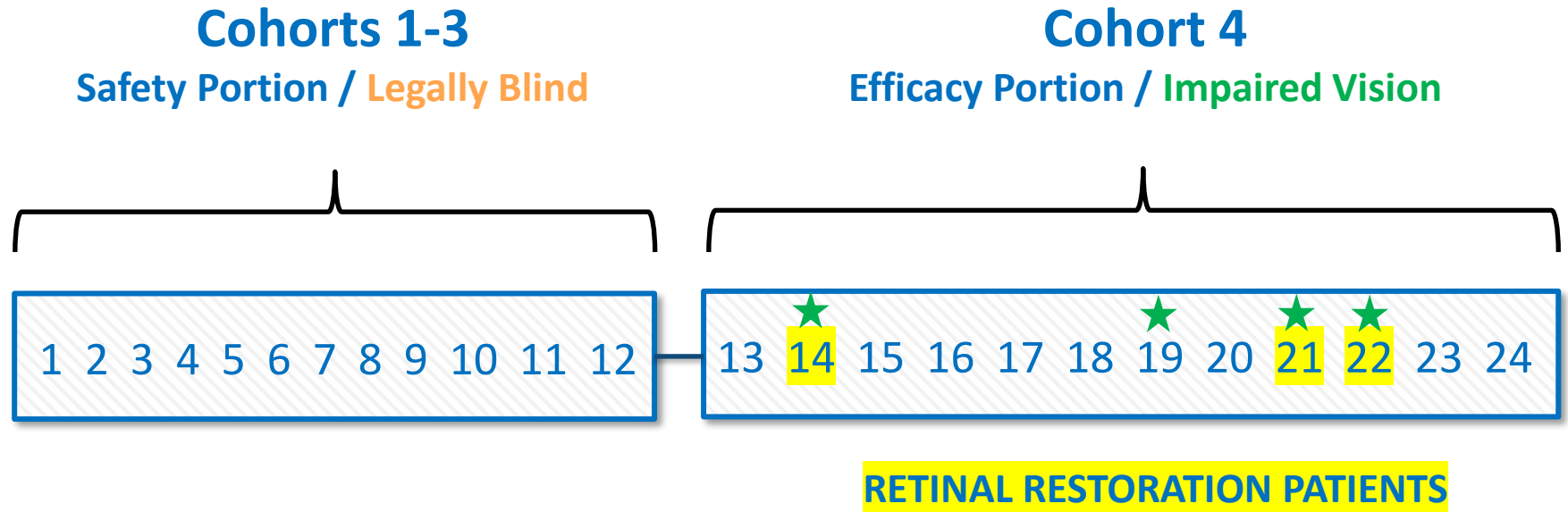
## SAFETY and TOLERABILITY:

- **OpRegen transplants have been well tolerated with no unexpected AEs or SAEs**

## DURABILITY:

- **Earliest grafts have persisted for more than 5 years; no cases of rejection (N=24)**

# Phase 1/2a Clinical Trial of OpRegen – Enrollment Complete



## Purpose:

To evaluate the safety and efficacy of transplanted RPE cells in patients with dry AMD with geographic atrophy

## Design:

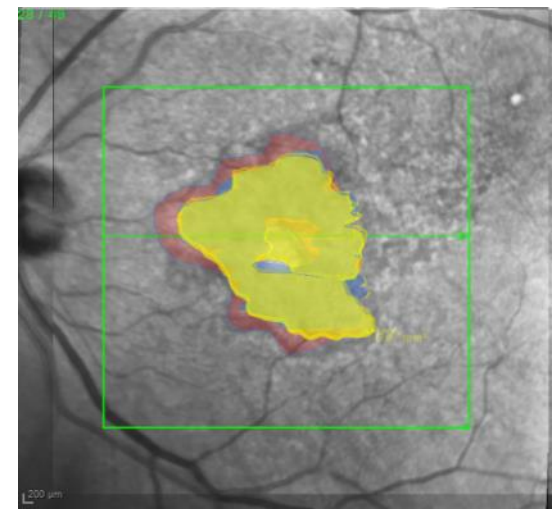
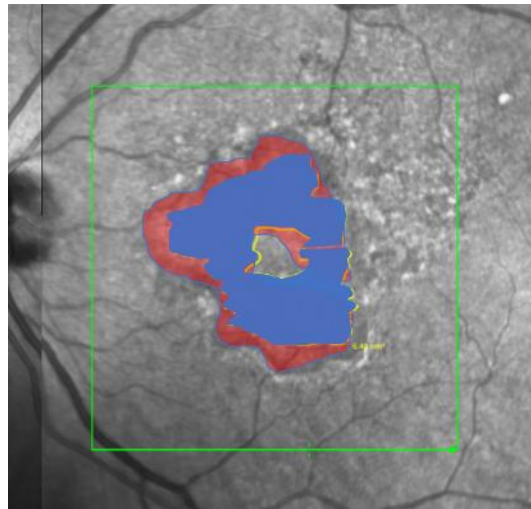
Open label, single arm, international, multi-center

## Dose and Administration:

One 50-100 ul dose of cells injected into the subretinal space

# First Case of Retinal Restoration – *Smaller Area of GA, Maintained for ~3 Years*

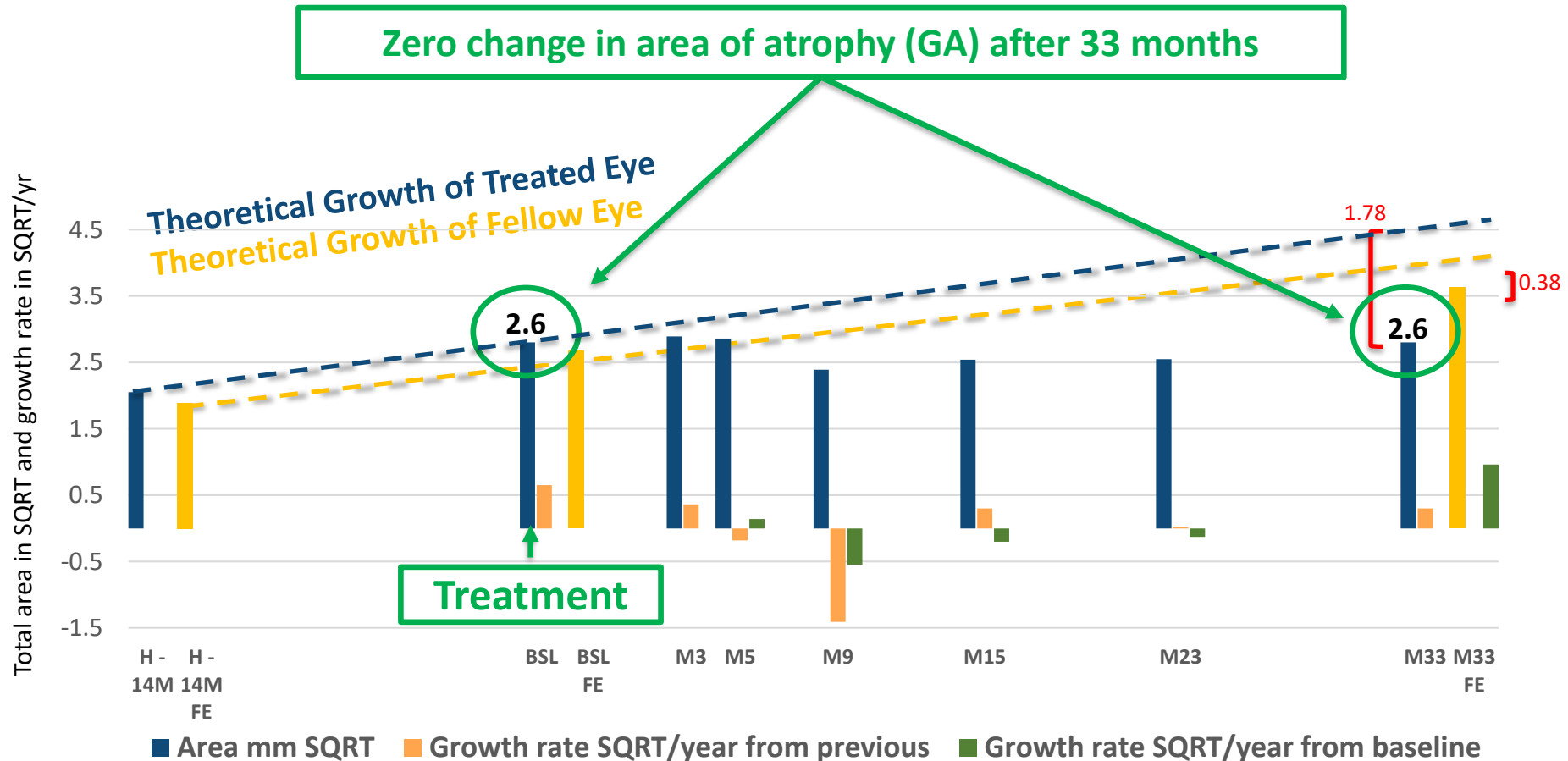
Date	Time in Study	Colored area on Figure below	Area mm <sup>2</sup> (SQRT)	Changes in rate of progression from previous	Changes in rate of progression from baseline
May 2017	Minus 1 year	Orange	4.21 mm <sup>2</sup> (2.05)	N/A	N/A
July 2018	Baseline	Red	7.90 mm <sup>2</sup> (2.8)	+ 0.64 mm sqrt/yr	N/A
April 2019	Month +9	Blue	5.74 mm <sup>2</sup> (2.39)	- 0.61 mm sqrt/yr	- 0.61 mm sqrt/yr
October 2019	Month +15	Green	6.48 mm <sup>2</sup> (2.54)	+ 0.30 mm sqrt/yr	- 0.20 mm sqrt/yr
June 2020	Month +23	Yellow	6.52 mm <sup>2</sup> (2.55)	+ 0.015 mm sqrt/yr	- 0.13 mm sqrt/yr



# First Case of Retinal Restoration – Assessing GA Progression Using FAF Alone or OCT and Multimodality Imaging

OpRegen RPE cells do not have high levels of lipofuscin, which makes visualization via FAF difficult.

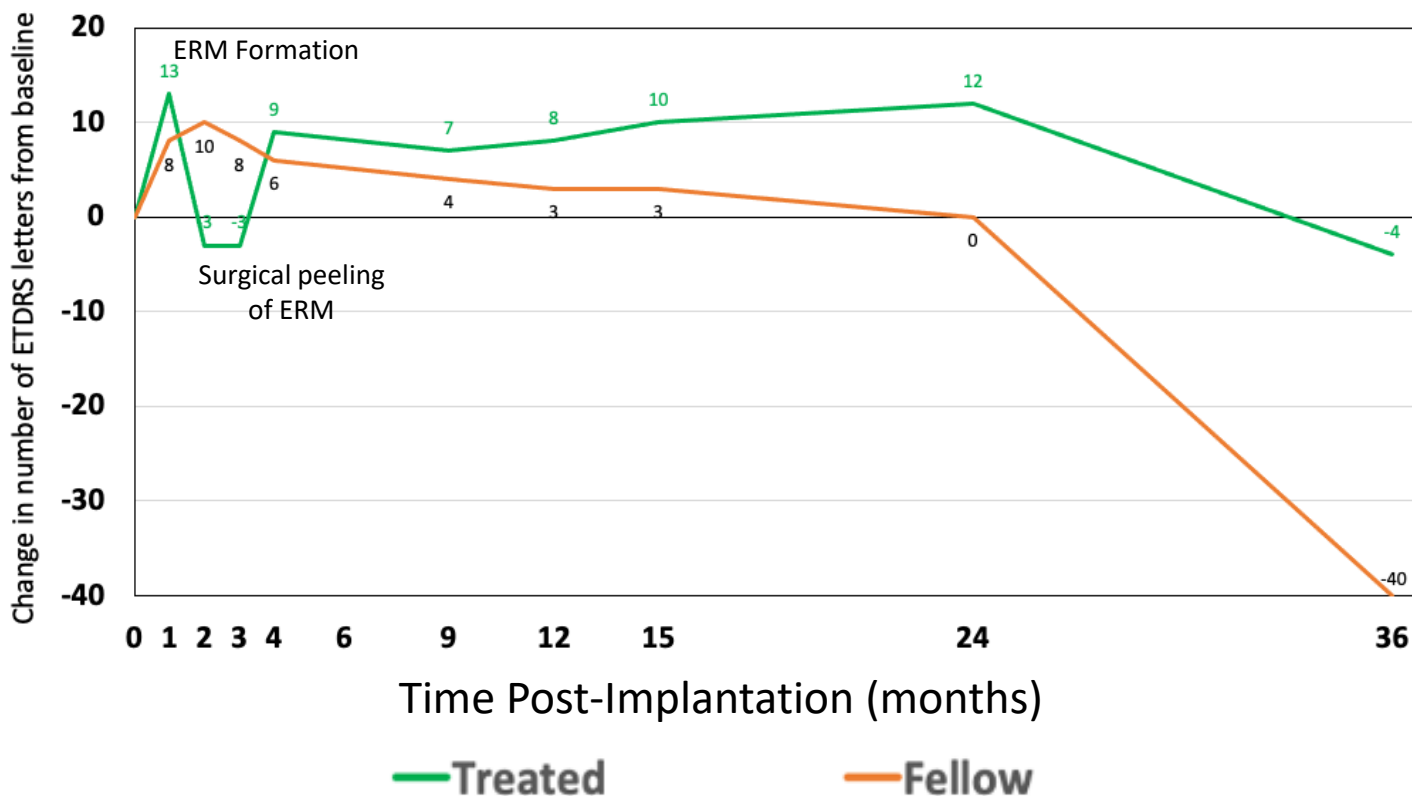
**OCT** provides micron-level resolution of imaging depth; when used alongside other techniques including FAF, a more complete assessment of GA progression is possible.



Note: Theoretical growth is based on the rate of change (squared root, SQRT) between the historical (H) image 14 Months prior to the Baseline (BSL) assessment. That rate of change is applied over the duration of the patient's follow-up (the dashed lines) at the various time points indicated. (FE = Fellow Eye)

# First Case of Retinal Restoration - Durable Improvements

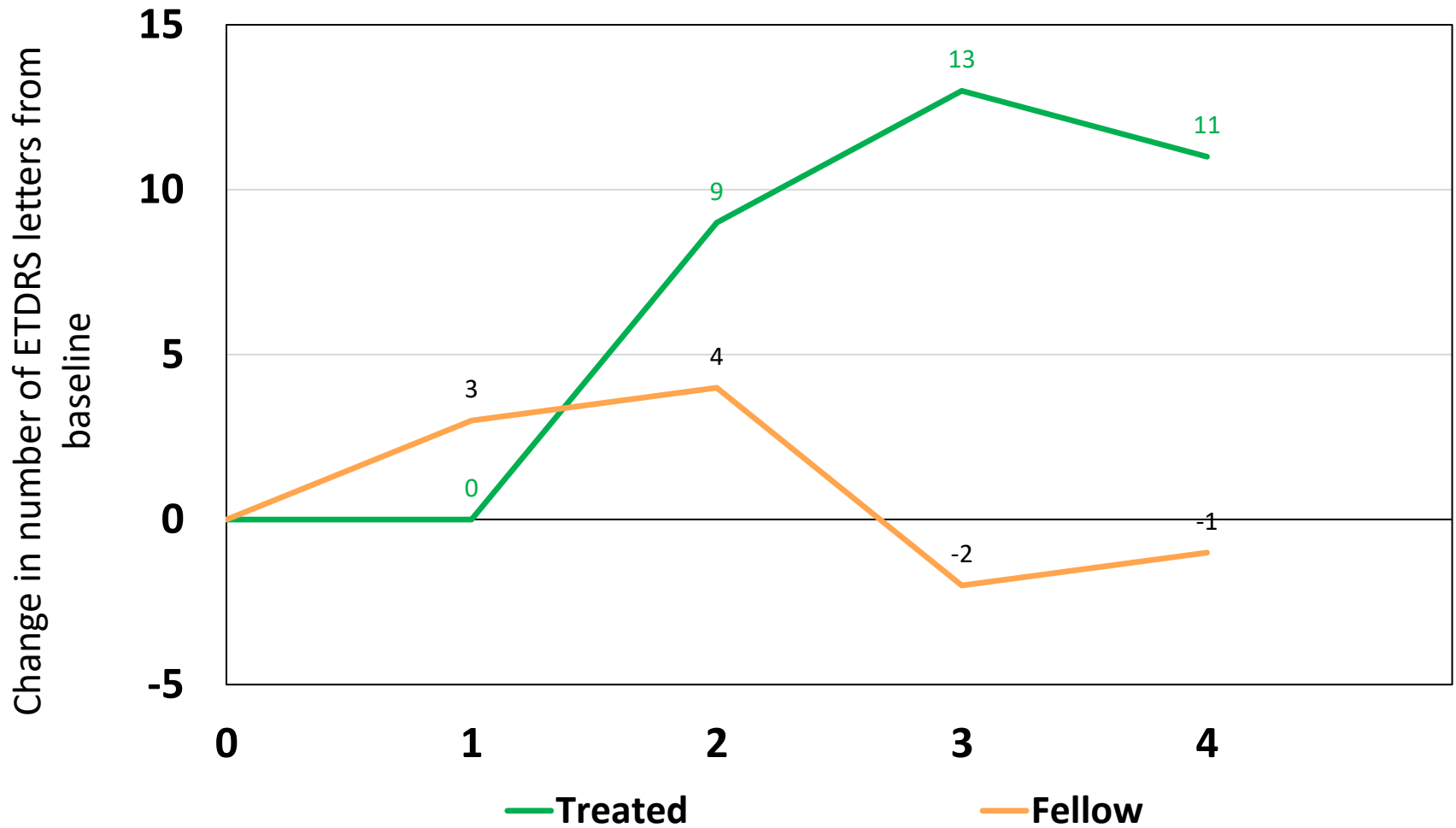
## BCVA Changes for Patient #14 – Treated vs. Fellow Eye



Time point	Fellow (OD)	Treated (OS)
Baseline	61 letters read (20/63)	54 letters read (20/80)
3 years post-op	21 letters read (20/400)	50 letters read (20/100)

# Second Case of Retinal Restoration - Vision in Treated Eye Drastically Improved

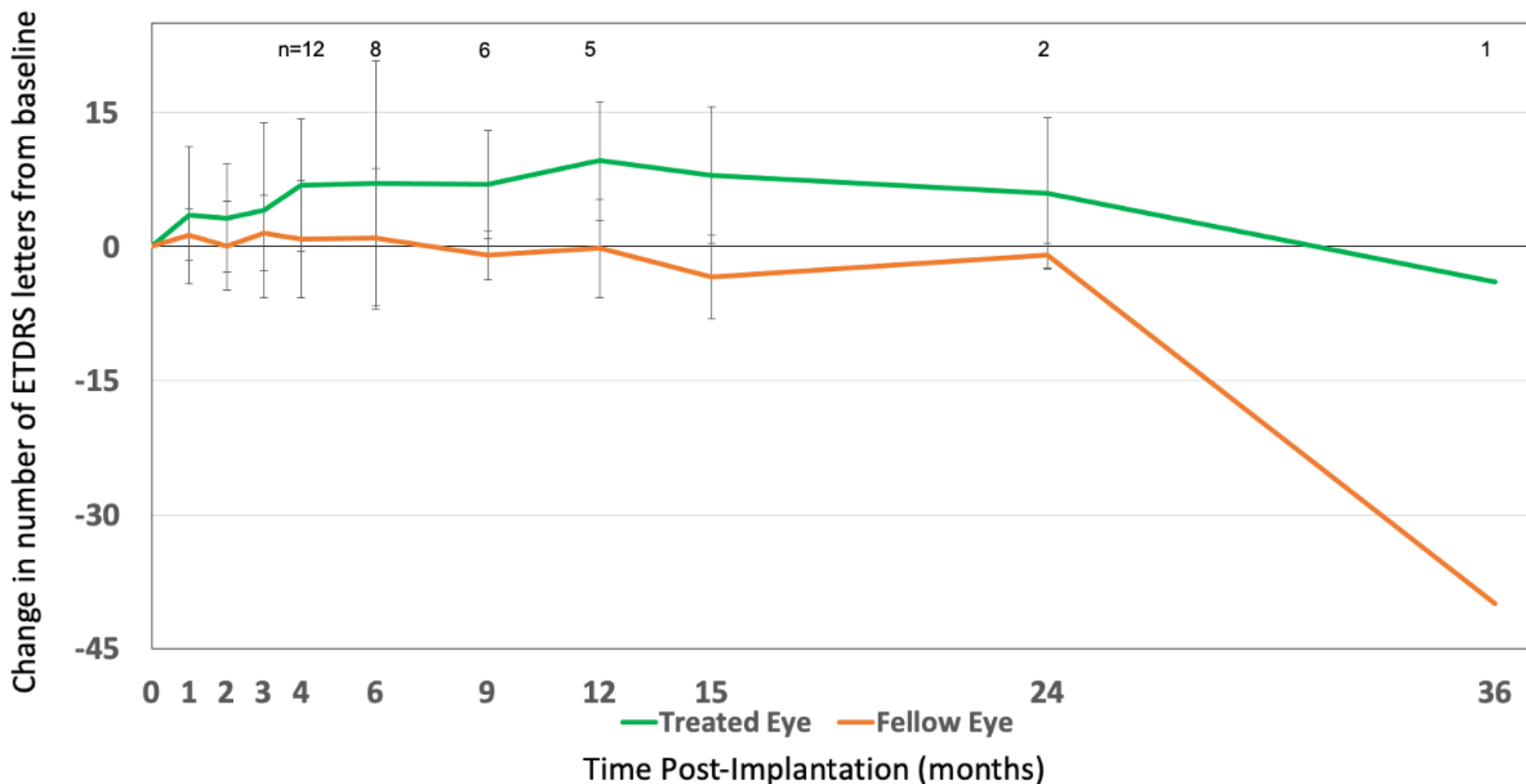
## BCVA Changes Treated vs. Fellow Eye



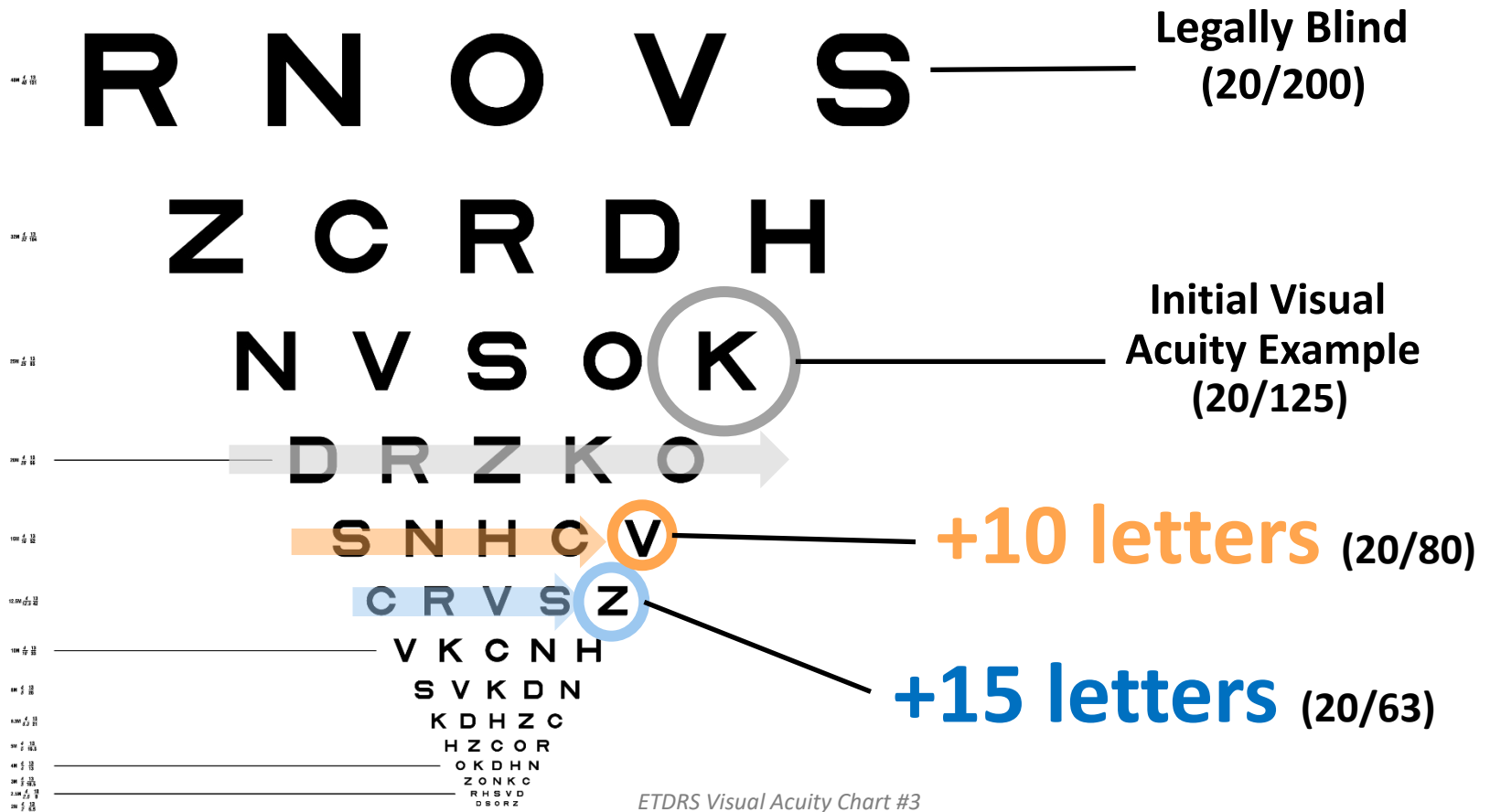


# Improvements in Visual Acuity – Pooled Data from Cohort 4 (N=12)

Mean Change in Cohort 4 BCVA – Treated and Fellow Eye



# Real-World “Letters of Improvement”



# Positive Patient-Reported Outcomes (Quality of Life Questionnaire)

- **National Eye Institute (NEI) Visual Function Questionnaire (VFQ-25)**
- **25 vision-related questions reported across 11 constructs**
- **Improvement occurred in 9 of 11 categories and remained unchanged in one category in Cohort 4 patients**

	Category	N (%) Change from Screening to Year 1 (n=5 available to date)
1.	General Vision	4/5 (80%) patients reported improvement
2.	Ocular Pain	2/5 (40%) patients reported improvement
3.	Near Activities	5/5 (100%) patients reported improvement
4.	Distance Activities	3/5 (60%) patients reported improvement
5.	Vision Specific: Social Functioning	3/5 (60%) patients reported improvement
6.	Vision Specific: Mental Health	5/5 (100%) patients reported improvement
7.	Vision Specific: Role Difficulties	4/5 (80%) patients reported improvement
8.	Vision Specific: Dependency	3/5 (60%) patients reported improvement
9.	Driving	0/5 (0%) patients reported improvement (only 2 subjects were driving at screening)
10.	Color Vision	0/5 (0%) no change from screening (all patients previously reported highest possible score, no improvement possible)
11.	Peripheral Vision	2/5 (40%) patients reported improvement

# OpRegen – Positioned for Commercial Success

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## **OpRegen has the potential to capture a multi billion-dollar opportunity**

- **Transplanting RPE cells may provide benefits other approaches cannot**
- **Market opportunity is not limited to monogenic deficiencies (e.g. gene therapy)**
- **Three clinical cases of retinal restoration reported**
- **Treatment to date has been well-tolerated**
  - Some patients have exhibited clinically meaningful improvements in clinically-relevant metrics such as visual acuity, GA growth, and reading speed
- **Potential for recurring revenues, but with multiple treatments years apart**
- **May have application in other retinal diseases (example: Stargardt's Disease)**
- **Issued patents cover aspects of production, characterization, and formulation**
- **Fast Track designation from FDA**
- **Opportunities for strategic partnerships for late-stage development**



Lifetime care for an SCI  
patient can cost nearly  
**\$5 million**

*Source: [christopherreeve.org](http://christopherreeve.org)*

**OPC1: A Cell Therapy for Spinal Cord Injuries**

# Why Spinal Cord Injury (SCI) Matters



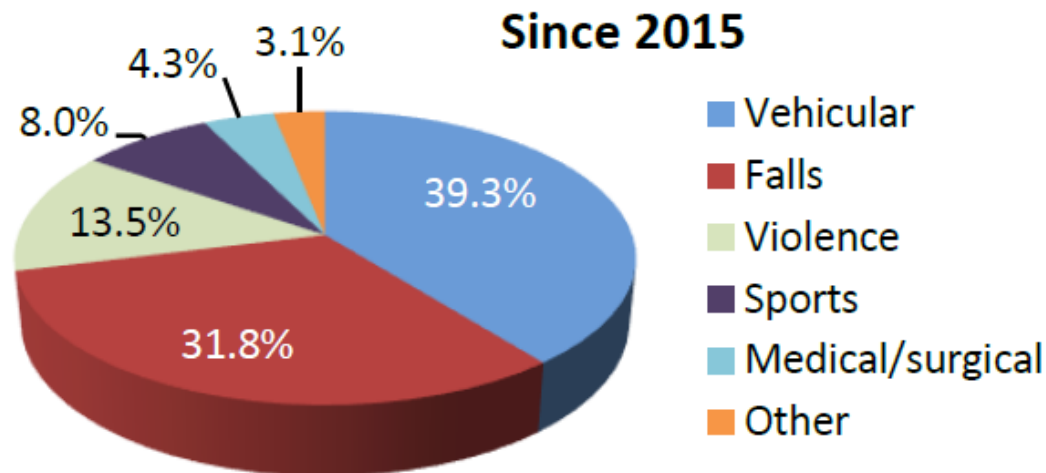
Lucas Linder, an OPC1 clinical trial participant, was paralyzed from the neck down. The next year, he threw out the first pitch at a Major League Baseball game.



# Spinal Cord Injury (SCI) Overview

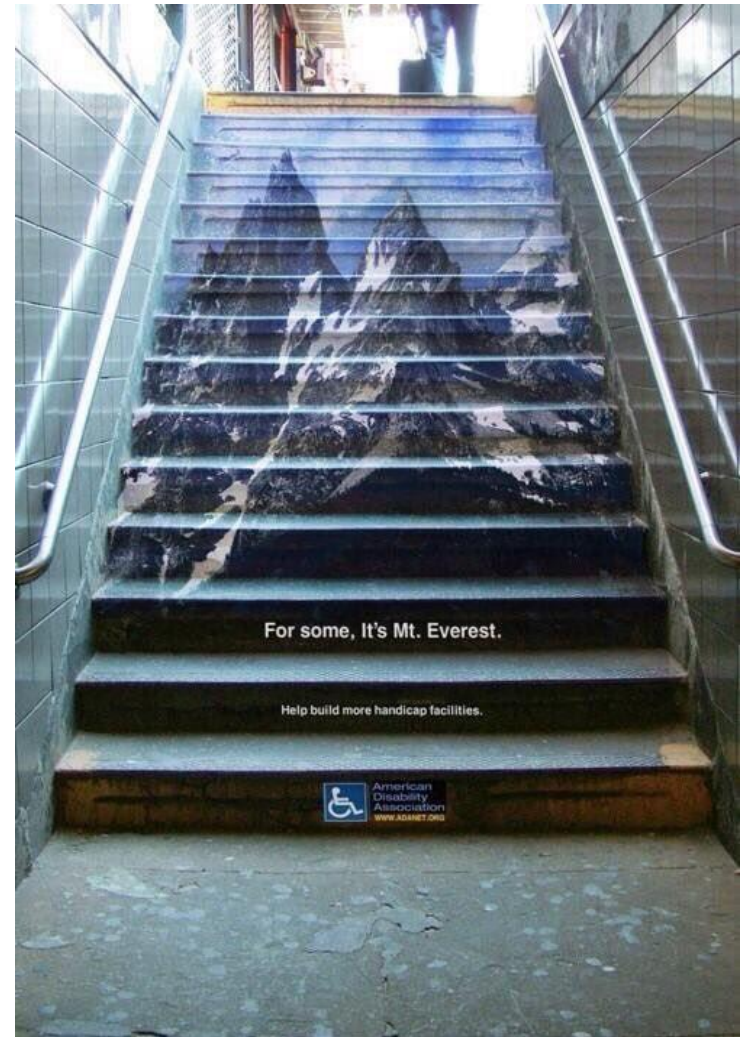
**Lifetime care for an SCI patient can cost nearly \$5 million**

- **Incidence**
  - Approximately 18,000 new cases each year
- **Prevalence**
  - Between 249,000 and 363,000 people in the US
- **Causes**



# SCI Burden and Unmet Needs

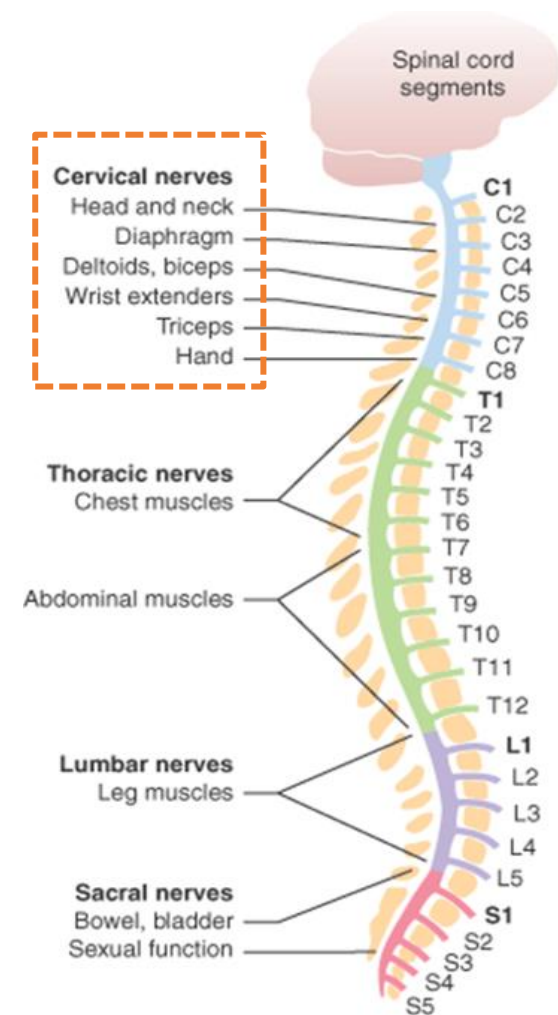
- **A significant burden for patients and caregivers\***
  - 67% of patients are unemployed 10 years post-injury
  - Lifetime healthcare costs can reach \$5M for one patient
- **Potential lifelong impairments**
  - Mobility (wheelchair)
  - Pain
  - Re-hospitalizations
  - Infections
  - Ventilator dependency
  - Depression
  - Shortened life expectancy



# SCI Treatment Objectives

## Loss of movement is the primary feature of a spinal cord injury

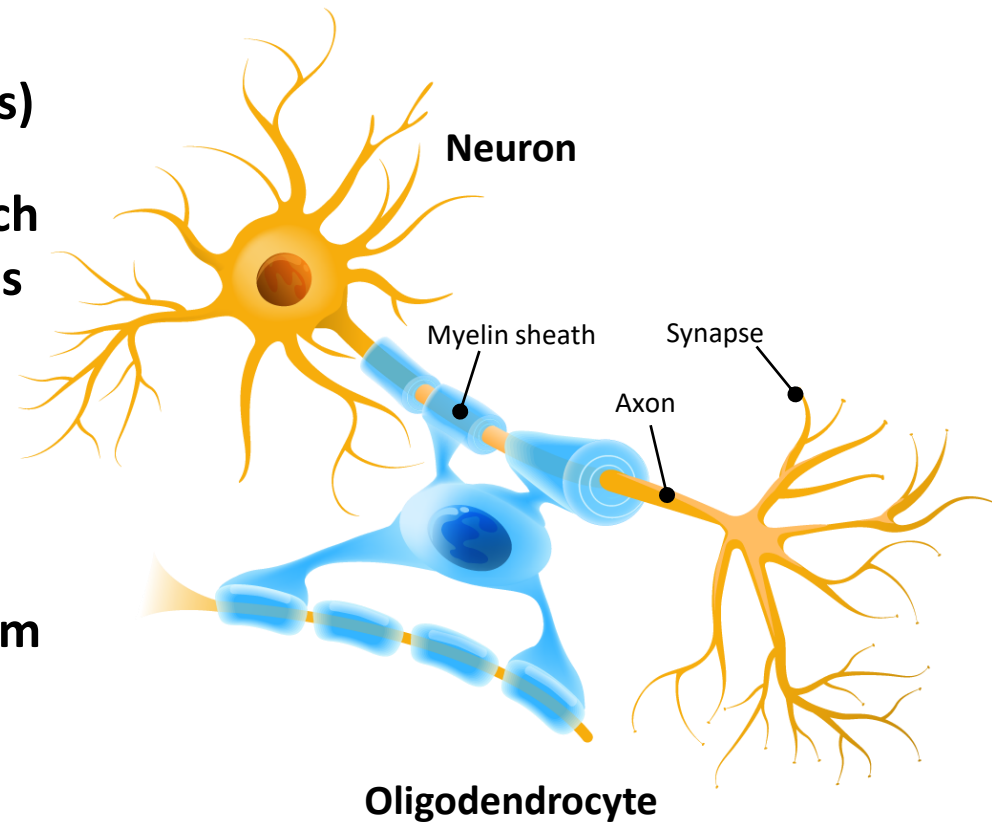
- **Higher-level injuries result in more extensive impairments**
- **Gains in motor function, particularly in the upper extremities, can provide significant benefits in self-care and lower costs of care**
- **The goal of Lineage's cell therapy is to provide additional arm, hand, and finger function, increasing independence and quality of life**



# Lineage's **OPC1 cells** for Spinal Cord Injury

**Replacing oligodendrocytes may provide additional upper limb and finger function and improve the quality of life for patients**

- **OPC1 is comprised of OPCs (oligodendrocyte progenitor cells)**
- **OPCs are precursors to cells which provide insulation to nerve axons in the form of a myelin sheath**
- **Myelin is necessary for proper function of neurons**
- **OPC1 cells are manufactured from a cell line and injected into the spinal cord at the injury site**



# OPC1 Asset Overview

- **OPC1 is covered by multiple issued patents**
- **OPC1 has RMAT Designation**
- **OPC1 has Orphan Drug Designation**
- **OPC1 has received >\$14M in support from CIRM (California Institute for Regenerative Medicine)**
- **OPC1 could have application to other demyelinating conditions**

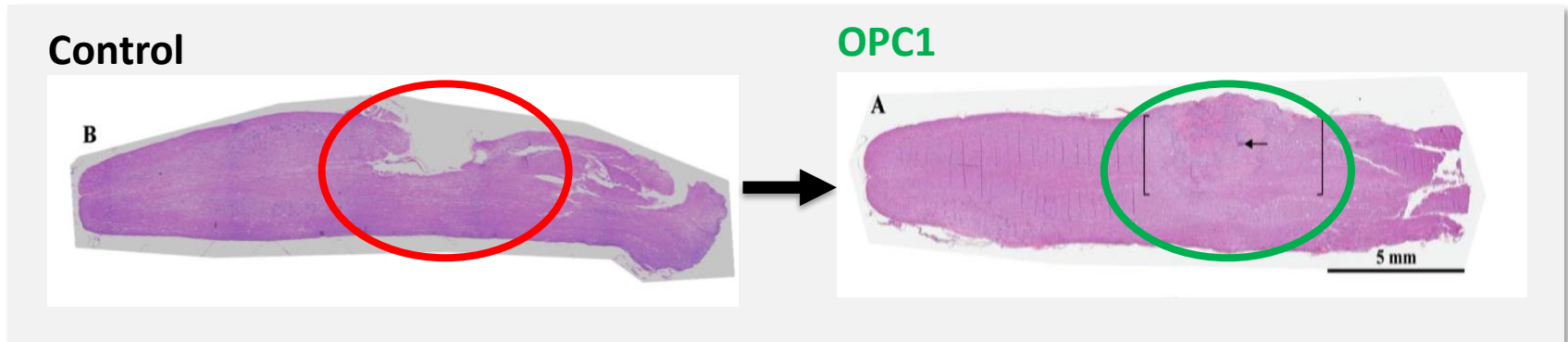


**OPC1 Transplant Procedure**



# OPC1 Mechanisms of Action

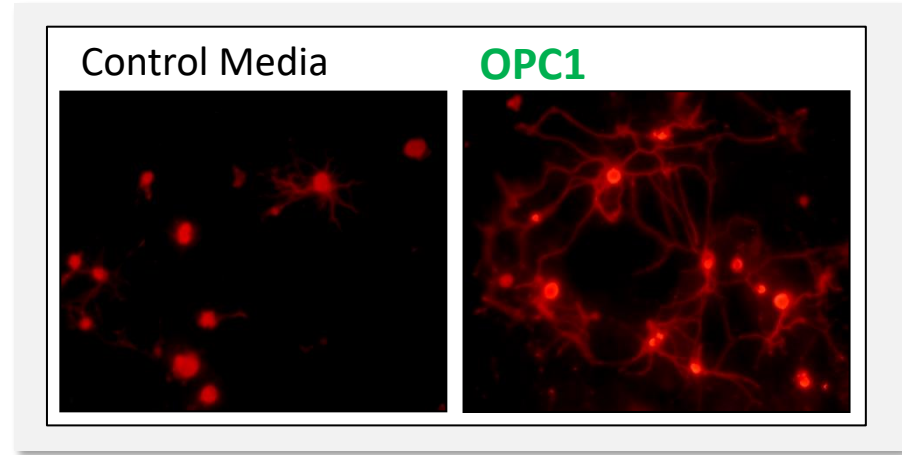
## Prevention of Cavitation



## Myelination of axons



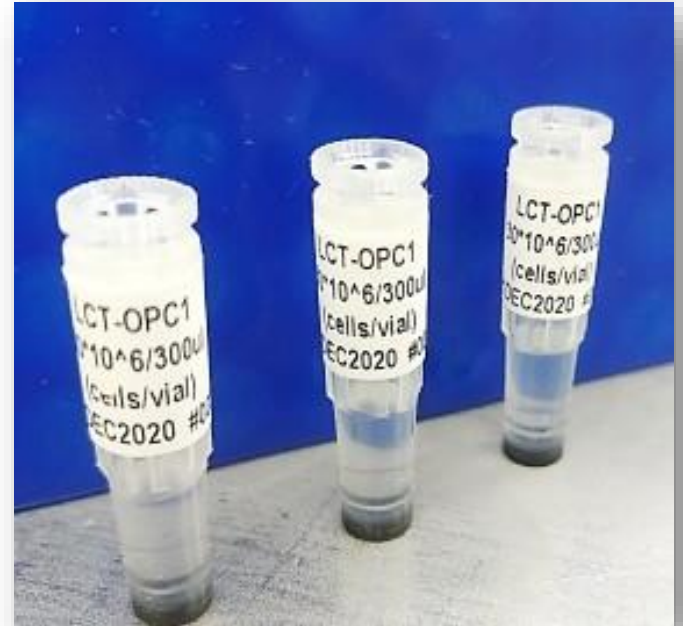
## Secretion of neurotrophic factors



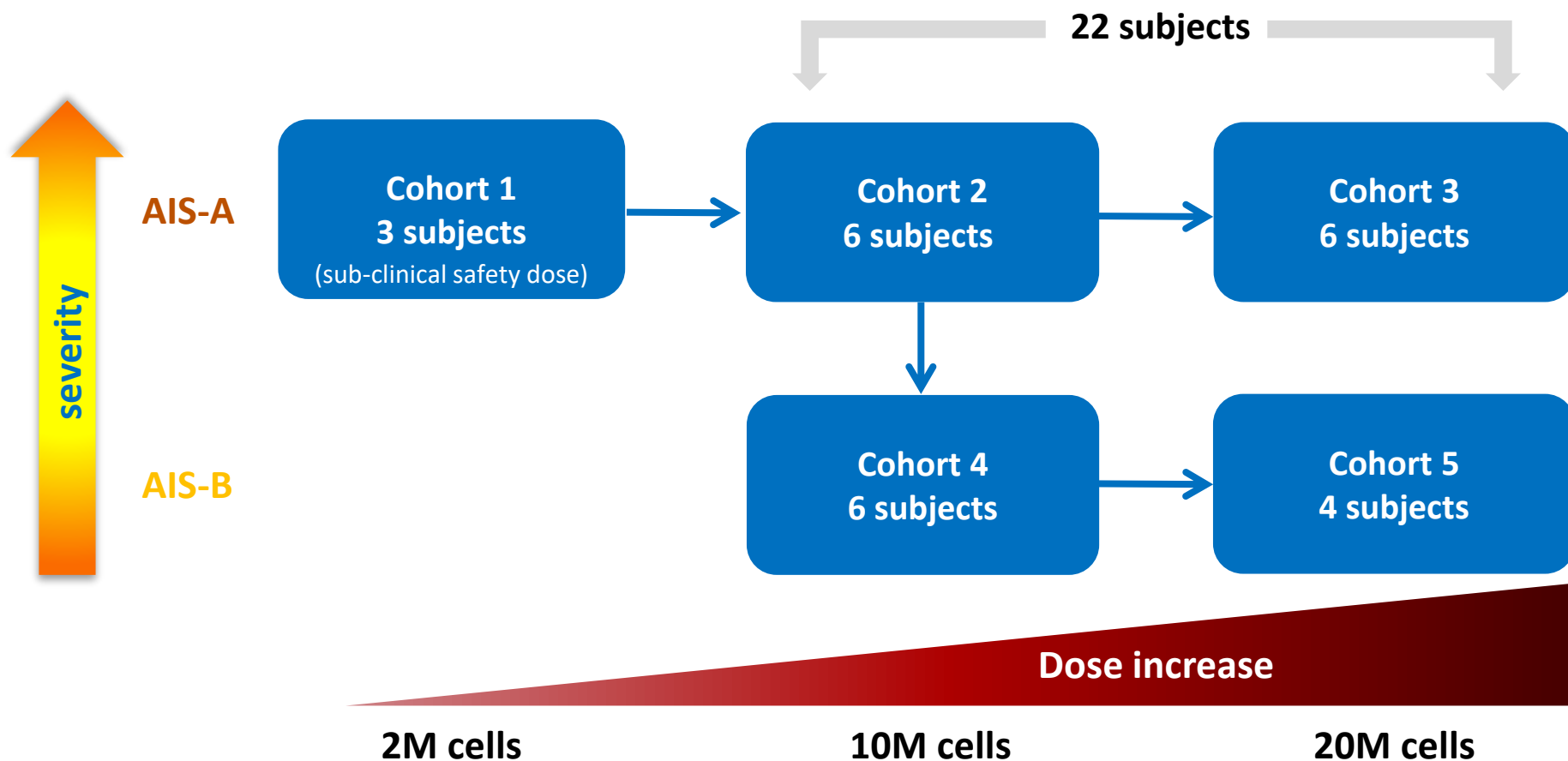


# OPC1 for Spinal Cord Injury

- Lineage's cells are derived from an NIH-registered cell line
- The cells are allogeneic (“off the shelf”) and not taken from the patient
- Treatment for SCI occurs 3-6 weeks post-injury and includes short-course (60-day) immunosuppression
- The cells are “ready to use” in a cryopreserved thaw-and-inject formulation



# SCiStar Clinical Trial Study Design



## SCiStar Clinical Trial - Summary of Adverse Events

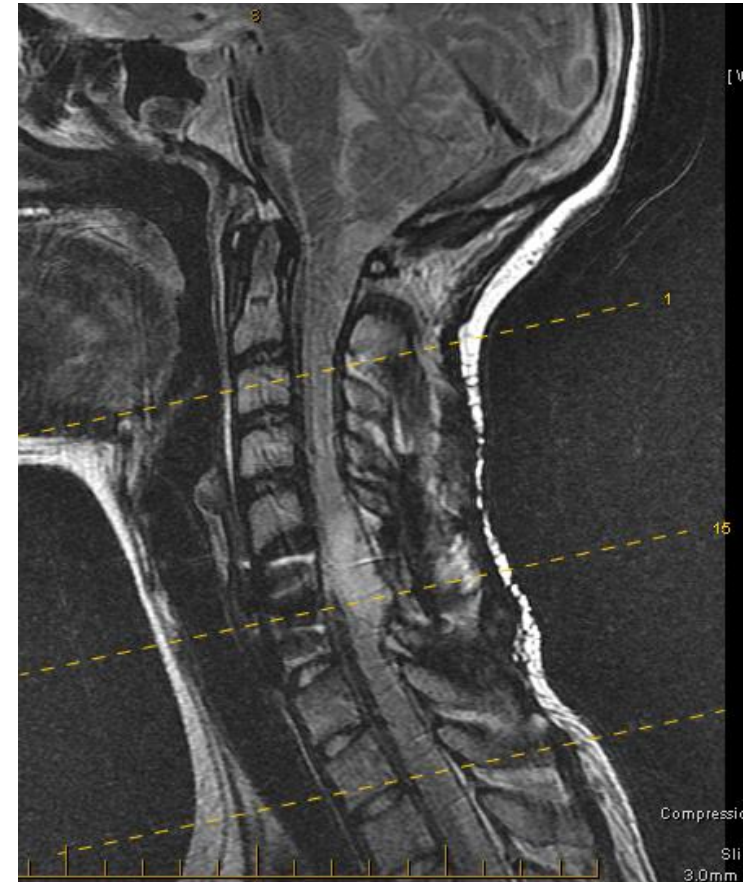
**Majority of adverse events were mild to moderate in severity**

All Treated Subjects (n=25)	AEs	SAEs
Total	534	29
Related to OPC1	1*	0
Related to Injection Procedure	20	1
Related to Tacrolimus	11	1

**To date, there have been no serious adverse events related to the OPC1 cells**  
**Safety data is available for 2 to 5 years on all 25 patients**

## 12- and 24-Month MRI Scans Indicate Durable Engraftment

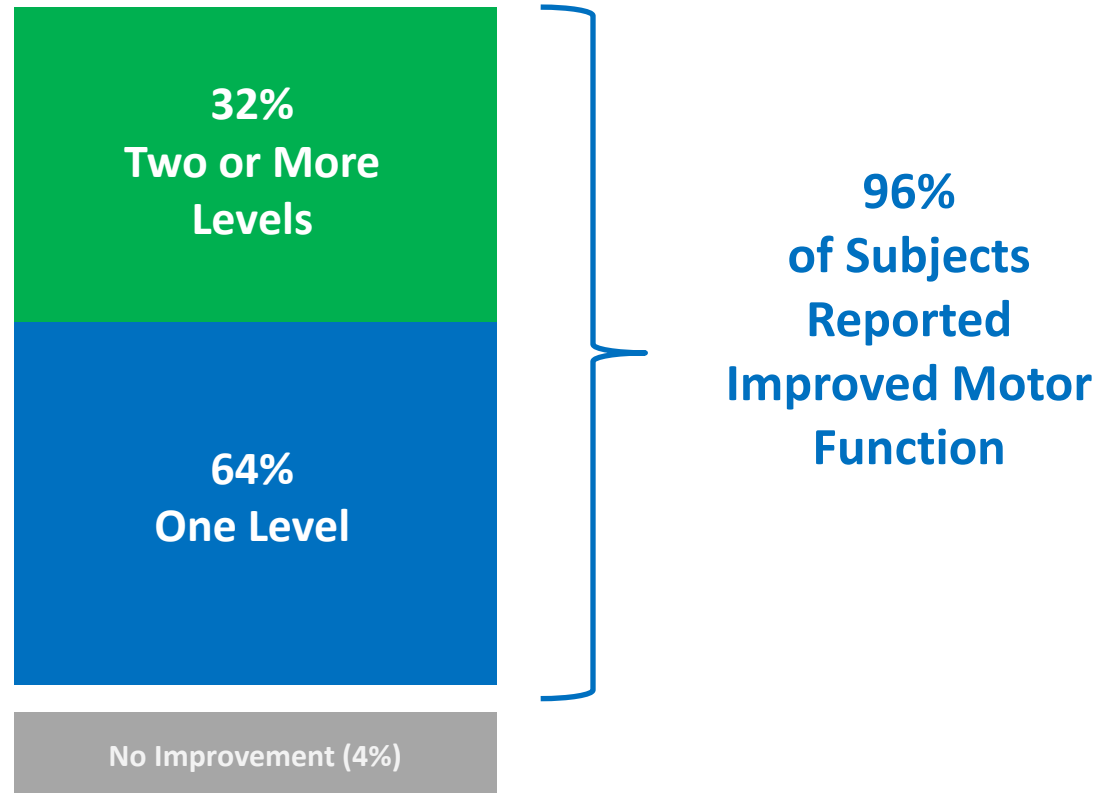
- Cystic cavitation (syringomyelia) occurs in ~80% of SCI cases
- MRI results suggest formation of a tissue matrix at the injury site, indicating that OPC1 cells have durably engrafted and helped prevent cavitation
- 96% (24/25) of OPC1 patients had serial MRI scans that indicated no sign of a lesion cavity at 12 months (or 24 months for 22 scans available)



Weighted sagittal MRI

# SCiStar Clinical Trial - Motor Function Gains

## 22 Patients at 12 months



**RIGHT**

**MOTOR  
KEY MUSCLES**

**SENSORY  
KEY SENSORY POINTS**  
Light Touch (LT) Pin Prick (PP)

C2		
C3		
C4		
C5		
C6		
C7		
C8		
T1		
T2		
T3		
T4		
T5		
T6		
T7		
T8		
T9		
T10		
T11		
T12		
L1		
L2		
L3		
L4		
L5		
S1		
S2		
S3		
S4-5		
RIGHT TOTALS		
(MAXIMUM)	(50)	(56)

**UER**  
(Upper Extremity Right)

Elbow flexors C5  
Wrist extensors C6  
Elbow extensors C7  
Finger flexors C8  
Finger abductors (little finger) T1

Comments (Non-key Muscle? Reason for NT? Pain?):

**LER**

(Lower Extremity Right)

Hip flexors L2  
Knee extensors L3  
Ankle dorsiflexors L4  
Long toe extensors L5  
Ankle plantar flexors S1

(VAC) Voluntary anal contraction  
(Yes/No) ☐

RIGHT TOTALS  
(MAXIMUM)

**MOTOR SUBSCORES**

UER ☐ + UEL ☐ = UEMS TOTAL ☐  
MAX (25) (25) (50)

LER ☐ + LEL ☐ = LEMS TOTAL ☐  
MAX (25) (25) (50)

3. NEUROLOGICAL  
LEVEL OF INJURY  
(NLI) ☐

**NEUROLOGICAL  
LEVELS**  
Steps 1-5 for classification  
as on reverse

1. SENSORY ☐ R ☐ L  
2. MOTOR ☐ R ☐ L

4. COMPLETE OR INCOMPLETE?  
Incomplete = Any sensory or motor function in S4-5

5. ASIA IMPAIRMENT SCALE (AIS) ☐

(In complete injuries only)  
**ZONE OF PARTIAL  
PRESERVATION**  
Most caudal level with any innervation

SENSORY ☐ R ☐ L  
MOTOR ☐ R ☐ L

**LEFT**

**MOTOR  
KEY MUSCLES**

**SENSORY  
KEY SENSORY POINTS**  
Light Touch (LT) Pin Prick (PP)

C2		
C3		
C4		
C5		
C6		
C7		
C8		
T1		
T2		
T3		
T4		
T5		
T6		
T7		
T8		
T9		
T10		
T11		
T12		
L1		
L2		
L3		
L4		
L5		
S1		
S2		
S3		
S4-5		
LEFT TOTALS		
(MAXIMUM)	(50)	(56)

**UEL**  
(Upper Extremity Left)

Elbow flexors C5  
Wrist extensors C6  
Elbow extensors C7  
Finger flexors C8  
Finger abductors (little finger) T1

**MOTOR  
(SCORING ON REVERSE SIDE)**

0 = total paralysis  
1 = palpable or visible contraction  
2 = active movement, gravity eliminated  
3 = active movement, against gravity  
4 = active movement, against some resistance  
5 = active movement, against full resistance  
5+ = normal corrected for pain/disuse  
NT = not testable

**SENSORY  
(SCORING ON REVERSE SIDE)**

0 = absent  
1 = altered  
2 = normal  
NT = not testable

**LEL**

(Lower Extremity Left)

Hip flexors L2  
Knee extensors L3  
Ankle dorsiflexors L4  
Long toe extensors L5  
Ankle plantar flexors S1

(DAP) Deep anal pressure  
(Yes/No) ☐

LEFT TOTALS  
(MAXIMUM)

**SENSORY SUBSCORES**

RLT ☐ + LLT ☐ = LT TOTAL ☐  
MAX (56) (56) (112)

RPP ☐ + LPP ☐ = PP TOTAL ☐  
MAX (56) (56) (112)

# Real-World Benefit from a 2 Motor Level Improvement

Motor level gains translate into clinically meaningful improvements in self-care and reductions in cost of care

Function	Cervical Injury Level				
	C1-C3	C4	C5	C6	C7-C8
Bowel					
Bladder					
Bed Mobility					
Transfers					
Pressure Relief					
Eating					
Dressing					
Grooming					
Bathing					
Wheelchair					
Car transport					
Daily Home Care	24 hr attendant	18-24 hr attendant	6-12 hr assistance	4 hr housework	1 hr housework



Total Assist



Partial Assist



Independent





# Real-World Benefit from a 2 Motor Level Improvement


Motor level gains translate into clinically meaningful improvements in self-care and reductions in cost of care

32% had +2 Level Improvement

Function	Cervical Injury Level				
	C1-C3	C4	C5	C6	C7-C8
Bowel	Total Assist	Total Assist	Total Assist	Partial Assist	Independent
Bladder	Total Assist	Total Assist	Total Assist	Partial Assist	Independent
Bed Mobility	Total Assist	Total Assist	Partial Assist	Independent	Independent
Transfers	Total Assist	Total Assist	Total Assist	Independent	Independent
Pressure Relief	Total Assist	Total Assist	Partial Assist	Independent	Independent
Eating	Total Assist	Total Assist	Partial Assist	Independent	Independent
Dressing	Total Assist	Total Assist	Partial Assist	Independent	Independent
Grooming	Total Assist	Total Assist	Partial Assist	Independent	Independent
Bathing	Total Assist	Total Assist	Total Assist	Independent	Independent
Wheelchair	Total Assist	Total Assist	Total Assist	Partial Assist	Independent
Car transport	Total Assist	Total Assist	Total Assist	Partial Assist	Independent
Daily Home Care	24 hr attendant	18-24 hr attendant	6-12 hr assistance	4 hr housework	1 hr housework

  
**Total Assist**

  
**Partial Assist**

  
**Independent**

## SCiStar Clinical Trial - Analysis of Patients with Least UEMS Recovery

**C4 or cord compressions occurred in 5 of the 7 worst patient outcomes and both issues can be addressed in the next trial**

Subject	UEMS Change at 12 mo.	Cord Compression After OPC1 Injection?	NLI Baseline	Baseline AIS	Cohort	Dose	Age	Injection Days Post Injury
2207	7	N	C4	B	5	20 M	62	37
2203	6	N	C6	A	3	20 M	45	31
2105	6	N	C4	A	3	10 M	19	20
2004	5	N	C6	B	4	10 M	21	25
2007	4	N	C4	B	4	10 M	55	38
2307	4	Y	C5	B	5	10 M	19	38
2303	3	Y	C6	B	4	10 M	22	35

- Two patients had cord compression after OPC1 injection (2303 and 2307 at Day 30 and Day 7)
- Patients 2105, 2207, 2007 had a C4 (highest/most severe) injury level at baseline
- Patient 2105 also had a hematoma in the spinal cord at baseline & a failed graft

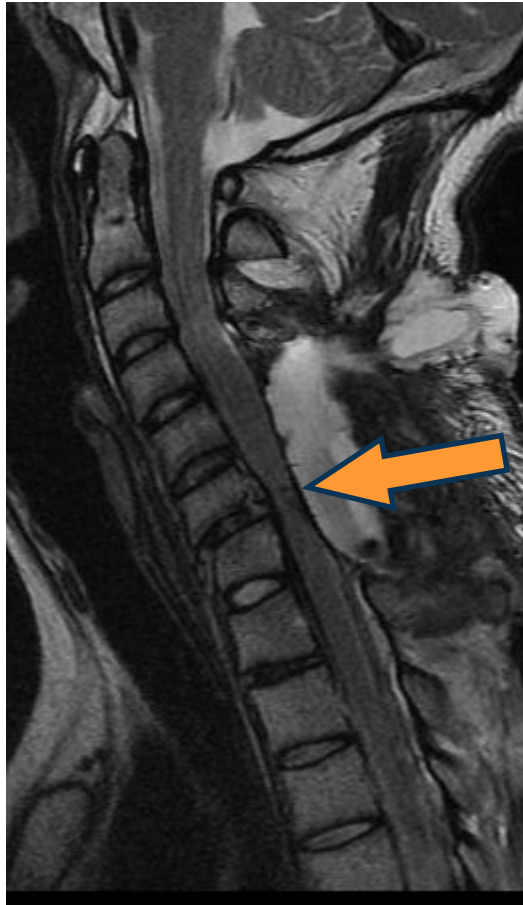
# SCiStar Clinical Trial – Cord Compression

## Subject 2303 (Cohort 4): Cord Compression at Day 30

Baseline



Day 30



Day 365

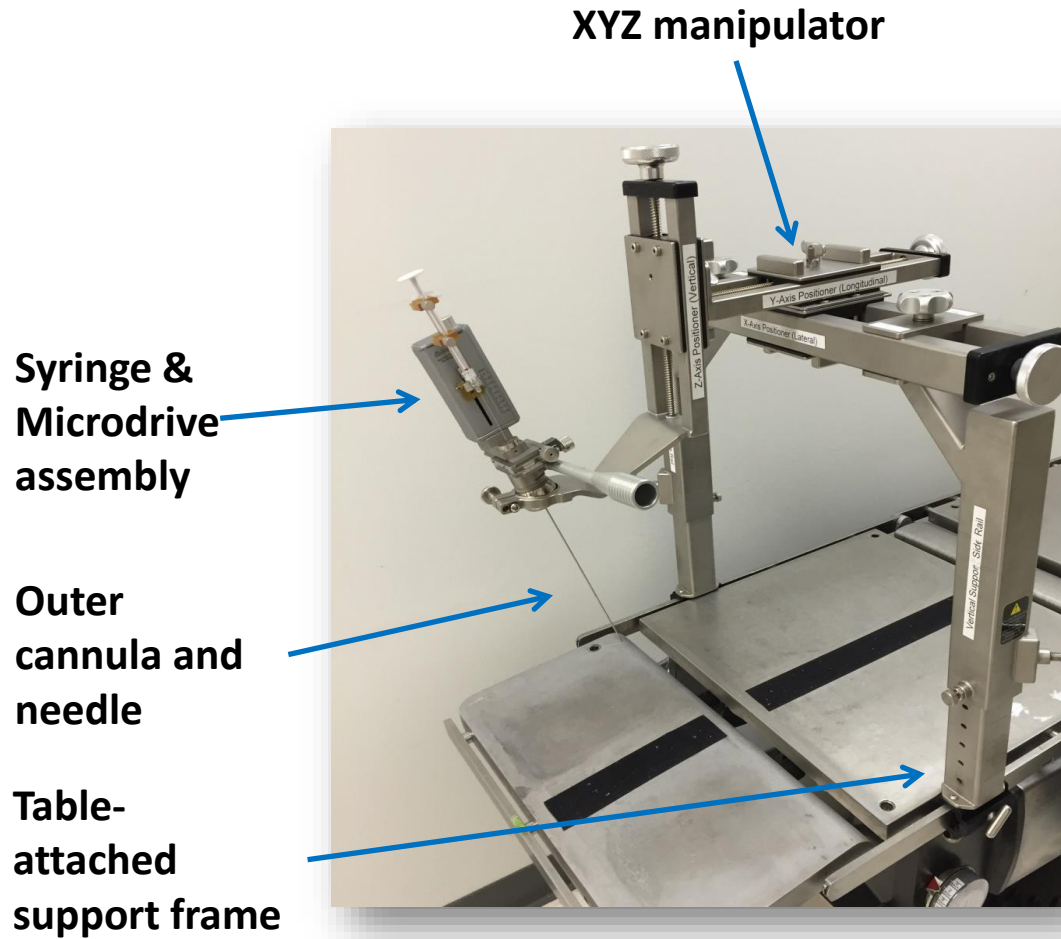


## SCiStar Clinical Trial – Takeaways

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- **Excellent overall safety profile**
- **96% durable engraftment confirmed via MRI**
- **MRI scans through 24 months show no evidence of adverse changes**
- **No subjects had a decline in motor function from Year 1 to Year 2**
- **95% of patients exhibited motor recovery in the upper extremities at 12 months (requires at least 1 motor level gain on at least 1 side)**
- **Significant motor improvements achieved in five of six Cohort 2 subjects**
- **The two worst performing subjects had spinal cord compression (can be addressed in next trial)**
- **Results support further testing in a randomized, controlled clinical trial**

# SCiStar Clinical Trial - Original Syringe Positioning Device



**Storage trays**

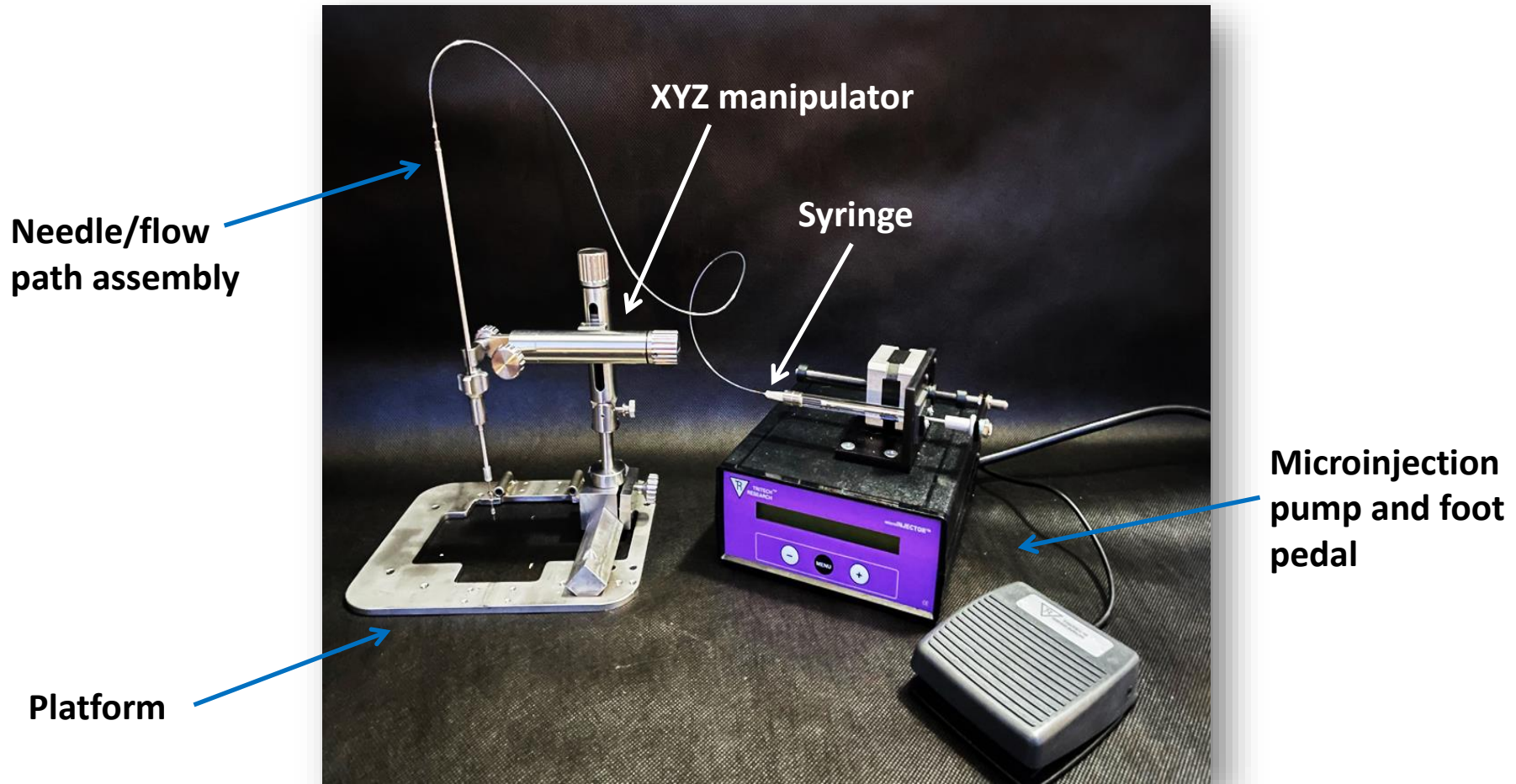


**Supply Kits**





# Overview of Novel Parenchymal Spinal Delivery (PSD) System





# Benefits of New Parenchymal Spinal Delivery (PSD) System

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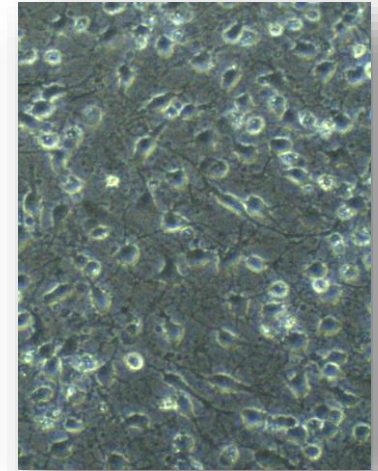
- **Device offers stability and control**
  - Eliminates motion between platform/XYZ manipulator/injection needle
  - Pump and syringe not in sterile field: programmed accurate dose rate
- **Device requires no cessation of ventilation**
  - Attaches directly to the patient, syncs with patient breathing motion
  - Magnetic needle provides stabilization from micromotion due to heartbeats
- **Device is easier to use in clinical setting**
  - Smaller and uses fewer components
  - Easily assembled prior to surgery
  - Single hand operation for XYZ positioning
  - Accurate needle depth insertion
  - Straightforward cleaning and sterilization
  - Compatible with OPC1 TAI formulation; eliminates prior-day dose prep
- **Device manufacturing and testing compatibility with OPC1 is ongoing**

# OPC1 Manufacturing (December 2020 Update)

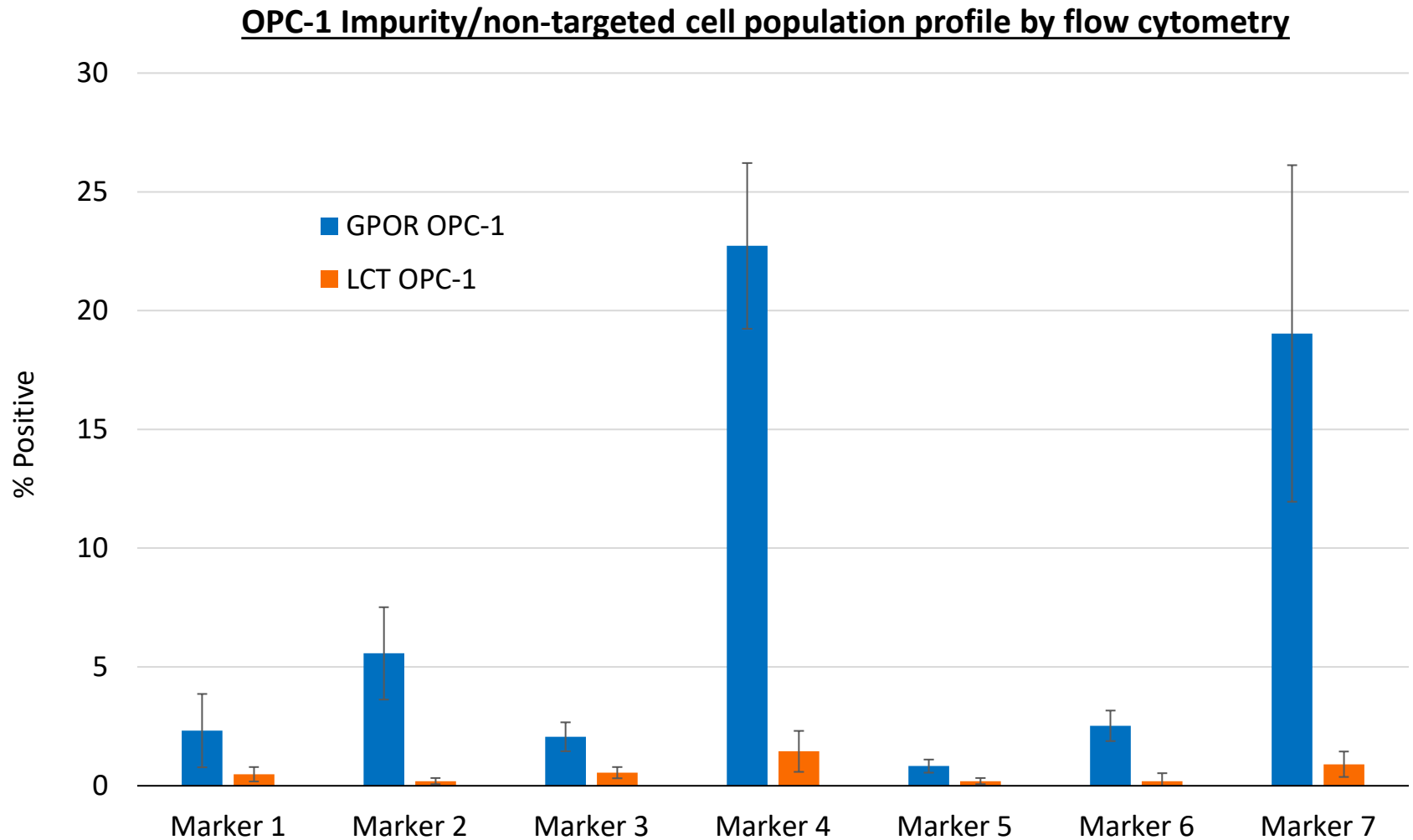
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## Lineage has made major improvements in production and quality of OPC1

- A new ready-to-inject formulation was developed
- Elimination of dose preparation achieved
- 10- to 20-fold increase in production scale
- Significant reduction in product impurities
- Improvements in functional activity
- 12 new analytical and functional methods developed
- Elimination of all animal-based production reagents
- Patent applications recently filed on the process and product which if allowed, will have expiration dates of 2039 and 2040



# OPC1 Manufacturing Improvements: Lower Impurities



# OPC1 Program Key Considerations

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- **OPC1 offers a compelling opportunity to deploy next-generation cell transplant technology against a high unmet need with low competition**
  - Clinical data supports moving to later-stage clinical development
  - Manufacturing issues: being addressed by Lineage in-house
  - Delivery issues: being addressed by Lineage through device alliance
- **Next steps include FDA discussions of; device, comparability of new process, and regulatory path for a comparative trial**
- **New opportunities for additional settings of demyelination**



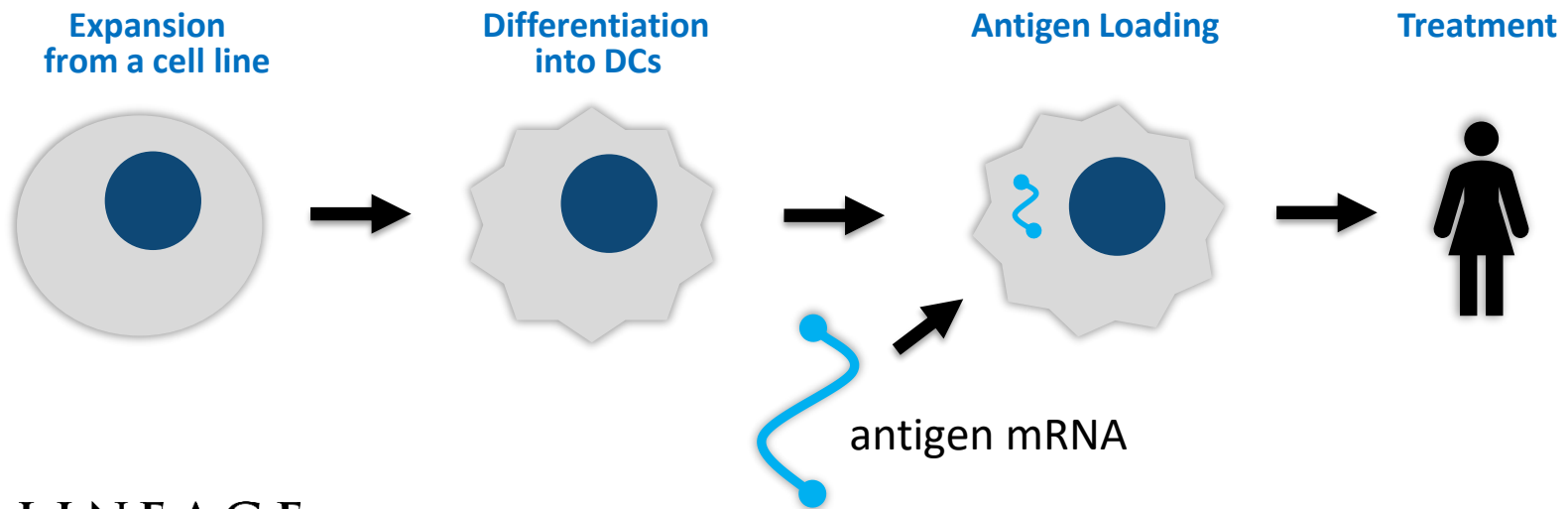
Immunotherapy is "poised to  
**revolutionize treatment** for all  
types of cancer"

*Source: [cancerresearch.org](http://cancerresearch.org)*

**VAC: A Cell Therapy Platform for Cancer and Infectious Diseases**

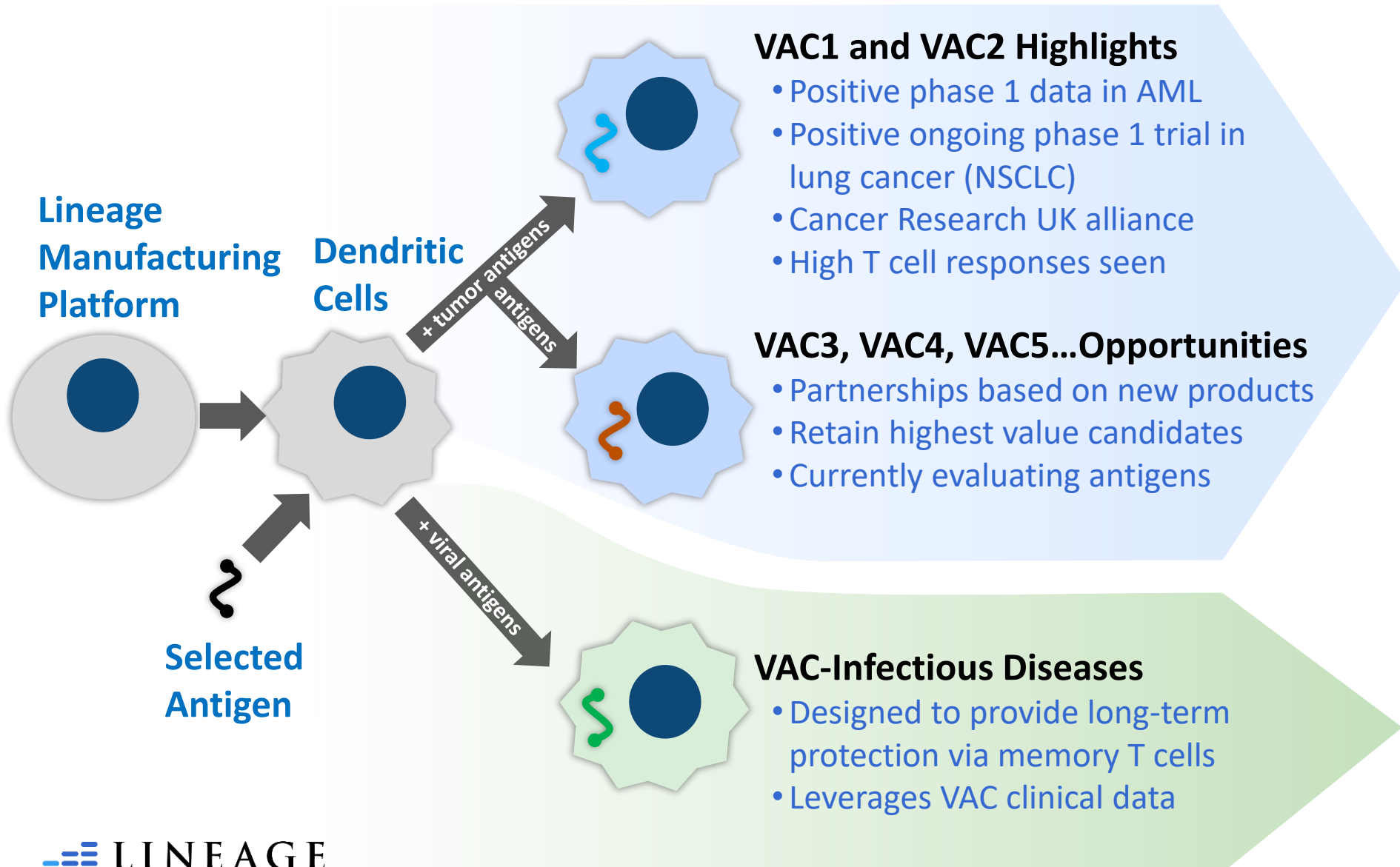
# The VAC Platform: On demand cell therapy for cancer

- The VAC platform consists of large-scale “off the shelf” production of mature immune cells called dendritic cells (DCs). No lead time or undue lead time between diagnosis and administration
- DCs are manufactured and loaded with either a **tumor antigen** (to treat cancer) or a **viral antigen** (as a vaccine for infectious diseases)
- Antigen presentation to the patient’s T cells creates a *targeted* and robust immune response (up to 3%), aiding tumor cell destruction or viral clearance





# VAC Development – A Platform for Multiple Product Candidates



# VAC Platform Next Steps

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## Upcoming Events and Key Considerations:

- **Complete dosing in ongoing clinical trial (1 patient remaining)**
- **Design new products (i.e. VAC3, 4, 5, 6...) with newly discovered antigens**
- **Introduce improvements to the manufacturing process**
- **Identify potential partnership and grant opportunities for more rapid expansion of the VAC platform**
  - First strategic alliance (with Immunomic Therapeutics) announced April 2021

# Our Goal is to Provide Life-Changing Cell Therapies to Patients

## Lineage Cell Therapeutics: Bringing the Promises of Cell Therapy into Clinical Reality



**3 clinical-stage programs with billion-dollar potential and partnership opportunities**



**World class in-house process development and GMP manufacturing**



**One of the largest patent portfolios in cell therapy**



**Funded well into 2023 with cost-efficient business model**



**Leader in the emerging field of regenerative medicine**

# The Patients Are Our Inspiration.

View their stories at [lineagecell.com/media/#patients](https://lineagecell.com/media/#patients)

## OPC1 SCiStar Study Participants

**CIRM**  
CALIFORNIA'S STEM CELL AGENCY



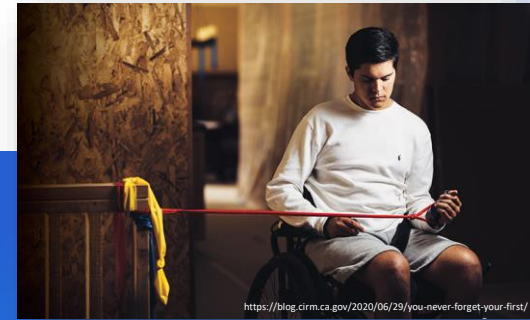
**Lucas Lindner**

"There's no reason to not look forward in the same way now that I had before all of this happened. I'm looking forward to driving again... it's a bright future."



**Kris Boesen**

"I couldn't drink, couldn't feed myself, couldn't text or pretty much do anything, I was basically just existing. I wasn't living my life, I was existing."



**Jake Javier**

"Even though it's a completely different perspective, I can still lead that way. I can just try to be the best I can and to persevere the best I can."

*Diablo Magazine, Feb. 16, 2017*

## The Millions Worldwide Suffering from Dry AMD Vision Loss

"Macular degeneration is a very frustrating condition which can greatly affect your day-to-day life."

- Macular Society



*Courtesy of CIRM, American Macular Degeneration Foundation, and Macular Society*