

NervGen



**Restoring Life's Potential**

**October 28, 2019**

# Statements

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**Forward-looking statements:** Certain statements in this document about the Company's current and future plans, expectations and intentions, results, levels of activity, performance, goals or achievements, or any other future events or developments constitute forward-looking statements, including, without limitation, statements regarding advancement of NVG-291 toward clinical development, the timing of human trials and regulatory approval, the potential efficacy of the Company's products and technology, and the potential to identify, evaluate and develop other drug candidates. The words "may", "will", "would", "should", "could", "expect", "plan", "intend", "trend", "indication", "anticipate", "believe", "estimate", "predict", "likely" or "potential", or the negative or other variations of these words or other comparable words or phrases, are intended to identify forward-looking statements. Forward-looking statements are based on estimates and assumptions made by the Company in light of management's experience and perception of historical trends, current conditions and expected future developments, as well as other factors that the Company believes are appropriate and reasonable in the circumstances. Many factors could cause the Company's actual results, level of activity, performance or achievements or future events or developments to differ materially from those expressed or implied by the forward-looking statements, including those described in the "Risk Factors" section of the Company's Prospectus, financial statements and Management Discussion and Analysis which can be found on SEDAR.com. All clinical development plans are subject to additional funding. Readers should not place undue reliance on forward-looking statements made in this document. Furthermore, unless otherwise stated, the forward-looking statements contained in this document are made as of the date of this document, and the Company has no intention and undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.



# NervGen Pharma: Restoring Life's Potential

**Focused on innovative solutions for the treatment of nerve damage caused by trauma and disease**

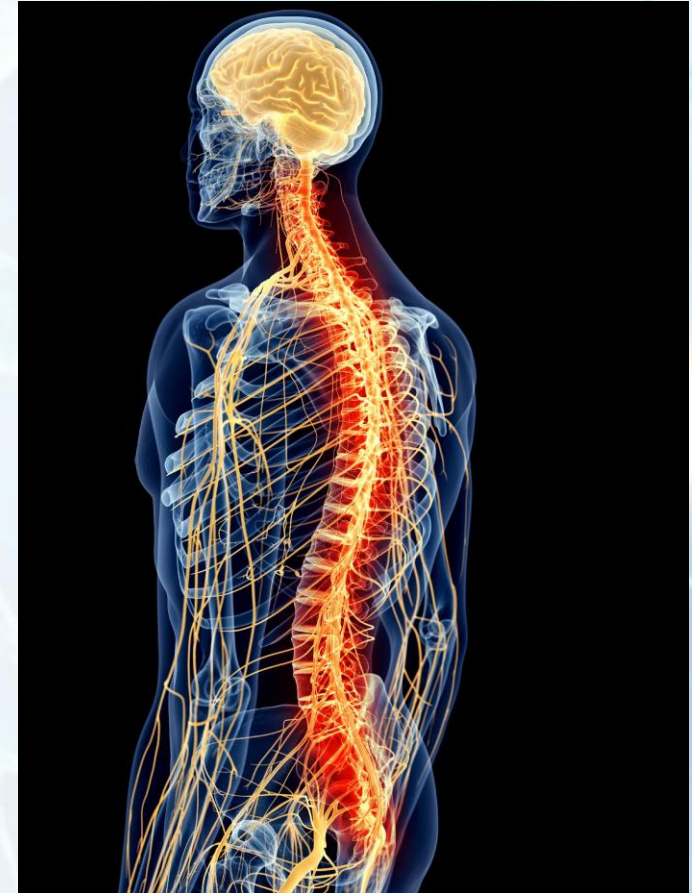
The central and peripheral nervous systems are responsible for key functions throughout the body

- Movement
- Thought
- Sensory
- Heartbeat
- Respiration



# Treating Nerve Damage is an Urgent Medical Need

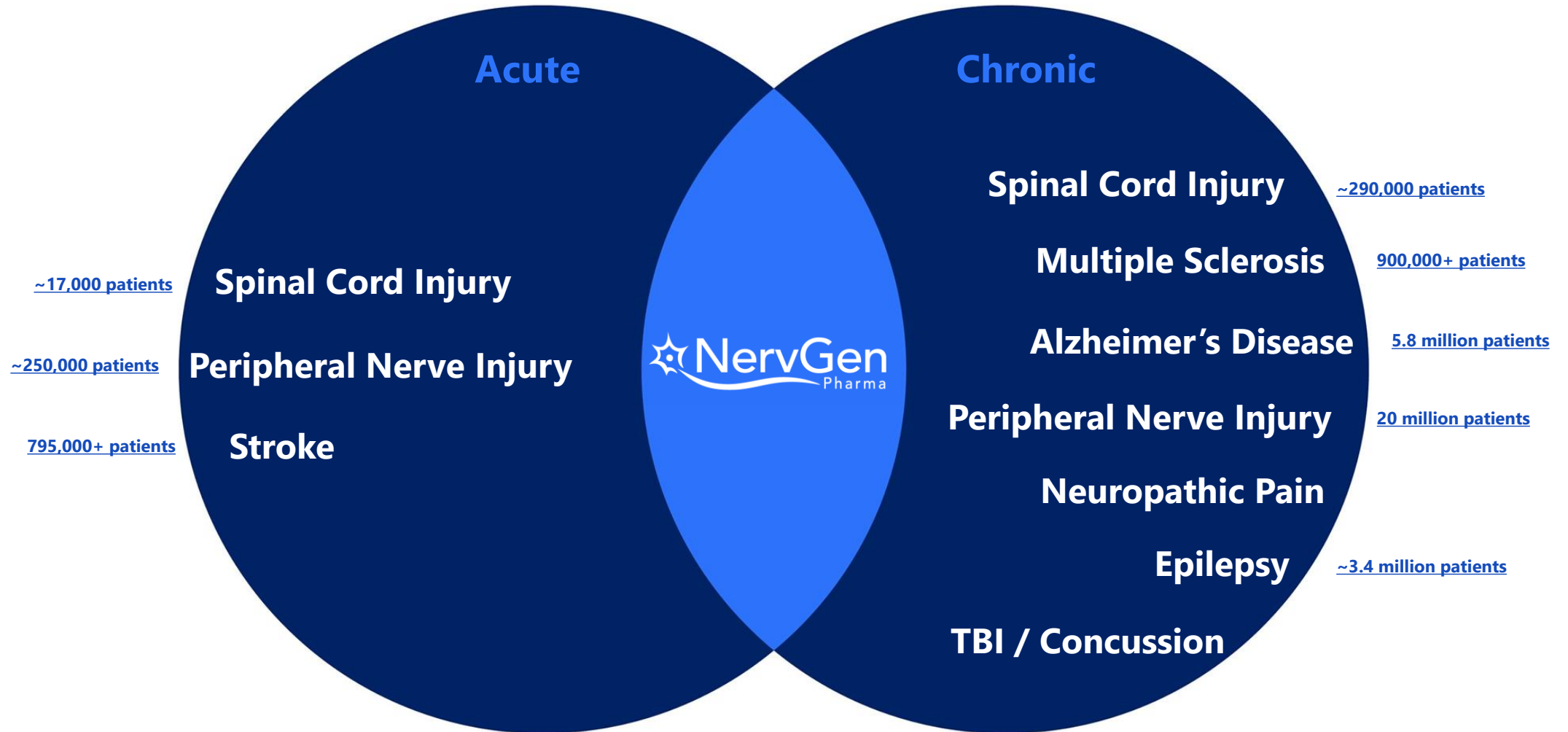
- **No drugs approved for remyelination or nerve regeneration**
- **Surgical intervention has limited uses and inconsistent outcomes**
- **Significant medical costs and quality of life impacts**
  - Numbness / loss of sensation
  - Chronic & debilitating pain
  - Partial loss of movement
  - Incontinence
  - Paralysis



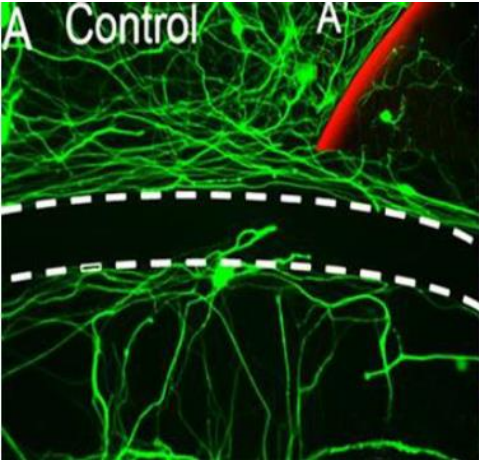
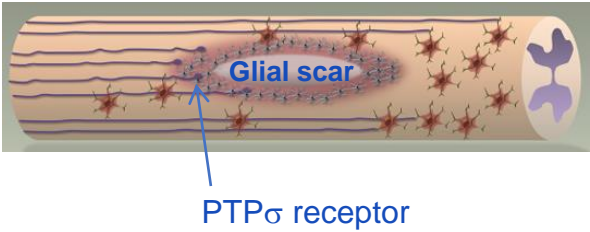
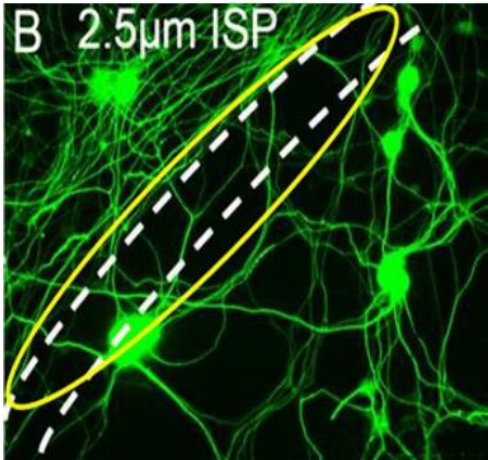
**Patients with nerve damage have limited treatment options**



# Multiple Indications with Unmet Needs – U.S. Cases



# Leveraging Core Discoveries by a Neuroscience Key Opinion Leader

The Glial Scar Lock <sup>1,2</sup>	How the Lock Works <sup>3</sup>	The Key to the Lock <sup>4</sup>
<ul style="list-style-type: none"> <li>Glial scars form at the site of injury</li> <li>Scars contain CSPG* that traps regenerating nerves</li> <li>Primary impediment to nerve regeneration</li> </ul> <p>*chondroitin sulfate proteoglycan</p>  <p>A Control</p>	<ul style="list-style-type: none"> <li>A receptor on the neuron, protein tyrosine phosphatase sigma ("PTP<math>\sigma</math>"), binds to CSPG</li> <li>Binding prevents the nerve from moving through the scar and regenerating</li> </ul>  <p>Injured Spinal Cord</p> <p>Glial scar</p> <p>PTP<math>\sigma</math> receptor</p>	<ul style="list-style-type: none"> <li>Identified peptides (ISP) that targets PTP<math>\sigma</math> receptor</li> <li>Relieves inhibition to nerve growth</li> <li>Promotes nervous system recovery and functional improvement</li> </ul>  <p>B 2.5μm ISP</p>

**30+ years of spinal cord injury and regeneration research by Dr. Jerry Silver and his lab at Case Western Reserve University**

# 2015 Compelling Preclinical Data in Spinal Cord Injury

Rodents with severe spinal cord contusion to model severe human injury

*Systemic,  
subcutaneous  
administration*

## BBB Scale

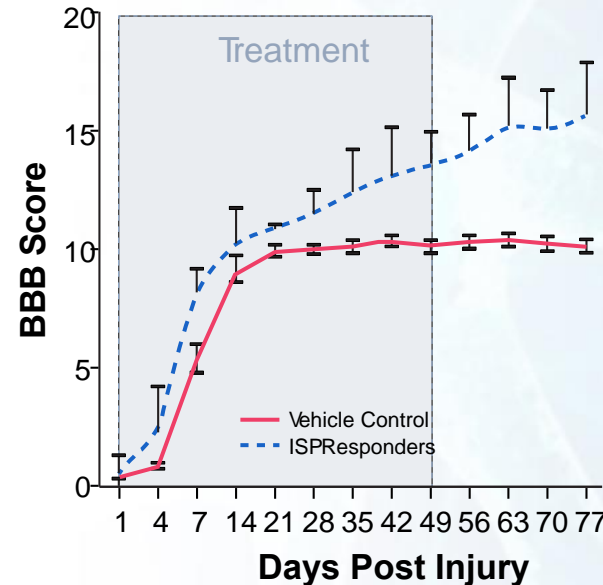
≤8 = limited movement

10 = occasional walking

12 = occasional coordination

13 = frequent coordination

>14 = fine motor movements



*Improvement  
continues after  
cessation of  
therapy*

## Measurement of Locomotion

(7 weeks of daily treatment)

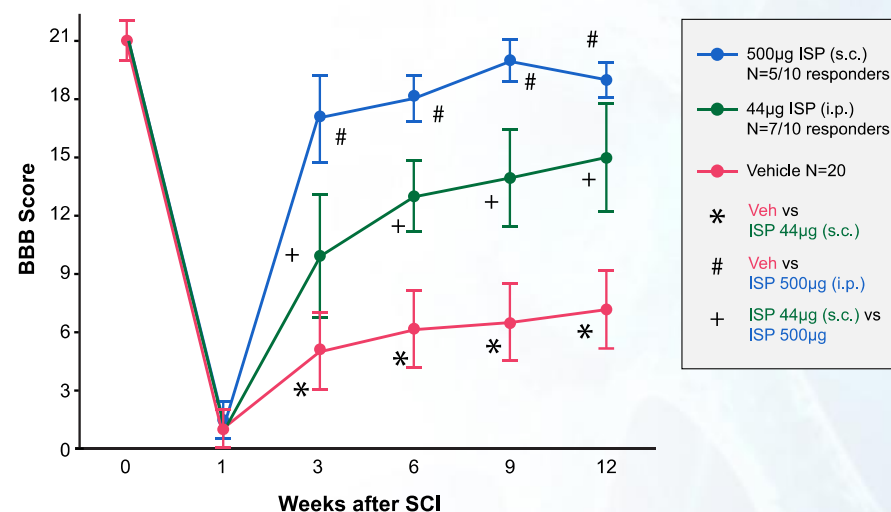
33% response rate at 44 µg daily

Successfully tested preclinically



# 2018 Independent Validation of Spinal Cord Injury

## Motor function in rats (BBB score) following daily treatment with ISP



**Improvement continues after cessation of therapy at week 7**  
**50 – 70% response rate at 500 µg daily**

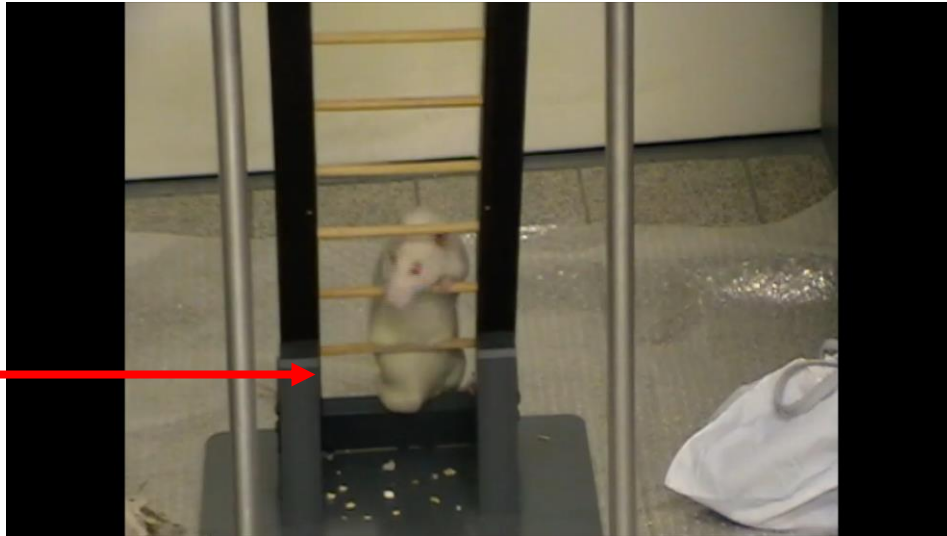
**Independent demonstration of meaningful dose-dependent improvement in motor function in a severe injury model**



# Dramatic Improvement Observed

Rodents with **severe** spinal cord contusion to model **severe** human injury

Representative of control group



Representative of ISP administered group

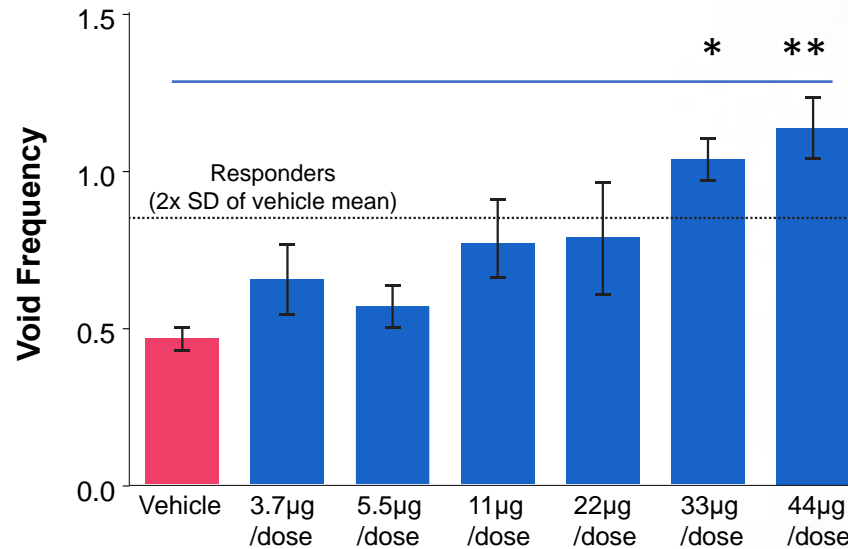


*The **paralysis** is to the **hind legs only** – focus on the **hind legs***

Rodents had remarkable motor recovery: consistent coordination, toe clearance, tail held high consistently

# Quality of Life Improvements – Bladder Function

## Bladder Dose Response



**Dose-dependent bladder function improvement in 100% of animals at the two highest dose groups**

**Bladder function is a key quality of life measure in the paralyzed population**

**Eliminating catheterization reduces**

- urinary tract infections
- hospitalizations
- morbidity
- healthcare costs

**Bladder, bowel, and sex functions occur in the same nerve region**



# Core Preclinical Findings in MS

## MS

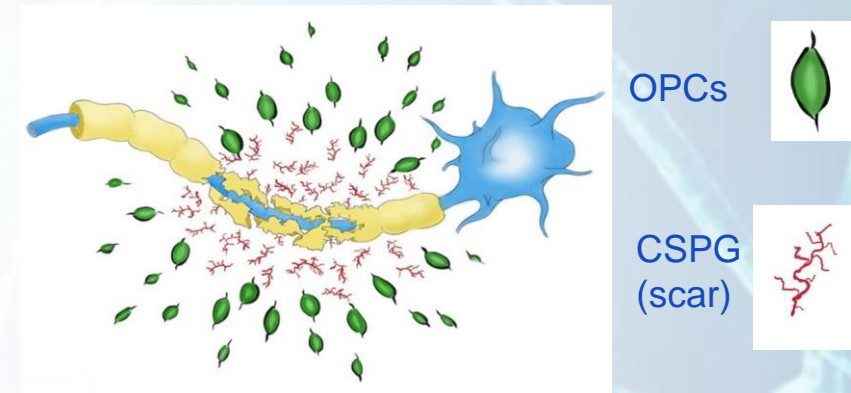
Inflammation causes scarring and protective cells cannot grow through the scar to remyelinate the nerve

### Common MS symptoms

- Numbness, tingling
- Pain
- Fatigue, weakness
- Reduced mobility
- Muscle spasms
- Cognitive dysfunction

## ISP in MS

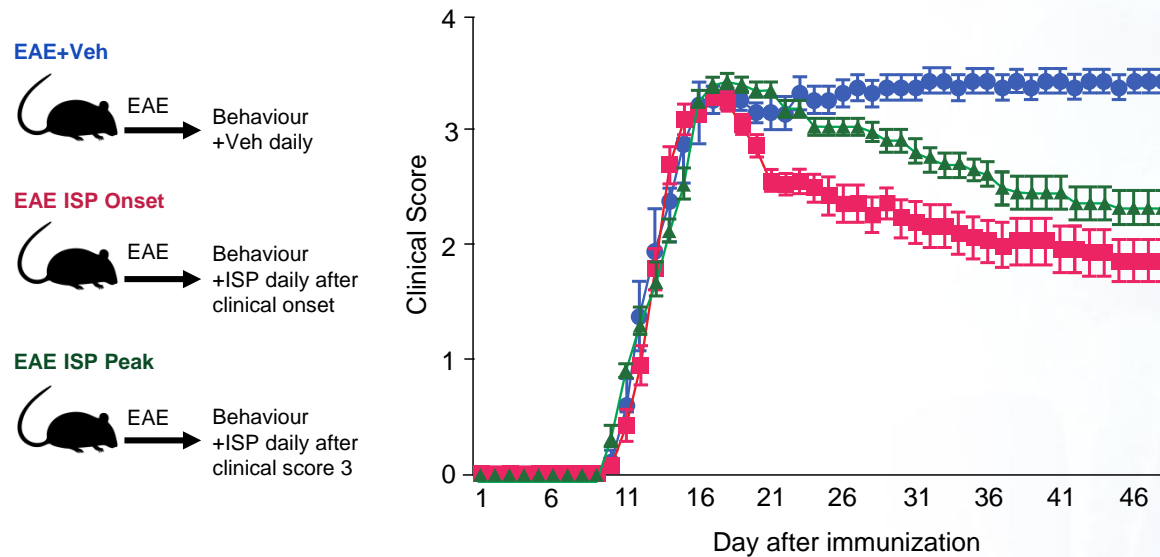
- Stimulates production of precursor protective cells (oligodendrocyte progenitors (“OPC”))
- Allows remyelination and regeneration of damaged nerves
- Increases specific proteases that break down the scar (CSPG)



**ISP promotes remyelination and enhances functional recovery in an MS rodent model**

# Core Preclinical Findings in MS

## Delayed ISP treatment or treatment at symptom onset promotes functional recovery



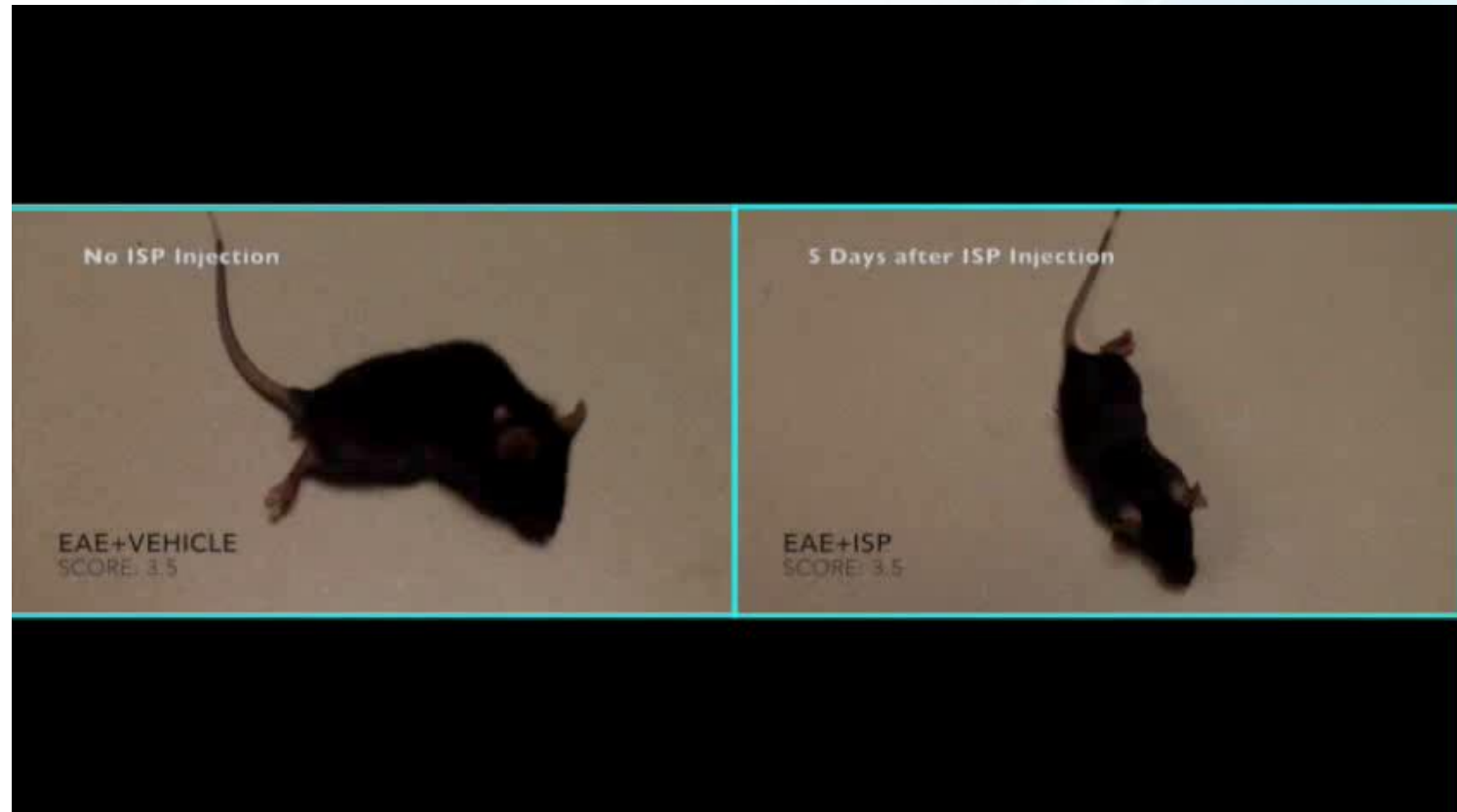
## ISP promotes remyelination



Remyelination also shown in spinal cord injury models

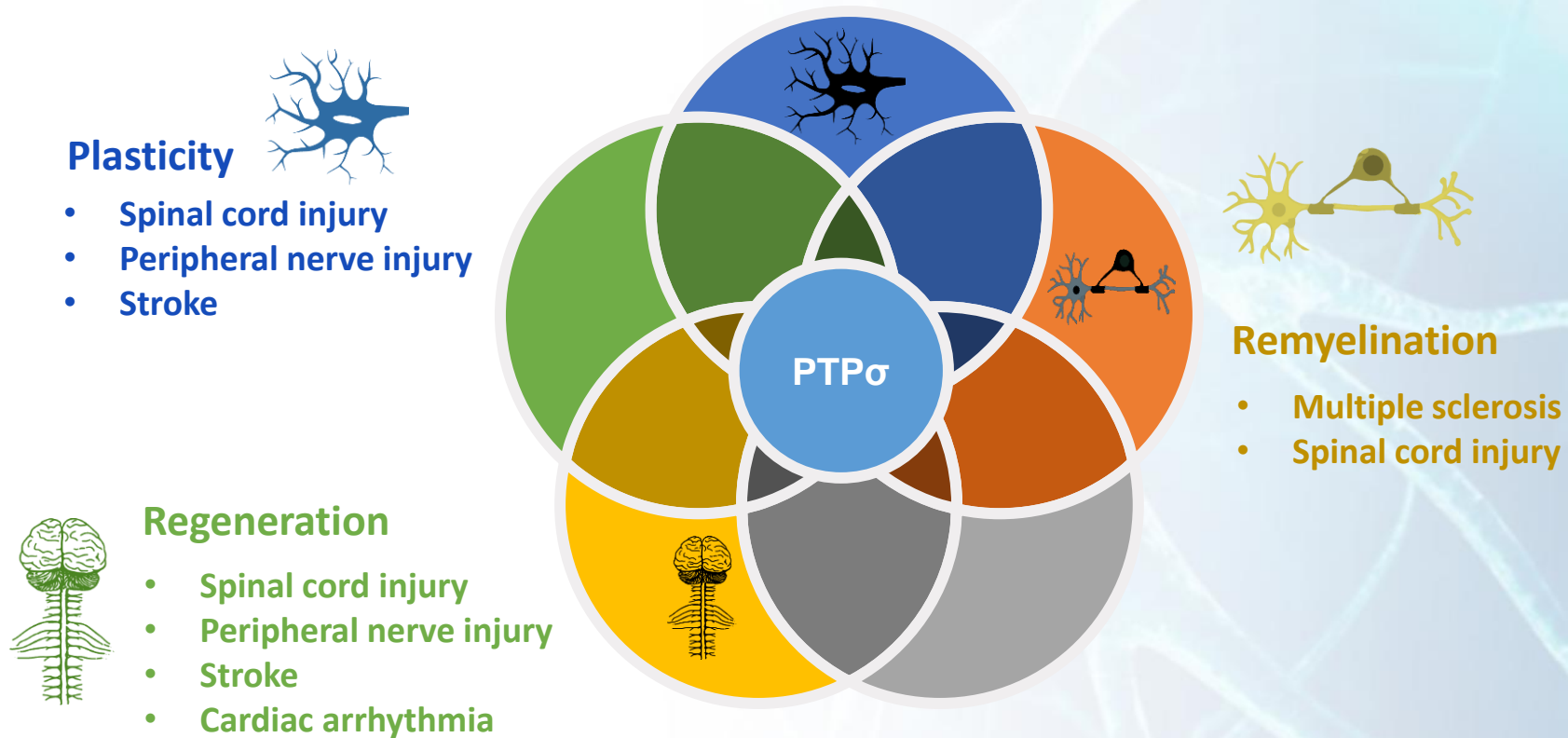


# MS Mouse Model Video



**ISP promotes remyelination and enhances functional recovery**

# Multiple Mechanisms of Action





# Peer-reviewed Platform Technology

## Plasticity

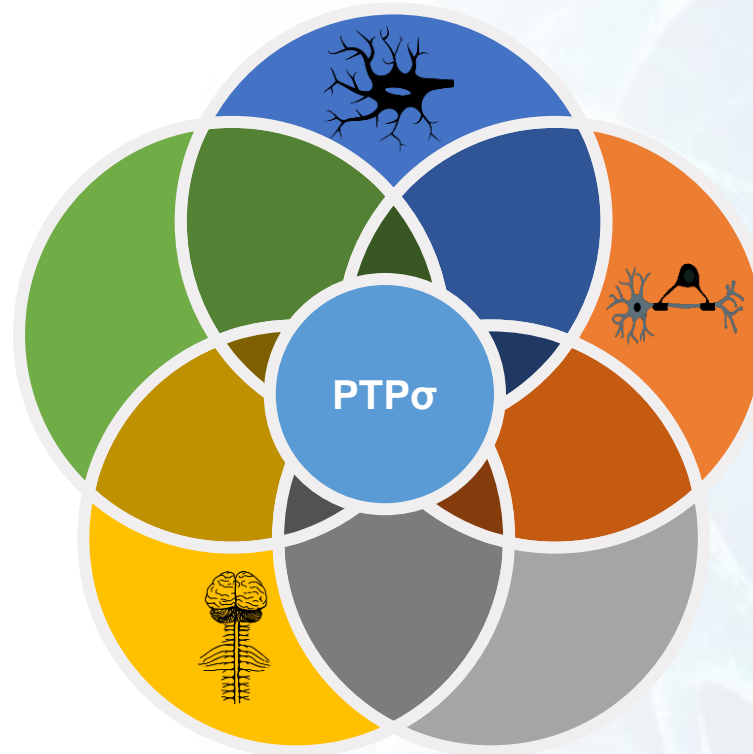


1. Lang et al, 2015
2. Rink et al, 2018
3. Tran et al, 2018
4. Ham et al, 2019
5. Sakamoto, 2019

## Regeneration



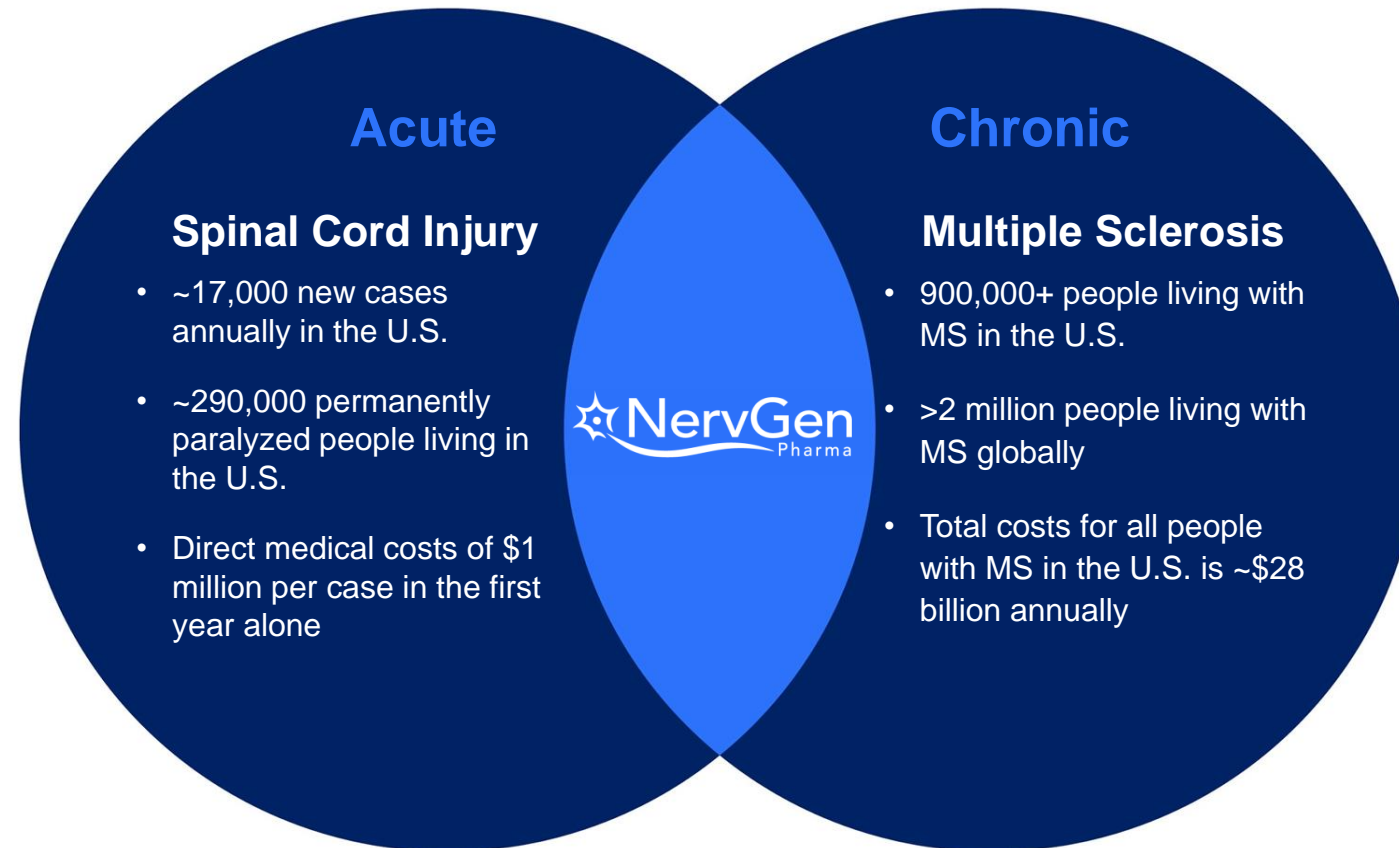
1. Li et al, 2015
2. Yao et al, 2018



## Remyelination

1. Dyck et al, 2018 (a)
2. Luo, et al, 2018
3. Niknam et al, 2019

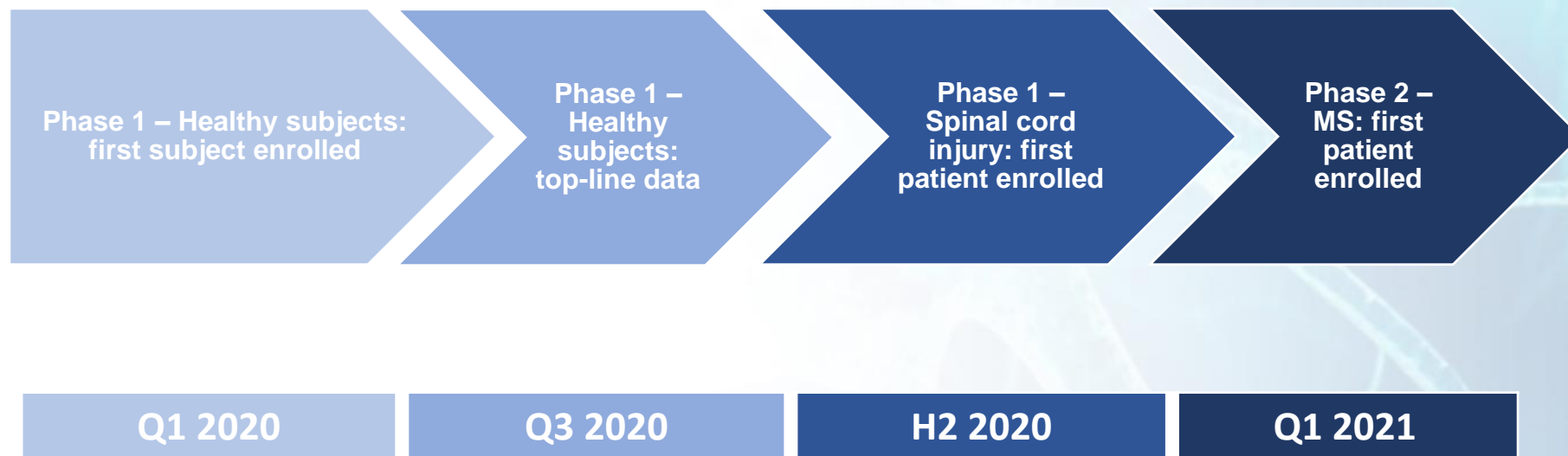
# NervGen's Indication Focus



Millions of patients representing billions of dollars in healthcare expenditures



# NVG-291 Development Plan



Multiple near-term clinical milestones

# Already Manufacturing at Clinical Scale

- Manufacturing using well established, scalable peptide chemical synthetic techniques
- Multiple batches of NVG-291 successfully manufactured at contract facility
- Multiple cGMP contract manufacturers available to perform synthesis



**Able to quickly and cost-effectively manufacture NVG-291 to support advancing clinical program**



# Strong and Growing IP Portfolio – Multiple Patents Issued

## Filing additional composition of matter and method of use in patents

### Composition of Matter

- Claims cover
  - inhibitors of PTP $\sigma$ , including ISP, NVG-291 and other analogs
  - exclusive world-wide rights to use the technology to research, develop, make, have made, use, dispose, offer to dispose and import licensed products for all indications

### Method of Use

- Claims cover
  - inhibiting PTP $\sigma$  activity, signaling and function
  - treating neural injury, including peripheral nerve and spinal cord injury
  - treating heart disease and injury
  - treating root avulsion

Long remaining patent life with current estate providing protection in 2038

# Experienced Management Team

**Ernest Wong**, PhD, MBA  
President & CEO

- 20+ years of industry experience, 15+ in corporate and BD roles at both private and publicly listed companies
- Global project leader for two Phase III drugs
- Led campaign that resulted in sale of YM BioSciences to Gilead for US\$510M

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**Rob Pilz**, CPA, BComm  
CFO

- 20+ years in strategic and operational planning, corporate finance, M&As, partnering, accounting, audit, HR and project management
- CFO positions in three Deloitte Technology Fast 50™ companies

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**Amy Franke**, BS, MBE  
VP, Clinical Operation

- Managed over 25 clinical trials including two Phase 3 trials
- Experience working at and managing multiple large clinical contract research organizations

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**Denis Bosc**, PhD  
VP, Chemistry, Manufacturing and Control

- 15+ years of manufacturing experience with small molecule to antibody-based drugs
- Strong knowledge of Good Manufacturing Practice and extensive experience working with contract development manufacturing organizations



# Accomplished Board

**Bill Radvak**, BASc  
Co-Founder & Executive Chairman

- 30+ years as Founder, CEO and Director of startup companies
- Founder & CEO of Response Biomedical, a publicly listed medical device company; grew Response Biomedical from inception to a 100+ employee sales and manufacturing company

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**Ernest Wong**, PhD, MBA  
President & CEO

- 20+ years of industry experience, 15+ in corporate and BD roles at both private and publicly listed companies
- Global project leader for two Phase III drugs
- Led campaign that resulted in sale of YM BioSciences to Gilead for US\$510M

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**Mike Abrams**, PhD  
Director

- Successfully transformed scientific discoveries into commercially successful products
- Founder, President & CEO of AnorMED for 10 years prior to its acquisition by Genzyme for \$580M

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**Brian Bayley**, MBA  
Director

- 30+ years of public issuer experience and has transaction experience of over \$2B
- Currently, the Executive Chairman of Earlston Investments, a private merchant bank

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**Harold Punnett**, DMD  
Co-Founder & Director

- Angel investor with a passion for developing solutions for spinal cord injuries and nerve damage
- Plays active role in early finance and partnering relationships for early-stage companies

# Scientific and Strategic Business Advisors

**Jerry Silver**, PhD  
Co-Inventor and Scientific Advisor

- Professor of Neurosciences at Case Western Reserve University's School of Medicine
- Credited with more than 180 papers and numerous awards
- Continues to conduct studies with other institutions and partners to advance ISP

**Brad Lang**, PhD  
Co-Investor and Scientific Advisor

- Worked with Dr. Silver to develop and characterize ISP
- Serves as Executive-in-Residence at Bio-Enterprise in Cleveland, OH supporting biotech companies

**Brian Kwon**, MD, PhD, FRCSC  
Scientific Advisor

- Canada Research Chair in spinal cord injury and ICORD Associate Director of Clinical Research
- Spine Surgeon, Vancouver Spine Program, Vancouver General Hospital
- Professor, Department of Orthopedics, Faculty of Medicine, University of British Columbia

**Marta Hamilton**, PhD  
Scientific Advisor

- Veteran in drug development with expertise in pharmacokinetics, biomarkers, preclinical and clinical study design with experience with multiple IND and new drug applications
- Leadership and technical positions at Eli Lilly, Amgen, NeXstar, and Gilead and most recently VP, Preclinical Development and Clinical Pharmacology at OSI

**Brian McAlister**, BS  
Co-Founder and Business Advisor

- Prolific startup specialist with 30 years of expertise
- Assisted 25+ early-stage biotechnology, enterprise software, and natural resource companies, including Novadigm, ManagelQ, and CohBar

**Paul Brennan**, BSc, MSc  
Business and Strategy Advisor

- Over 30 years of biotechnology and pharmaceutical business development and product planning experience
- Comprehensive list of transactions from M&A to licensing to corporate restructuring



# Share Capital

Exchange/Market: Ticker	TSX-V: NGEN	OTCQX: NGENF
Recent Share Price (October 25, 2019)	CA\$1.37	US\$1.04
Shares Outstanding	27.9 million (11.1 million remain in escrow)	
Fully Diluted	30.5 million 2.6 million options including 700,000 held by IPO agents	
Market Capitalization (October 25, 2019)	CA\$38.9 million	US\$28.9 million
52-week Range	CA\$1.22 – CA\$2.10	US\$0.649 – US\$1.525
Insider Ownership	22%	
Cash & Cash Equivalents (June 30, 2019)	CA\$8.2 million	US\$6.2 million

# Investment Highlights

- Addressing a significant unmet medical need for treatment of nerve damage due to trauma/disease
- Compelling technology platform with data published in multiple peer-reviewed journals
- Advancing spinal cord injury and multiple sclerosis indications towards the clinic
- Rapidly advancing towards clinical programs with near-term milestones
- Strong and growing IP portfolio with significant remaining patent life
- Life science-savvy board and management team & scientific advisors, including co-inventors



NervGen



[www.nervgen.com](http://www.nervgen.com)

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 NervGen Pharma Corp.