ADVANCING | ACCELERATING | ACHIEVING

The CatWalk Cure Programme

Update March 2025

"We're taking developmental and translational steps towards human-ready technology to regenerate damaged spinal cords and restore lost function.

To achieve this, we need to ***develop*** *novel interventions,* ***evaluate*** *their efficacy and safety, and* ***understand*** *the mechanisms by which they act",* Prof. Darren Svirskis, Director CatWalk Cure Programme

From the Chair

Welcome to the first of our six-monthly Cure Programme updates.

Your generosity means that we have been able to push 'GO' and work has begun towards our ambitious goal. In May, the Board signed an official partnership with the University of Auckland for the next five years and we are already seeing results. I hope that this report goes some way toward including you in the journey.

I have been humbled by those who have joined us on this exciting mission. During the last 12 months we have had the privilege of presenting our plans to people and organisations right across the spectrum. And, without exception, they have been awed by what is happening right here, right now in New Zealand.

So, our journey has begun, but we still need more help. We need more people to join us with their generous support. We felt this was too important to delay until we had all the funds. We're confident we will find what we need, but if you know anyone who can appreciate the scale of the Cure Programme and who would like to know more, please let me know.

Once again, thank you for being a funding pioneer. Your generosity will see a cure for spinal cord injury arrive sooner. We simply can't wait.

Grant Sharman
Campaign Chair

Cure Programme Team

The Spine Squad, the heart of the Cure Programme, are a high-level team of multi-disciplinary researchers. Drawn from the outcomes of previous contestable grant rounds, the Spine Squad includes:

Permanent Academic Staff

- Professor Darren Svirskis, Director
- Professor Bronwen Connor, Expertise in direct reprogramming fibroblasts to neurons and oligodendrocytes
- Dr Sachin Thakur, Leading the ultrasound treatment modality

Programme Manager

- Catherine Kerins

Senior Research Fellows

- Dr Bruce Harland, animal work lead
- Dr Brad Raos, electrophysiological profiling lead

Research Fellows

- Dr Amy Chapman, cell-replacement treatments lead
- Dr Mahima Bansal, pharmaceutical treatments lead
- Dr Sal Lopez, surgeries and surgical techniques lead

Senior Research Technicians

- Dr Manju Ganesh, histology and contributing across the programme
- Dr Delshad Kalantary, animal work and contributing across the programme

Research Technicians

- Amelie Back, cell reprogramming, ex vivo slice models and contributing across the programme

PhD students

- Jonathan Bonet
- Anila Deepak

Collaborators:

- Prof. Maria Asplund, Chalmers University of Technology, Sweden
- Dr Danial McCormick and PhD student Curtis Hayden, Auckland Bioengineering Institute

Achievements to Feb 2025

- Renewed ethics approval for next three years.
- Ready to begin evaluating the efficacy of four treatment interventions: (progressing in parallel)
    - Electric field treatments
    - Pharmaceutical treatments
    - Ultrasound treatments (in collaboration with Callaghan Innovation)
    - Cell replacement therapies

- New activity: in addition to what was planned
    - Added sensory bladder assessments
    - Exploring bone structure and density changes
    - Examination of neural circuitry
    - Began testing combined treatments:
        - Electric field with physical rehabilitation
        - Electric field and drug delivery combinations
        - Ultrasound and drug delivery
    - Identified combined treatments to be tested in 2026:
        - scar-busting drug delivery with cell-based therapy
        - growth factor agents with electric field therapy

Cure Programme Steering Group

Established in November 2024, this independent panel adds specific expertise in academic research, planning research to deliver outcomes, and the translation of research to clinical trials. They will oversee the Cure Programme, mentor and guide the Spine Squad, and monitor outcomes to ensure delivery.

Members:

Prof. Jeff Harrison

Professor, University of Auckland. Jeff has a BSc (Hons) in Pharmacy, PhD in Orthopaedic Surgery, from University of Bristol, and completed further studies in Evidence-based Medicine at McMaster University, Canada. He is a Board-Certified Pharmacotherapy Specialist in the USA.

Mr Andrew Hill

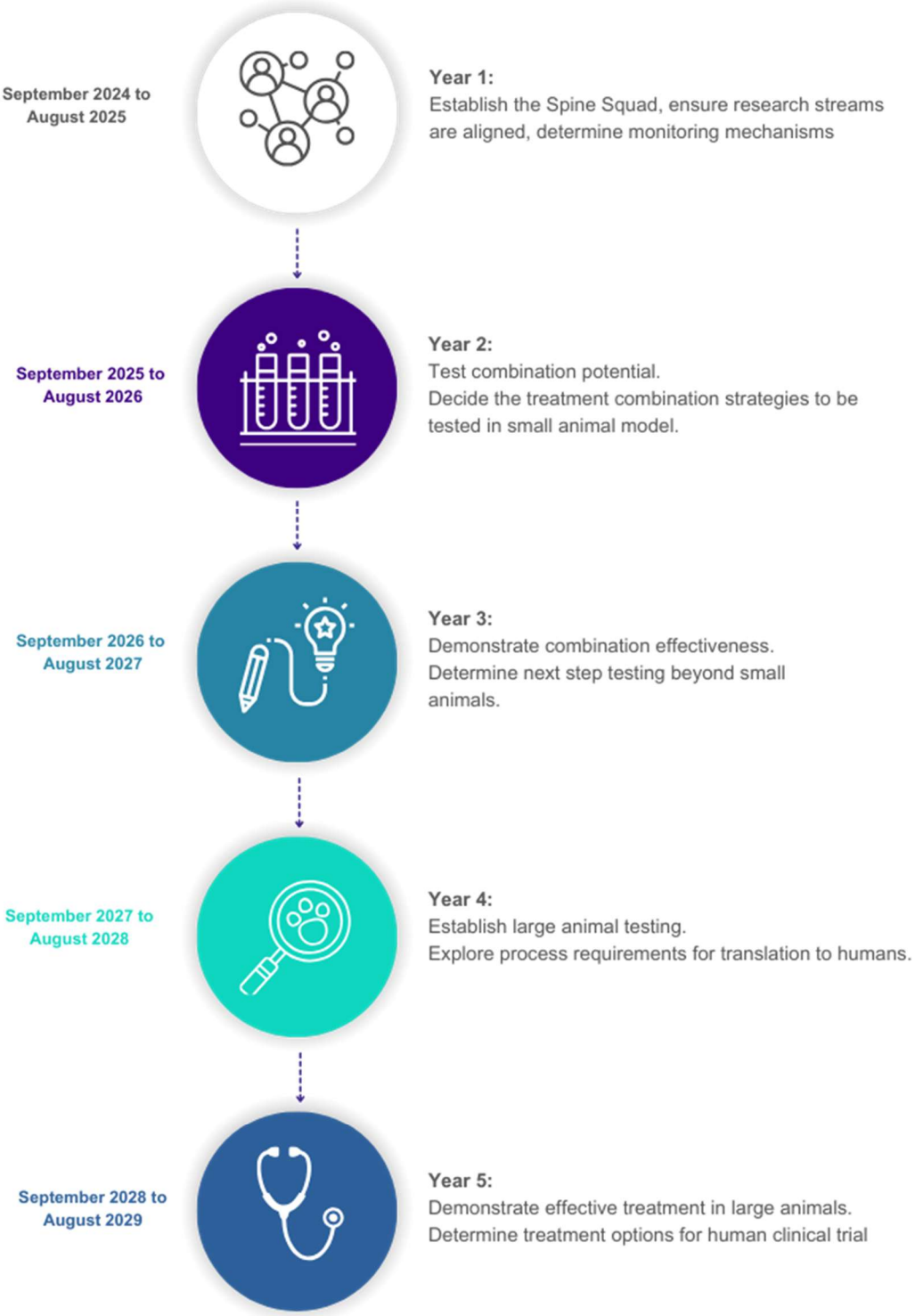
Proctologist and General Surgeon. Professor Hill is the author of over 300 scientific publications focusing on colorectal surgery and medical education

Prof. John Fraser

Professor, University of Auckland and former Dean of the Faculty of Medical Sciences. John is a graduate of Victoria University of Wellington (BSc Hons ’80) and University of Auckland (PhD ’83). He conducted fundamental immunological research at Harvard through the 1980s before returning to Aotearoa/New Zealand as the inaugural Wellcome Trust Senior Research Fellow in Medical Science.

This group is assisted by Prof. Martyn Goulding, Salk Institute, CatWalk Trustee, and Convenor of the CatWalk Scientific Advisory Group.

Five Year Research Timeline Overview



CatWalk Operational Update

The Cure Programme specifically aims to remove the barriers to advancing research to cure spinal cord injury. But it doesn't exist in isolation. CatWalk continues to provide funding to other activities to meet ancillary goals and objectives and to prepare for future trials and translation.

2025 Contestable Funding Round announced:

CatWalk continues to grow funding available via contestable grant rounds, to encourage novel research, foster collaboration, build skills and knowledge, and maintain an open perspective.

The 2025 CatWalk Fellowship recipient was announced in February. The successful researcher, Jarred Griffin, is internationally lauded. He returns to New Zealand after six years of postdoctoral research in Germany. While his research is different from the Spine Squad's, it is complementary. He also brings valuable skills back into the wider research team here in New Zealand.

Talk the Walk, the 2025 Spinal Cord Injury Symposium:

Hosted by the Spine Squad, in conjunction with the University of Auckland, this annual symposium took place on February 13th. Designed to encourage communication and collaboration across the sector, the symposium saw spinal cord researchers and students travel from around the world.

Unique to Talk the Walk, the symposium is attended by researchers, clinicians, students, support agencies, carers, rehabilitation and physiotherapy providers, and those affected. This provides for a unique forum generating insights and understanding.

2025 New Zealand International Brain Bee Challenge:

As part of our commitment to support and nurture young scientists, CatWalk has renewed our sponsorship of the New Zealand International Brain Bee. This international competition introduces Year 11 students to neuroscience, to inspire and motivate the next generation of researchers.

2024/25 Get A Grip New Zealand:

Translation of research into accessible treatments is a cornerstone of CatWalk's long-term strategy. The Get a Grip study aims to determine the efficacy of low frequency neurostimulation combined with targeted exercises to improve grip strength and respiration. If successful, it will clinically demonstrate the efficacy of a low-cost, widely accessible treatment.

To accelerate the outcomes of this Australian trial, CatWalk brought it to New Zealand, establishing a private partnership to set the site up in record time. The fourth New Zealand participant began treatment in March.

Organisational Development:

As The Cure Programme strives to be ready for clinical trials at the end of 2029, CatWalk is looking to the organisational requirements that will be necessary to facilitate this next step. The structure needed to support clinical trials and treatment roll-out demands growth and development within CatWalk. This work is now underway with clear strategic goals and milestones.

You can read more on our website catwalk.org.nz or subscribe for operational communications.