



National Stem Cell
Foundation of Australia

Dedicated to promoting stem cell science, research and education for the
prevention and control of disease and illness

Promoting stem cell science

Stem cell research first hit the headlines in 1998. Since then, Australian scientists have been leading the charge in deciphering the complex nature and biology of stem cells, identifying the tools necessary to conduct stem cell research, and researching disease specific cures using stem cells. This research gives hope to millions of people afflicted with currently incurable diseases and injuries.

Stem cells – exactly what are they?

Our bodies are made up of around 200 different types of specialised cells. These perform specific functions to keep us alive, including muscle cells, skin cells, nerve cells and fat cells. All specialised cells are formed from stem cells.

The purpose of stem cells is generating new tissue and the repair and regeneration of damaged and ageing tissues.

How?

- Stem cells are capable of self-renewal – they have the ability to divide and produce copies of themselves, promoting self-renewal.
- Stem cells are “unspecialized” – they have not yet developed into cells that perform a specific function for the body e.g. muscle cells, nerve cells, or skin cells.
- Stem cells can differentiate – because of their unspecialised nature, stem cells are able to divide and produce new cells capable of becoming specialised cells, responsible for the repair or replacement of damaged or diseased cells in the body.
- Stem cells could one day repair damaged cells, tissues, and organs.

The National Stem Cell Foundation of Australia – what we do

The National Stem Cell Foundation of Australia (NSCFA) was established in 2011.

The Foundation is led by an expert volunteer Board, with a diversity of scientific, medical, and governance experience. The Chairman is Dr Graeme Blackman OAM FTE. The Foundation draws on the board's expertise in stem cell science, as well as consulting with leading stem cell scientists to assess medical research opportunities.

We work hard to promote the study and use of stem cells; prevent, control and find cures for currently untreatable diseases using stem cell technology and regenerative medicine; build a community of people with a shared interest in stem cell science; and increase public education about stem cell science through literature and public programs.

Stem Cell research is important because we:

- Discover ways to treat illnesses – stem cells promise new treatments for debilitating conditions like spinal cord injury, restoring brain function after strokes, halting or reversing degenerative conditions like arthritis, and may provide new approaches to treating cancers and Multiple Sclerosis.
- Identify how illnesses are caused – we're able to alter human stem cells so they behave like abnormal cells found in illnesses like cancer, giving us the opportunity to study conditions that have previously only been studied by using animals.
- Understand fundamental functions of living cells – observing how living cells develop, work and repair themselves uncovers new avenues in search for new cures for diseases that up to now have been difficult or impossible to treat effectively.

How we do it

We are scientists and we deal in facts. One of the most well-known facts in our field is that we are only able to continue our critical research and education activities because of the generous gifts we receive from individuals, groups and organisations. When you donate to the NSCFA, your money will be used to support two main aims that underpin our overall mission.



1 Support stem cell research. We support research including investigation into stem cell treatments to pursue cures, prevention, or control of untreatable diseases. We form partnerships with organisations conducting stem cell research and financially support scientists through awarding annual research prizes.

Annual Metcalf Prizes

The Metcalf Prizes are a major initiative awarded by the NSCFA. Launched in 2014, the prizes recognize and honour the exceptional contribution made to stem cell research by Emeritus Professor Donald Metcalf, AC, FRS, FA.

Each year we award Metcalf Prizes to two exceptional stem cell researches working in Australia with \$50,000, a jaw-dropping amount in the world of science, to help support their research efforts into stem cells and their application in preventing, controlling or curing diseases.

Supporting researchers

Fostering collaborative relationships is important to the advancement of stem cell science. It is vital that the NSCFA supports stem cell researchers and students to attend national and internal conferences and meetings.

Partnering for research

The NSCFA takes great pride in investing in Australian stem cell research, and we're constantly on the look-out for organisations who are devoting time and resources in this field. Our scientific advisors identify, investigate, and engage organisations that are doing great work in the field, determined to make a real impact on major diseases worldwide.

For our first investment in medical research we partnered with the Centre for Eye Research Australia (CERA) for a two-year program to support the Neuroregeneration Research Unit. This investment in medical research specifically focusing on researching stem cell treatments for two genetic diseases: Leber's Hereditary Optic Neuropathy (LHON) and an incurable form of blindness, Macular Degeneration.



2 The promotion of stem cell science. We provide resources for all Australians on stem cell treatments and regenerative medicine, including its risks, achievements, benefits and overall technical progress. This includes the production of patient handbooks, educational, and general information.

Enhancing public education

The NSCFA enjoys working closely with Stem Cells Australia to develop material that will educate patients and the public about stem cell science and potential treatments.

- **Patient Handbook** – used by patients when exploring local and international stem cell treatment options.
- **Teachers Kit** – free resources in the form of a downloadable kit to help teachers introduce stem cell science into the classroom.
- **Fact Sheets** – a comprehensive suite of information sheets available to the general public that explains the different facets of stem cell science.

Keeping connected

The study of stem cells and the opportunity to pursue cures for currently untreatable diseases continues to create a great deal of excitement in the Australian medical research field.

Not only is our knowledge of stem cell science growing in leaps and bounds, its application and potential are creating energetic conversations around the globe.

Investing in our future

The truth is, we can't continue our vital research without donations from generous individuals, groups and organisations. Your tax deductible gift will allow our scientists to continue their critical research, leading to better ways to prevent, control and cure diseases, and help us continue our public education activities.

More specifically you'll be supporting:

- Research and partnerships, supporting young researchers with the Annual Metcalf Prize.
- Promotion and education of stem cells through the production of the Patient Handbook, the Teacher's Kit and Fact Sheets.

The NSCF is committed to operating on a low cost base, allowing us to channel as much of our income to stem cell science as possible.

You can help raise money to fund our research by making a direct donation, or you can include us in your will. Your donation can help change the lives of thousands of people.

For more information on how to donate fill in the enclosed 'Make a Donation' form or visit our website www.stemcellfoundation.net.au

If you have any further questions regarding donations please contact our Executive Officer Julia Mason.
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