



INFORMATION

NATIONAL RESEARCH PROGRAM

Introduction

Parkinson Society Canada (PSC) understands the importance of investing in Canada's talented Parkinson's researchers. PSC supports the highest standard of excellence in research to enable progress in the effort to "ease the burden and find a cure". Through new discoveries and treatments, research improves the quality of life of all Canadians and reduces the economic burden of illness on the economy. Today's investment will go directly to research that is aimed at improving the health and lives of Canadians living with Parkinson's now and in the future.

In Canada, we are very proud to have some of the best Parkinson's researchers in the world. Canadian and visiting researchers have contributed a disproportionate amount of knowledge to our understanding of the cause, progression and treatment of Parkinson's. Very few other countries in the world, if any, can make such a claim.

Since 1981, PSC has invested about \$16 million in Canadian Parkinson's research, granting over 300 graduate student awards, basic research fellowships, clinical fellowships, pilot project grants, and new investigator awards.

What kind of research does PSC fund?

PSC awards research grants, fellowships and studentships on an annual basis for one or two years. Grants fund expenses associated with conducting a project. Fellowships support the salaries for researchers who have completed doctoral training (e.g. an MD or a PhD) and who are pursuing specialized training in Parkinson's. Studentships support salaries for graduate students at the masters or doctoral level so that we can attract promising young scientists to the Parkinson's field at the start of their research careers.

PSC's Research Program is modeled on the Canadian Institutes of Health Research's four pillars of research and encourages a broad range of applications from biomedical, clinical, health services and systems research and population studies. PSC supports these four pillars of research with 75% of funding dedicated to biomedical research and 25% of funding directed to clinical, health services and systems and population studies.

To complement the biomedical research which focuses on *finding a cure*, PSC partnered with the Canadian Institutes of Health Research (CIHR) – Institute of Neurosciences, Mental Health & Addiction (INMHA) to create a psychosocial research stream devoted to *easing the burden*. This will increase our understanding of the "quality of life" issues faced by people living with Parkinson's and their caregivers.

PSC is currently committed to funding 26 research projects totaling \$1.4 million. Some promising projects/themes are explained below:

- **Causes of Parkinson's disease (17 projects)** including 12 Genetics projects with one study looking at less powerful genes and identifying environmental triggers that may play a role in the Parkinson's puzzle. This is critical to developing a clear understanding of what causes Parkinson's and how it progresses.
- **Complications of Parkinson's (2 projects)**. A side effect of long-term use of L-DOPA is dyskinesia or involuntary movements. One project is focused on studying the way L-DOPA is delivered to see if a continuous supply of the drug, rather than intermittent injections, can reduce dyskinesia.
- **Biomarkers (2 projects)** including a study using a unique method of Magnetic Resonance Imaging (MRI) to track iron deposits in the brains of people with Parkinson's. This may ultimately enable the measurement of the progression of Parkinson's. Excessive iron deposits have been linked to the death of dopamine-producing brain cells.

Biomarkers are various traits that can be used to identify the progress of a disease. Currently, there are no clear and reliable biomarkers for Parkinson's. A biomarker that can identify people with or at risk for Parkinson's could make it possible to intervene with protective and/or preventative therapies before significant dopamine neuron loss has occurred.

- **Neuroprotection** - One project focused on the neuroprotective aspects of Omega-3 polyunsaturated fatty acids and how they may prevent Parkinson's disease from developing.

Neuroprotectors are mechanisms within the nervous system that protect neurons from cell death or degeneration, for example, following a brain injury or as a result of chronic neurodegenerative diseases such as Parkinson's. Neuroprotection is important to study in order to identify agents that are able to prevent or slow disease progression.

- **Dopamine Development** includes one study to determine how the brain produces new cells in the olfactory bulb, what enables them to travel and what controls their movement. Researchers note that somewhere between 70 and 90 percent of people with Parkinson's have lost their sense of smell.
- **Psychosocial research (1 project)** using Magnetic Resonance Imaging (MRI) scans to study how people use mind maps to plan their route to a destination and how this differs in people with Parkinson's disease. The goal is to train Parkinson's patients to use spatial strategies to exercise and strengthen their brain.
- **Cognition and dementia (1 project)** focused on determining why some people with Parkinson's develop dementia while others do not.
- **Clinical Movement Disorders Fellowship** for one postgraduate in Neurology to enter into clinical training in the subspecialty of Movement Disorders. This program provides training for a clinician to develop expertise in the diagnosis and management of Parkinson's disease and related Parkinson's conditions.

How does PSC decide what to fund?

There are two committees involved in the process of allocating grants.

PSC's Scientific Advisory Board

PSC's Scientific Advisory Board (SAB), comprised of Canada's top scientists in Parkinson's research, reviews numerous research applications received from across the country, twice a year. The SAB adjudicates each application using a rigorous peer review process based on CIHR's gold standard. Those grants which receive the highest ratings for scientific excellence and relevance to Parkinson's are recommended for funding.

PSC's Research Policy Committee

The Research Policy Committee (RPC) is a standing committee of the National Board of Directors of PSC. Their mandate is to advise the Board on the most effective means to promote research into the cause(s), management and eventual cure of Parkinson's disease.

The RPC is a recognized professional body that promotes the relevance, credibility and viability of the research grant peer review process to PSC Board members, the scientific community and other stakeholders. The RPC strives to promote research that is meaningful to people with the disease and caregivers.

Why are Partnerships so important?

PSC's National Research Program is a collaborative effort with our regional Parkinson's organizations. Our success is based on partnerships -- with donors, charitable foundations and other granting agencies. PSC does not receive any government funding but relies solely on these contributions. PSC gains momentum and maximizes our funding capabilities by leveraging these funds through partnerships, making it possible for us to increase our support of excellence in research. PSC most recently partnered with Fonds de la recherche en santé du Québec (FRSQ) to increase the number of trainees who will be working on Parkinson's disease and related disorders in Quebec research facilities.

About our involvement in the Parkinson Research Alliance

Canada's leading researchers and clinicians meet annually with representatives of PSC to share and nurture ideas to advance the Parkinson's research agenda. The goal is to strengthen the Canadian Parkinson's network in order to collaborate, promote and advocate for excellence in clinical care and research in Parkinson's.

OUR PARTNERS

Canadian Institutes of Health Research (CIHR)
Institute of Neurosciences, Mental Health & Addiction (INMHA) www.cihr.gc.ca
Institute of Aging (IA) www.cihr.gc.ca
Institute of Genetics (IG) www.cihr.gc.ca
Fonds de la recherche en santé Québec (FRSQ) www.frsq.gouv.qc.ca
Neurological Health Charities Canada (NHCC) www.neurohealthcharities.ca

For more information on what PSC is funding see our Research Highlights 2008 booklet also available at www.parkinson.ca.
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