The scientific achievements from last year were possible thanks to the active participation of our patients, their relatives and friends. Together, we advanced the clinical science towards new therapies for Alzheimer’s Disease.

**THANKS TO PARTICIPANTS OF THE MCSA TRIAD COHORT, WE HAVE A BLOOD TEST FOR ALZHEIMER’S DISEASE**

A simple blood test that can detect Alzheimer’s Disease (AD) has been discovered and validated in a joint effort by the MCSA team and researchers in Sweden. Their results are published in the May issue of The Lancet Neurology. An accompanying commentary calls the discovery “transformative.”

The blood test accurately measures one of the proteins – P-tau181 – implicated in AD. Blood P-tau181 indirectly measures tau hyperphosphorylation in the brain, which is one of the hallmarks of the disease along with the clumpy plaques caused by the protein amyloid β. Prior to this discovery, detecting the proteins and confirming an AD diagnosis was possible only through expensive PET scans, invasive lumbar punctures, or autopsy.

Using data collected as part of their Translational Biomarkers in Aging and Dementia (TRIAD) cohort, launched three years ago by Dr. Gauthier and Dr. Rosa-Neto, the McGill group’s role was to provide the primary care cohort to replicate the assay in vivo. The TRIAD cohort was designed for two purposes, explains Dr. Rosa-Neto: “One is to understand disease pathophysiology and the other is using the gold standard technology – PET scans – for benchmarking novel blood biomarkers. That’s what makes our cohort really special and unique.” The blood was collected in Montreal from TRIAD participants and sent to Sweden where the assay was tested. The results were then replicated in Montreal by comparing against PET scan and CSF results.

**Upcoming clinical applications:** The team is leading another trial to ascertain the clinical utility of this biomarker in clinical settings and test how the biomarker performs in real life. The test should be widely available in two to three years. The test is also sensitive enough to differentiate Alzheimer’s patients from patients with other neurodegenerative disorders, including frontotemporal dementia. It will also be possible to rule out Alzheimer’s in MCI patients, indicating there is some other cause of their memory issues. Dr. Pascoal notes that about 30% of patients
currently diagnosed with AD don’t actually have the disease. Adds Dr. Gauthier, “We’re not talking about in 90-year old’s, we’re talking about 60 year old’s where there’s uncertainty about the diagnosis when you’re that young.”

The MCSA acknowledges the immense contributions of volunteers from all over Montreal who gave their time for three PET scans per year, one lumbar puncture, one MRI, as well as blood and cognitive tests as part of the TRIAD cohort. “They knew that someday it would all pay off – well now it has,” says Dr. Gauthier. Given the enormous costs involved, the team is also thankful for the support of their funders, the CIHR, the FRQS and the Weston Brain Institute. The Lancet Neurology, Vol 19, May 2020, DOI: https://doi.org/10.1016/S1474-4422(20)30071-5

PARTICIPATE IN OUR GROUNDBREAKING DISCOVERIES
JOIN OUR RESEARCH EFFORTS TO FIGHT ALZHEIMER’S DISEASE!

Participating in research is a very important way to help us to find the cure for Alzheimer’s Disease. You can participate in studies where we observe how aging affects the brain. There is no medication involved in these studies and the results of these studies might help to develop blood samples as described above. People can also participate in testing new therapies for Alzheimer’s Disease. In this case people will be asked to take these medications for some time. For more information call our research information Centre: 514-761-6131 ext. 6321

WHAT IS THE TRIAD COHORT?
The TRIAD means Translational Imaging in Aging and Dementia. This is a study developed at the MCSA, to identify the causes of Alzheimer’s Disease. TRIAD participants are asked to perform cognitive tasks and brain scans every two years. We aim to discover why some people develop abnormal proteins that causes brain diseases. Results from the TRIAD study already helps scientists to develop better clinical trials to cure Alzheimer’s Disease.

Adapted from Med e-News
Game-changing blood test accurately detects Alzheimer’s disease
By Gillian Woodford Communications Officer Faculty of Medicine

MCSA REACTS TO THE COVID-19 CRISIS

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered virus, the coronavirus.

People infected will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

COVID-19 might affect everyone, but seniors in particularly are being asked to stay in social isolation because of the higher risk of complications from the virus. We are impressed by the resilience of most Seniors who communicate with their family by phone or e-tablet, get food and evening drinks delivered by family and friendly neighbors, or stores. They re-read books in their personal library, clean up old documents, and complete 1,000-piece puzzles! For persons with dementia, the social isolation is an extra challenge and tips on how to help are found on the Alzheimer Society of Canada website as well as that of the McGill Dementia Education Program. The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, in the diseases it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol-based rub frequently and not touching your face.
In response to the COVID-19 pandemic the MCSA changed its way to provide medical care, education and research, its patients outreach program, switching to telemedicine. A questionnaire was designed to measure the amount of stress due to the pandemic, to be used first by phone to participants of the TRIAD cohort, and adaptable to other research cohorts across Canada.

**COVID-19 SYMPTOMS AND PREVENTION**

Adapted from World Health Organization

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate symptoms and recover without hospitalization. People with mild symptoms, who are otherwise healthy, should manage their symptoms at home. On average it takes 5–6 days from when someone is infected with the virus for symptoms to show, however it can take up to 14 days.

<table>
<thead>
<tr>
<th>Most Common Symptoms:</th>
<th>Less Common Symptoms:</th>
<th>Serious Symptoms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fever</td>
<td>1. Aches and pains</td>
<td>1. Difficulty breathing or shortness of breath</td>
</tr>
<tr>
<td>2. Dry Cough</td>
<td>2. Sore throat</td>
<td>2. Chest pain or pressure</td>
</tr>
<tr>
<td>3. Tiredness</td>
<td>3. Diarrhea</td>
<td>3. Loss of speech or movement</td>
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<tr>
<td></td>
<td>4. Conjunctivitis</td>
<td><strong>Seek immediate medical attention if you have serious symptoms.</strong></td>
</tr>
<tr>
<td></td>
<td>5. Headache</td>
<td>Always call before visiting your doctor or health facility</td>
</tr>
<tr>
<td></td>
<td>6. Loss of taste or smell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. A rash on skin, or discoloration of fingers or toes</td>
<td></td>
</tr>
</tbody>
</table>

To prevent infection and to slow transmission of COVID-19, do the following:

1. Wash your hands regularly with soap and water or clean them with alcohol-based hand rub
2. Maintain at least 2 meters distance between you and people coughing or sneezing
3. Avoid touching your face
4. Cover your mouth and nose when coughing or sneezing
5. Stay home if you feel unwell
6. Refrain from smoking and other activities that weaken the lungs
7. Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people

**The Risks of Social Isolation Linked to Social Distancing**

Social distancing, also called physical distancing, is a set of necessary actions taken to prevent the spread of a contagious disease (COVID-19) by maintaining a physical distance between people and reducing the number of times people come into close contact with each other.

On the other hand, social isolation describes the absence of social contact and can lead to loneliness, which can disrupt individual’s physical, mental and cognitive health. Social isolation imposes adverse health consequences including depression, poor sleep quality, impaired executive function, accelerated cognitive decline, poor cardiovascular function and impaired immunity at every stage of life.

Therefore, it is very important to keep social interactions while maintaining social distancing. In order to support people at risk of social isolation, the Alzheimer Society of Montreal, the Alzheimer Groupe (AGI) Inc, the Italian Canadian Community Services of Quebec Inc (SCIQ), and volunteers from McGill University will be available to assist you.
The COVID-19 crisis did not stop us. We are working full time remotely in order to develop new ways to detect and prevent Alzheimer’s Disease. Response to the COVID-19 crisis: As a response to the COVID-19 crisis, our laboratory is assessing the effects of social distancing in our clinical and research population. This research is fundamental to provide to public health authorities information necessary to redesign social distancing measures to reduce the incidence of depression, anxiety and memory problems secondary from social isolation. Our assessment is also identifying people at risk and directing them to the programs described above. Tele-assessments: We are also developing a methodology to assess our participants remotely to reduce the risks of in person visits in our research centre. MCSA plans to reopen the clinic in September with taking the appropriate precautions into consideration to ensure the safety of our patients and staff.

Contact: 514-369-0800 or info@alzheimermontreal.ca

The Alzheimer Groupe (AGI) Inc. will continue to support families and caregivers by phone and e-mail Monday to Thursday, 9 a.m. to 5 p.m. and Friday 9 a.m. to 4:00 p.m.

Contact us at 514-485-7233 or email info@agiteam.org
NEW CLINICIAN SCIENTIST AT THE MCSA

Dr. Maiya R. Geddes, MD, FRCPC

Dr. Geddes obtained her M.D. at the University of British Columbia, before completing a residency in adult Neurology at McGill University. She completed a CIHR postdoctoral research fellowship at MIT and a clinical fellowship in Behavioral Neurology and Neuropsychiatry at the Centre for Brain, Mind Medicine at Harvard Medical School where she then joined the faculty in 2017. Dr. Geddes returned to McGill in August 2019. At McGill, she sees patients in behavioural neurology at the McGill Center for Studies in Aging and leads a research lab. The focus of Dr. Geddes’ research is to understand the interaction between motivation and cognition in human aging. Dr. Geddes has received an FRSQ clinician scientist award, the ANPA Career Development Award in 2018 and a Future Leader Award from the Canadian Conference on Dementia. Her research is supported by the National Institutes of Health.

Featured Associate Research Member - Dr. Marc Roig, PhD

HOW PHYSICAL EXERCISES REWIRE THE BRAIN AND PREVENT DEMENTIA?

Dr. Roig is an Associate Professor in the School of Physical and Occupational Therapy at McGill University and the Director of the MEMORY Lab (https://memorylab.ca). He leads the MEMORY-LAB, which aim to discover what are the brain adaptations necessary for memory formation and develop therapies to enhance cognitive health. Dr. Roig’s research approach has the potential to improve the quality of life in people living with cognitive and/or mobility limitations worldwide. The research program comprises two unique but interrelated research streams. Using a lifespan approach, Stream 1 investigates the impact of healthy aging on memory formation. The studies of this stream aim to identify which changes in brain plasticity during memory consolidation are affected by the aging process and, more importantly, how these changes impact our capacity to maintain, learn or re-learn motor skills as we become older. Another important aim of this stream is to investigate whether aging modifies the functional interactions between brain plasticity and sleep and their implications for memory consolidation. Stream 2 investigates the effects of exercise on brain plasticity, memory and motor function in individuals without disability and those living with neurological conditions. The studies of this stream will provide new insights into the mechanistic interaction between exercise, brain plasticity and sleep during memory consolidation in non-disabled individuals. Another major aim of this stream is to investigate the effects of exercise on brain plasticity and motor function in patients with Stroke and Parkinson’s Disease.

Dr. Roig’s lab have recently partnered with the McGill University Research Centre for Studies in Aging, to conduct functional assessments in the participants enrolled in the Translational Biomarkers in Aging and Dementia (TRIAD) cohort study (https://triad.tnl-mcgill.com). This unique collaboration aims to study interactions between biomarkers of cognitive decline and functional performance in people at risk of dementia.
**TRAINEEPS**
**PSYCHIATRY RESIDENTS**

**Dr. Vincent Paquin, MD, McGill University, November 18 – December 15, 2019**

I deeply enjoyed my rotation at the Centre. I had the chance to expand my knowledge of the clinical and neurobiological evaluation of dementia. The patients generously helped me learn from them. I much appreciated all the conversations with Dr. Gauthier, Dr. Rosa-Neto, Ms. Landry and the research team on the dimensions of dementia care. Thank you all for the warm welcome!

**Dr. Christophe Moderie, MD, McGill University, January 13 – February 9, 2020**

Working at the McGill University Research Centre for Studies in Aging has been a wonderful learning experience on many levels! I was impressed by the routine inclusion of cutting edge technologies to clarify difficult diagnoses and instigate appropriate treatment. The interdisciplinary approach allowed to better diagnose patients with complex conditions and ensured optimal care. The patients and the families I had the pleasure to encounter also thought me about resilience in troubled times and our discussions will shape my approach as a future psychiatrist.

**NEW RESEARCH STAFF & STUDENTS**

**Dr. Gleb Bezgin, PhD**

Dr. Bezgin is a new MCSA member working on neuroinformatics aspects of various projects. He develops new methodologies for multimodal neuroscience data (MRI, PET, EEG, animal models) involving machine learning and computational approaches, aiming at better diagnostic, cognitive and behavioural prediction.

**Dima Romanov**

Dima is an undergraduate student at McGill University in Computer Science and Mathematics. His role at the MCSA is to update and improve the P.O.N.D.E.R. project which is a free program aimed at preventing Neurodegenerative Diseases such as Dementia, Alzheimer’s and Parkinson’s.

**MCSA’S PARTICIPATION IN INTERNATIONAL CONFERENCES**

**Human Amyloid Imaging (HAI 2020)**

January 15-17, 2020

19 Presentations & 9 awards

Jenna Stevenson, Research Coordinator
COVID-19 AND CLINICAL TRIALS AT THE MCSA

Clinical trials for Alzheimer’s Disease have been affected by the COVID-19 pandemic. Most trial studies are on hold, due to the inability to have dosing and in-person clinic visits. This will affect nearly 94 new therapies in clinical trials today. Most of the therapies target brain amyloid including Roche’s gantenerumab, Biogen’s aducanumab, and Eisai’s BAN-2401, and six preventive therapies including Eli Lilly’s donanemab and Alzheon’s ALZ-801.

Dr. Serge Gauthier, the Alzheimer’s Disease Research Unit Director, and Dr. Pedro Rosa-Neto, Director of the McGill University Research Centre for Studies, believe that remote technologies for assessing patients in clinical trials seem to be a reasonable alternative for the continuation of data collection. The disruption of important clinical research by the COVID-19 pandemic is linked also to the particular vulnerability of the older adults; the most targeted subjects by COVID-19. At MCSA, three clinical trials (DIAN, BUENA and LUCIDITY) are currently on hold and plan on restarting recruitment as soon as possible. Our team will answer all questions on the above studies in regards to clinical trials and if you are interested in obtaining more information and/or participating in one of our clinical trials please do not hesitate to contact Tamar Tatigian at 514 761-6311 x6314 or email: info.mcsa@mcgill.ca.

Donations: Why they are so important now

Due to COVID-19 social distancing, our fundraising activities are being severely reduced. Therefore, we appreciate your continued support to our Centre! Your support is fundamental to sustain the MCSA leadership in aging research in Quebec, Canada and Internationally. Your support is also crucial for advancing our mandate towards (1) prevention, (2) aging research, and (3) education of patients, caregivers and students. We thank all of our Donors for their encouragement and confidence in our work which contributes to the highest levels of research, education, and teaching in the field of aging. We are happy to accept any donations that will support our efforts.

We will issue a receipt for tax purposes for all donations above $15.00. In addition, every donor whose gifts exceed $500 will be honored by receiving a permanent inscription on our Donor Wall. If you would like to make a donation by mail, phone or email, please contact Alexandra Triantafillopoulos at 514- 761-6311 X 6311 or by email: alexandra.triantafillopoulos1@mcgill.ca or silvana.aguzzi@mcgill.ca.

We would like to express our deepest gratitude to all of our Donors and are grateful for your continuous support and interest in the Centre’s research and knowledge outreach programs. Thanks to Donors like you, we can continue our mission in investigating causes and treatments of the dementias, especially Alzheimer’s Disease. Your support is extremely important to us and we encourage you to spread the word on social media in helping with our cause.

Dr. Pedro Rosa-Neto, Director of the McGill University Research Centre for Studies in Aging, Dr. Serge Gauthier, Director of the Alzheimer Disease Research Unit/Memory Clinic and the MCSA Team would like to thank you for your generous contributions and support throughout 2019. In addition, we hope that you will be able to take part in one or more of our many exciting events planned for 2020. We look forward to your feedback and suggestions, email us at info.mcsa@mcgill.ca.
TRIAD COHORT

For research participants and sponsors that are interested in donating to the TRIAD Cohort Research Study, please contact Alexandra Triantafillopoulos at T: 514-761-6131 x 6311 or email alexandra.triantafillopoulos1@mcgill.ca

The goal of the study is:
- To better understand Amyloid and Tau proteins present in the brain
- To understand the role of inflammation in the brain in normal aging and in Alzheimer’s Disease
- To develop Research methodologies which can diagnose Alzheimer’s Disease at earlier stages

The McGill University Research Centre for Studies in Aging – Education Committee Presents

BRAINY BOOMER LECTURE SERIES

The Education Committee of the McGill University Research Centre for Studies in Aging (MCSA) established since 1996 will continue to bring to you “Brainy Boomer Lecture Series”. We want to continue to reach out to you all especially during these uncertain times ensuring that you all stay connected during this isolation.

Our Academic Professions and Medical Specialists will continue to provide presentations on various topics. Interested in joining our series? Send us an email at silvana.aguzzi@mcgill.ca or contact us at T: 514-761-6131 x 6308.

We look forward to bringing you up-to-date information to promote better health and suggestions how we can all get through these uncertain times.

More information will be available soon!

MCSA is celebrating its 35th Anniversary!

Send us your story about what the Centre means to you! Email: silvana.aguzzi@mcgill.ca

Your stories will be published in the next edition of the newsletter.

Pictures are welcome.

Website: www.aging.mcgill.ca
tnl.research.mcgill.ca
http://alzheimer.mcgill.ca

Contact: (T): 514-766-2010
(F): 514-888-4050

Email: info.mcsa@mcgill.ca
ÇA VA BIEN ALLER
IT'S GOING TO BE OK