

Event: HPAO Toronto – Alzheimer’s and Memory Zoom Meeting	Event Date: Oct 24, 2024	Colin Erwin
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## Introduction

On October 24, 2024, our Hydro Pensioners Association of Ontario – Toronto District held our third Zoom Talk.

Our speaker, Dr Sharon Cohen of the [Toronto Memory Program](#), discussed Alzheimer’s Disease. Dr Cohen explained about the nature of Alzheimer Disease (AD), including its history, pathology and symptoms, and strategies for treatment. Including emerging treatments that focus on alleviate the damage the disease causes, as opposed to simply temporarily alleviating the symptoms.

Our members were invited to register for the event. We had 57 paid members respond, who were then each sent the Zoom Meeting connection details. We had approximately 40 attendees. Members were advised that the Zoom Meeting may be recorded and made available for review afterwards, along with a brief summary of how to access the available resources. This document is that summary.

A recording of the presentation is posted at our YouTube channel [@HydroPensionersToronto](#), or click the link: <https://www.youtube.com/@HydroPensionersToronto>.

Many Bell and Rogers television subscribers can watch the presentation from their television by giving the following voice command to their remote control: *“Hydro Pensioners Toronto on YouTube”*.

## Discussion

- Dr Cohen works at the Toronto Memory Program, a community based medical facility specializing in the diagnosis and treatment of Alzheimer’s disease and related disorders. Including clinical research in new treatments for Alzheimer’s.
- Alzheimer’s is the most common (> 60%) cause of dementia. It was first described in 1906, was initially thought to be rare, but now understood to affect ~ 55 million people worldwide, and is believed to be under-diagnosed.
- Alzheimer’s is characterized by the presence of what used to be called “plaques and tangles” in the brain. These abnormal proteins are now referred to as Amyloid and Tau.

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This affects “neuronal functioning and connectivity, resulting in a progressive loss of brain function”<sup>1</sup>.

- Diagnostic tools include:
  - PET Scans with an Amyloid tracers. These can detect amyloid proteins in the brain at all stages of AD, even early, pre-symptomatic stages.
  - Spinal Taps.
  - Genetic testing can help. About 300 genes cause AD, and can all be tested for, including a major risk gene ApoE4 that can be detected in a cheek swab. Additionally, “risk genes” that increase likelihood of developing AD can be tested for.
  - Future: Retinal Scans are expected to be able to detect amyloid in the back of the eye. This would be non-invasive, and use no dye. Validation studies of this technique are underway at the Toronto Memory Clinic.
  - Future: Blood tests to diagnose AD with over 90% accuracy are expected to be available in 1-2 years. These work by measuring levels of amyloid, tau, and markers of brain cell injury.
- Current Treatments:
  - For ~ 30 years have focused on treating symptoms, but do not impact the underlying disease cause.
  - None are approved for Mild Cognitive Impairment (MCI), so individuals have to wait to get sicker before undergoing treatment. This is not optimal.
  - The first was Aricept, approved in 1997, that boosts acetylcholine, a neurotransmitter that brain cells use to communicate.
- Lifestyle Strategies may prevent up to 45% of dementias.
  - Including staying mentally engaged, physical exercise, a dietary pattern low in animal fat and red meat, adequate sleep, stress management, control of vascular risk factors (smoking, cholesterol, hypertension, diabetes).
- Future Treatments:
  - Dr Cohen believes we are at the beginning of a New Era in AD Treatment.
  - New “biologic” drugs that can slow disease progression have started to become available in the United States
  - These work by clearing amyloid from the brain, and reduce tau, reducing brain inflammation. They are given by IV, and can slow the decline of cognitive loss progression.
- Reasons to Join a Clinical Trial:

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- Access to specialized tests; Access to cutting edge treatments; Access to experts; close monitoring of one's condition.
- The Toronto Memory Clinic conducts clinical trials.
- Justine Rheaume, Dr Cohen's colleague at from the Toronto memory Clinic on the Zoom call, has authorized us to distribute this message to our members:

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*Thank you for attending Dr. Sharon Cohen's presentation on behalf of Toronto Memory Program. We appreciate your participation and hope you found the information valuable.*

*We would like to offer your members access to our free services, which include:*

- *Free Memory Testing: Available at our clinic in North York or virtually.*
- *Genetic Cheek Swab for Alzheimer's Disease (ApoE)*
- *Alzheimer's Disease Research Opportunities: We have various research studies available.*

*If you or your members are interested in any of these services, please do not hesitate to reach out to Justine at [justine.reaume@memorydisorders.ca](mailto:justine.reaume@memorydisorders.ca) or call 416-386-9761 ext. 364.*

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- Below are selected slides from the Presentation.



## Alzheimer’s and Memory: A New Chapter in Diagnosis & Treatment

Hydro Pensioners Association of  
Ontario

Sharon Cohen, MD FRCPC

October 24, 2024

**Toronto Memory Program**  
examined and treated and guided thousands of patients with this very challenging disease

## Objectives

1. To improve understanding of Alzheimer’s disease
2. To provide an update on recent advances
  - New approaches to diagnosis
  - New approaches to treatment
2. To provide a call to action for those wishing to get involved

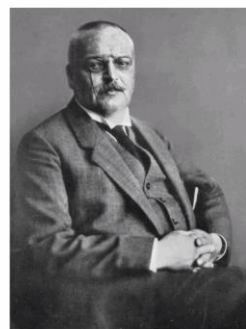
S.Cohen Toronto Memory Program

## What is Alzheimer’s Disease?

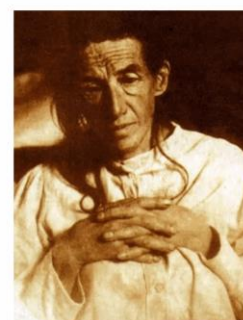
- A slowly progressive brain disease causing:
  - impairment in memory and thinking
  - loss of independence
  - altered behaviour
- A highly feared disease with no cure
- An expensive disease
- The commonest cause of dementia, but more than just a dementia

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## AD 1906: “a rare disease”



Dr. Alois Alzheimer



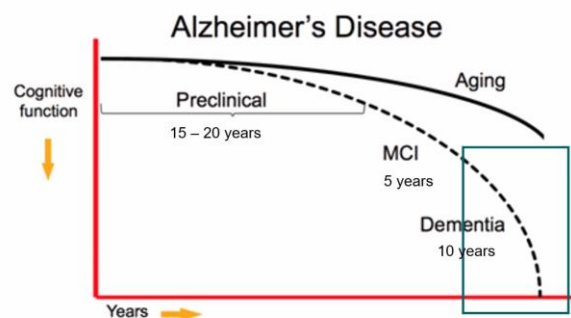
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## Diagnostic Challenges

- Patients may not recognize and report symptoms
- Fear of stigma and loss of independence
- Physicians lack skill and interest in diagnosing AD
- Symptoms are often confused with normal aging
- Cognitive tests may be insensitive for early disease

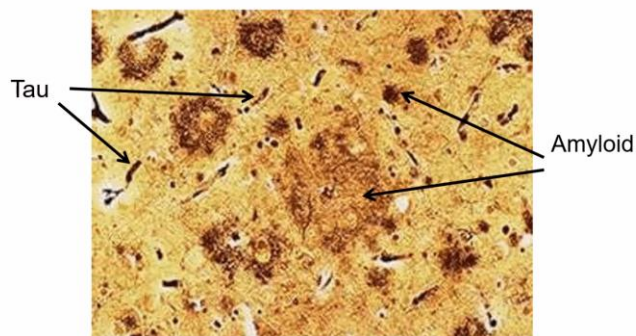
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A 30 yr disease: 15 + 5 + 10

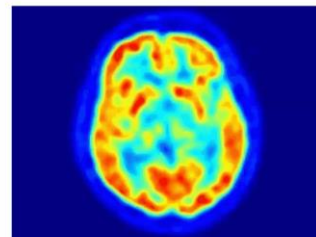
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## Abnormal Proteins: Amyloid & Tau



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## PET Amyloid Imaging



Amyloid can be detected at all stages of AD including prior to symptoms

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## Spinal Tap to Diagnosis Alzheimer's



Amyloid and Tau can be measured in spinal fluid

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## Blood Tests in the Near Future



- Blood tests to diagnosis AD with over 90% accuracy are expected to be available within the next 1-2 years
- Blood tests can measure levels of amyloid, tau, and markers of brain cell injury

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## Retinal Scan for Detecting AD

### RetiSpec Imaging

- Hyperspectral camera
- Detects amyloid in the back of the eye
- Non-invasive; no dye
- Validation study underway at TMP



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## Genetic Testing Can Help with Diagnosis

- Rare gene mutations can be detected in a blood sample
- A major risk gene, ApoE4, can be detected in blood and from a cheek swab
- Individuals who have causative or risk genes have options for prevention and treatment through research studies

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## ApoE4 Risk Gene Can Be Assessed From a Cheek Swab in Just One Hour

1 copy of ApoE4: 3 X greater risk of AD  
2 copies of ApoE4: 10X greater risk of AD



Cathy Barrick, CEO ASO



Genomadix Cube

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## What's New In AD Treatment

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## Existing Medications Are Not Enough

Previously approved medications:

- Treat symptoms and with modest effect
- Do not prevent or slow underlying disease
- Not approved for MCI stage of AD

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## Beginning of a New Era in AD Treatment

- June 2021: FDA conditional approval of aducanumab, the first biologic drug for AD
- July 2023: FDA full approval of lecanemab, 2<sup>nd</sup> AD biologic
- July 2024: FDA full approval of donanemab, 3<sup>rd</sup> AD biologic
- Each of these treatments are:
  - antibodies targeting amyloid
  - given by intravenous infusion
  - indicated for early stages of AD
  - intended to slow disease

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## What's Next for Amyloid Lowering Treatments

- Lecanemab and Donanemab:
  - Under review by Health Canada for early AD
  - Prevention trials ongoing in preclinical AD
  - Subcutaneous formulation of lecanemab under review by the FDA
- Other anti-amyloid antibody programs ongoing, as well as other approaches to amyloid
  - E.g., genetic approaches to prevent amyloid formation

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## Many Other Disease Modifying Treatments Are Enrolling Participants

- Anti-tau studies
  - Anti-tau antibodies to clear tau and reduce spread
  - Drugs to reduce tau formation
- Studies harnessing the immune system
  - To reduce inflammation in the brain
  - Activate immune cells to clear amyloid & other toxins
  - Boost protective functions of support cells in brain

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### Lifestyle Strategies

Up to 45% of dementia may be preventable through lifestyle modification

- Mental Activity: pursue activities that are enjoyable, challenging, and entail problem-solving
- Physical Exercise: moderate intensity exercise 150 min/wk
- Dietary Pattern: ↑fruit, veggies, nuts; ↓animal fat, red meat
- Sleep: quantity and quality of sleep are important
- Stress Management: make time for things you find relaxing
- Control Vascular Risk Factors: e.g., smoking, cholesterol, hypertension, diabetes

### Reasons to Join a Clinical Trial

- Access to specialized diagnostic tests not otherwise readily available (e.g., PET scan)
- Access to cutting edge treatments under development and not yet available by prescription
- Access to an expert team of specialists
- Close monitoring of one’s condition
- Satisfaction of doing everything one can for oneself, one’s family, and for future generation

## Acknowledgements

Producing this event was again very much a Team Effort. Thanks to:

- Nazma Premji for initiating the idea for this event, arranging our speaker, and tabulating the registrations.
- Our Guest Speaker: Dr Sharon Cohen and Justin Rheaume of the Toronto Memory Clinic, for making an interesting, informative talk. The number of questions and post-event discussion indicated that this topic of relevant and of interest to our members.
- Marion Wright: please know that we re-used the Survey we created in the spring.

<sup>i</sup> Wikipedia at [https://en.wikipedia.org/wiki/Alzheimer's\\_disease#Causes](https://en.wikipedia.org/wiki/Alzheimer's_disease#Causes).