

# Exploring Mild Cognitive Impairment

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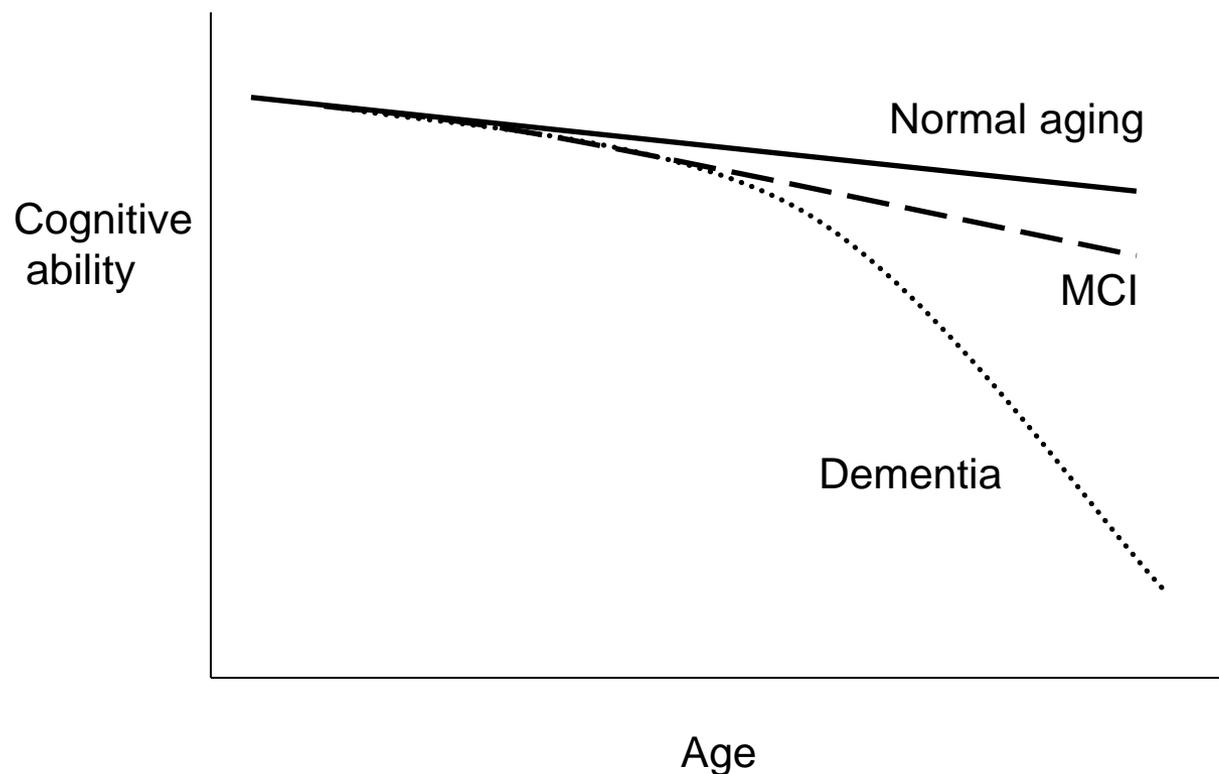
**Alzheimer Society of Canada**

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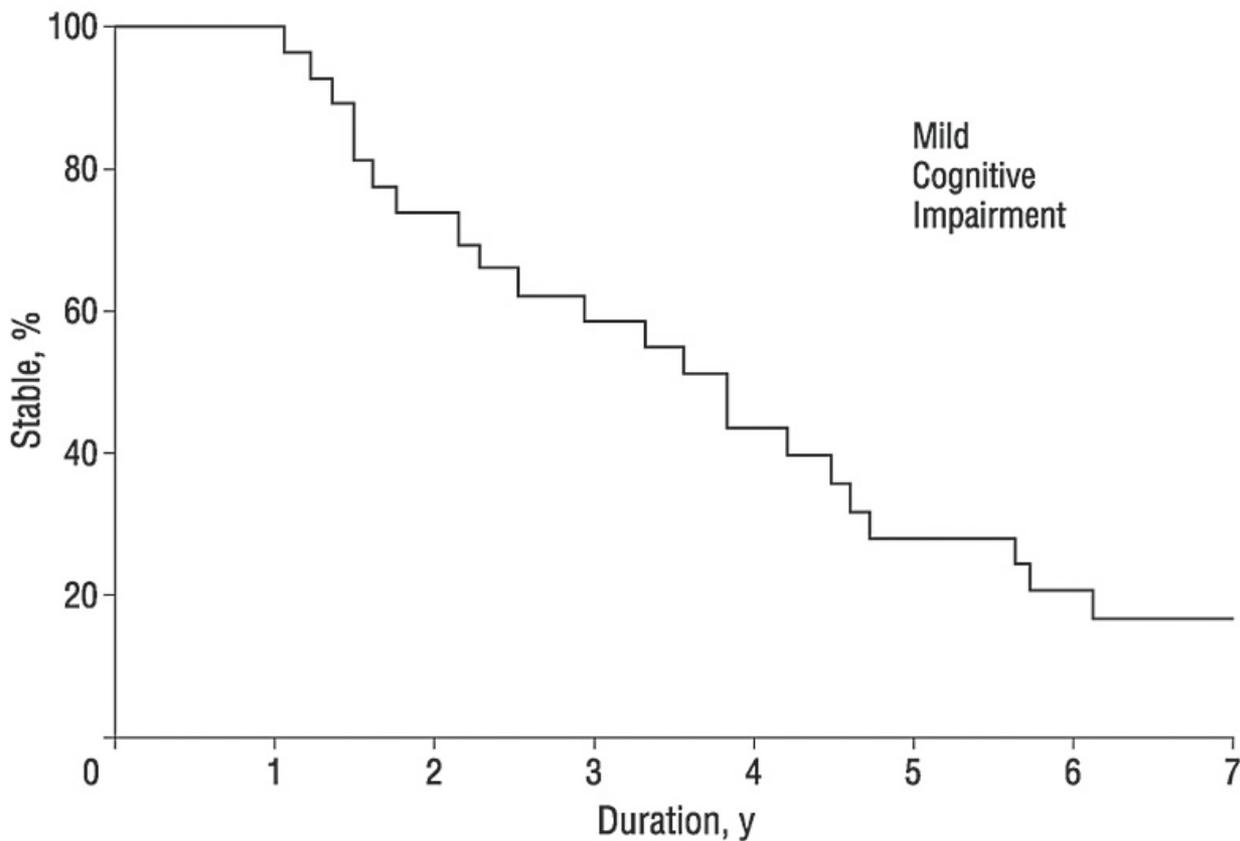
# Objectives

- Review the difference between normal aging, MCI, and dementia
- Understand how MCI is diagnosed
- Learn the impacts of MCI on individuals and their family members
- Describe how MCI can be treated.

# Normal aging, MCI, and dementia



# Progression of MCI to dementia



# Normal aging, MCI, and dementia

Normal aging

MCI

Dementia

# Cognition and function

	Normal Aging	MCI	Dementia
<b><u>Cognitive Decline</u></b> : some areas of cognition are below age-expectations.	No	Yes	Yes
<b><u>Functional Decline</u></b> : support for managing daily responsibilities is needed.	No	No	Yes

# MCI: A definition

MCI is a set of symptoms characterized by a decline in cognitive abilities, often involving memory, that is greater than expected for normal aging but not severe enough to interfere with a person's ability to manage their daily activities.

# Diagnosis of MCI

- Clinical interview with client
- Input from an informant
- Objective testing

# MCI Diagnostic Criteria

- Impaired memory (or other cognitive ability) for age
- Memory complaint or corroboration
- Not globally impaired
- Independent for daily activities
- No dementia

PRACTICE

REVIEW

Diagnosis and treatment of dementia: 3. Mild cognitive impairment and cognitive impairment without dementia

Howard Chertkow MD, Fadi Massoud MD, Ziad Nasreddine MD, Sylvie Belleville PhD, Yves Joanette PhD, Christian Bocti MD, Valérie Drolet BSc, John Kirk MD, Morris Freedman MD, Howard Bergman MD

# Clinical Practice Guidelines

CMAJ 2008;178(10):1273-85

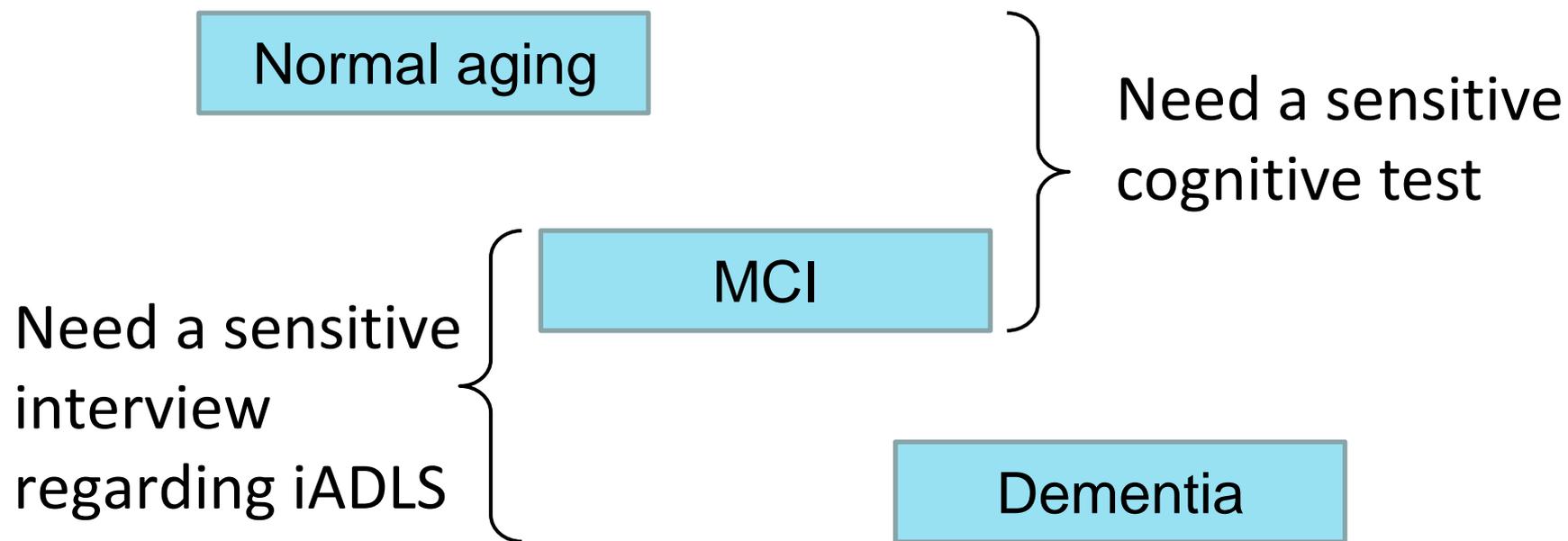
MCI (mild cognitive impairment) or CIND (cognitive impairment no dementia)	Recommended Grade	Evidence Level
<b>DIAGNOSTIC APPROACH</b>		
<i>Definition:</i> a mild cognitive decline phase precedes most dementias	B	2
<i>Diagnosis:</i> cognitive decline suspected, MMSE range normal, objective cognitive decline noted on a sensitive screen or in-depth neuropsychological testing	B	2

# DSM-5 criteria:

## Minor Neurocognitive Disorder

- Decline in one or more area of cognition
  - Concern of the individual, an informant, or clinician
  - Objectively measured
- Independent for daily activities
- No delirium or other mental disorder that accounts for cognitive change

# Differentiating MCI



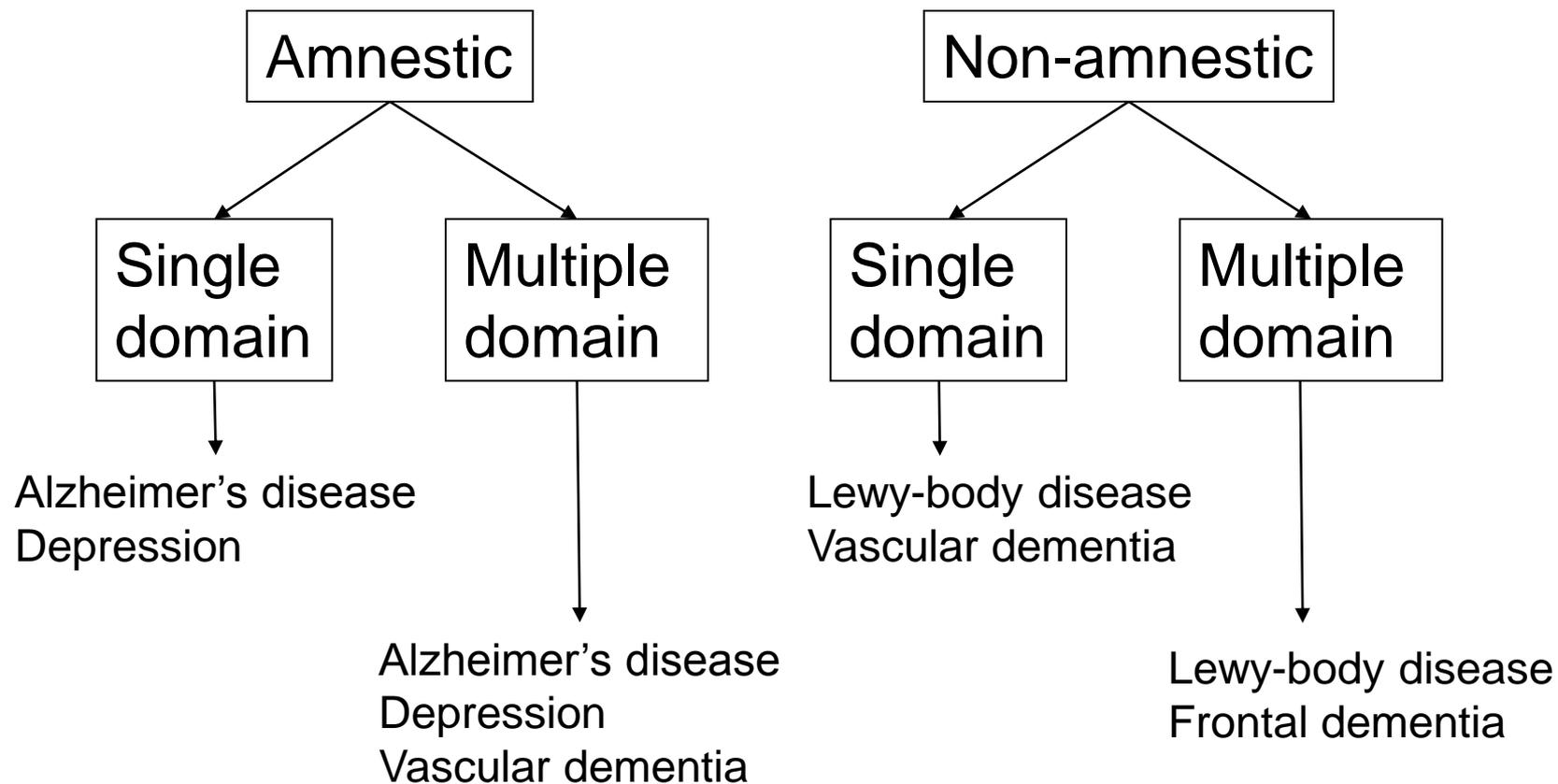
# Instrumental Activities of Daily Living (iADLs) Checklist

iADL	Assistance?	Change from previous?
Managing finances	Y / N	Y / N
Getting around town	Y / N	Y / N
Taking medication	Y / N	Y / N
Household chores	Y / N	Y / N
Cooking	Y / N	Y / N
Shopping	Y / N	Y / N
Keeping track of appointments	Y / N	Y / N

Adapted from Murphy & Troyer, *J Curr. Clin. Care*, 2012: 3, pg7

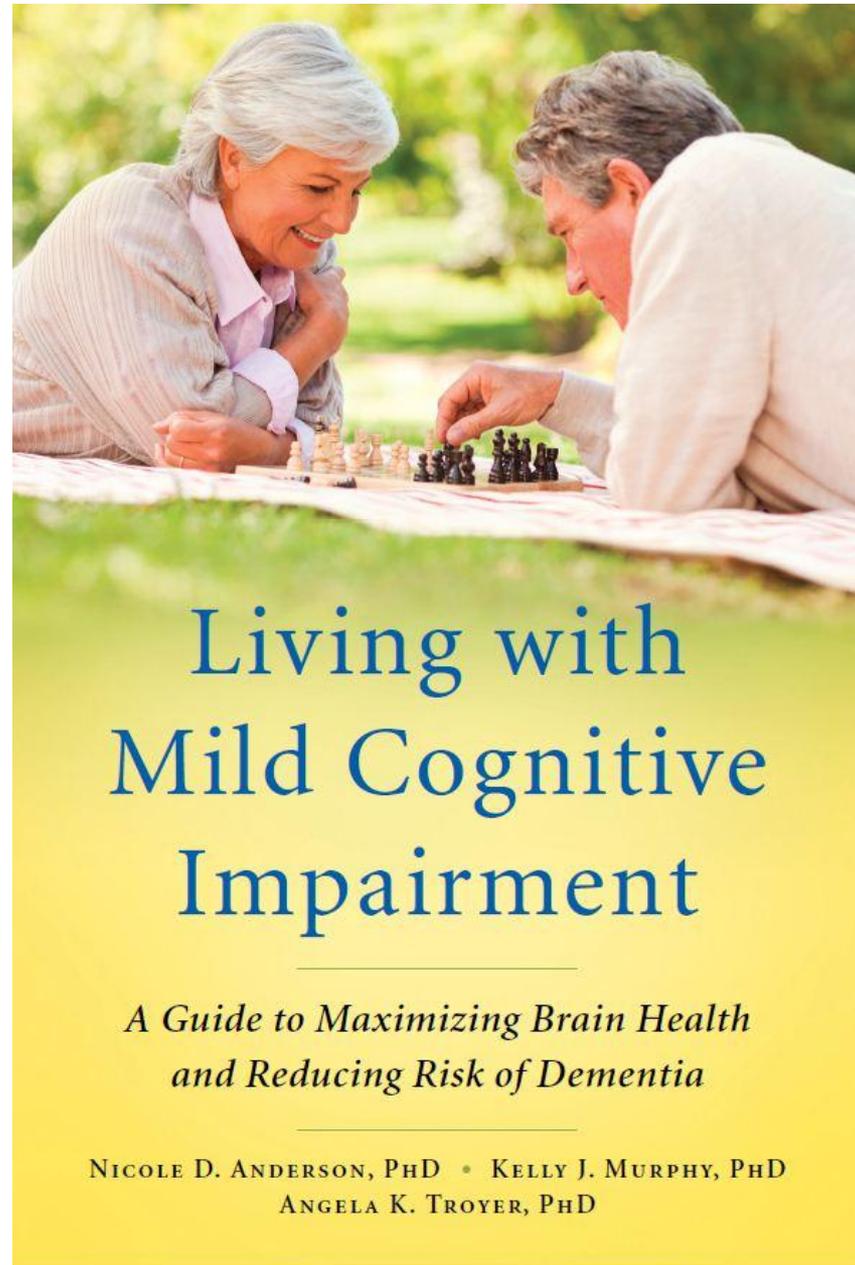
For article go to <http://www.healthplexus.net/article/recognizing-dementia-can-be-tricky>

# Subtypes & causes



# Raising Awareness

2012, Oxford University Press: New York  
[www.baycrest.org/livingwithmci](http://www.baycrest.org/livingwithmci)



# Everyday Impact of Memory Change

Themes	Normal Aging	MCI
Feelings & Views About Self	<ul style="list-style-type: none"> <li>• Frustrated</li> <li>• Disappointed</li> <li>• Reduced confidence</li> <li>• Self-acceptance</li> </ul>	<ul style="list-style-type: none"> <li>• Frustrated</li> <li>• Disappointed</li> <li>• Reduced confidence</li> <li>• Self-acceptance</li> </ul>
Social & Interpersonal Relationships	<ul style="list-style-type: none"> <li>• Memory partners</li> <li>• Increased empathy for peers</li> </ul>	<ul style="list-style-type: none"> <li>• Increased reliance on others</li> <li>• Social withdrawal &amp; exclusion</li> </ul>
Leisure Activities	<ul style="list-style-type: none"> <li>• Increased</li> </ul>	<ul style="list-style-type: none"> <li>• Stopped or decreased</li> </ul>
Behavioural Compensation	<ul style="list-style-type: none"> <li>• Increased</li> </ul>	<ul style="list-style-type: none"> <li>• Increased</li> </ul>

# Impacts on Family

- Frustration / Resentment
  - being asked the same question,
  - having to assist with something he/she should know how to do (e.g., looking up movie times on internet).
- Worry
  - over likelihood of learning a new responsibility
  - over what will happen if their loved one gets dementia
  - how much help to provide
- Sense of Loss
  - For the way things used to be

-Blieszner & Roberto, *The Gerontologist*, 2010:50

-Garand et al., *Int.J. Geriatric Psychiatry*, 2005:20

-Savla et al., *J. Gerontol. Series B: Psychol. Sci. & Soc. Sci*, 2011:66

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MCI (mild cognitive impairment) or CIND (cognitive impairment no dementia)	Recommended Grade	Evidence Level
<b>TREATMENT APPROACH</b>		
<u>Progression Risk</u> : monitor over time.	B	2
<u>Behavioural Intervention</u> : recommend healthy lifestyle to include physical and cognitive activity.	B	2
<u>Control Vascular Risk</u> : screen for vascular risk factors and treat optimally.	B	2
<u>Pharmacological Intervention</u> : None recommended.	D	1

# Lifestyle

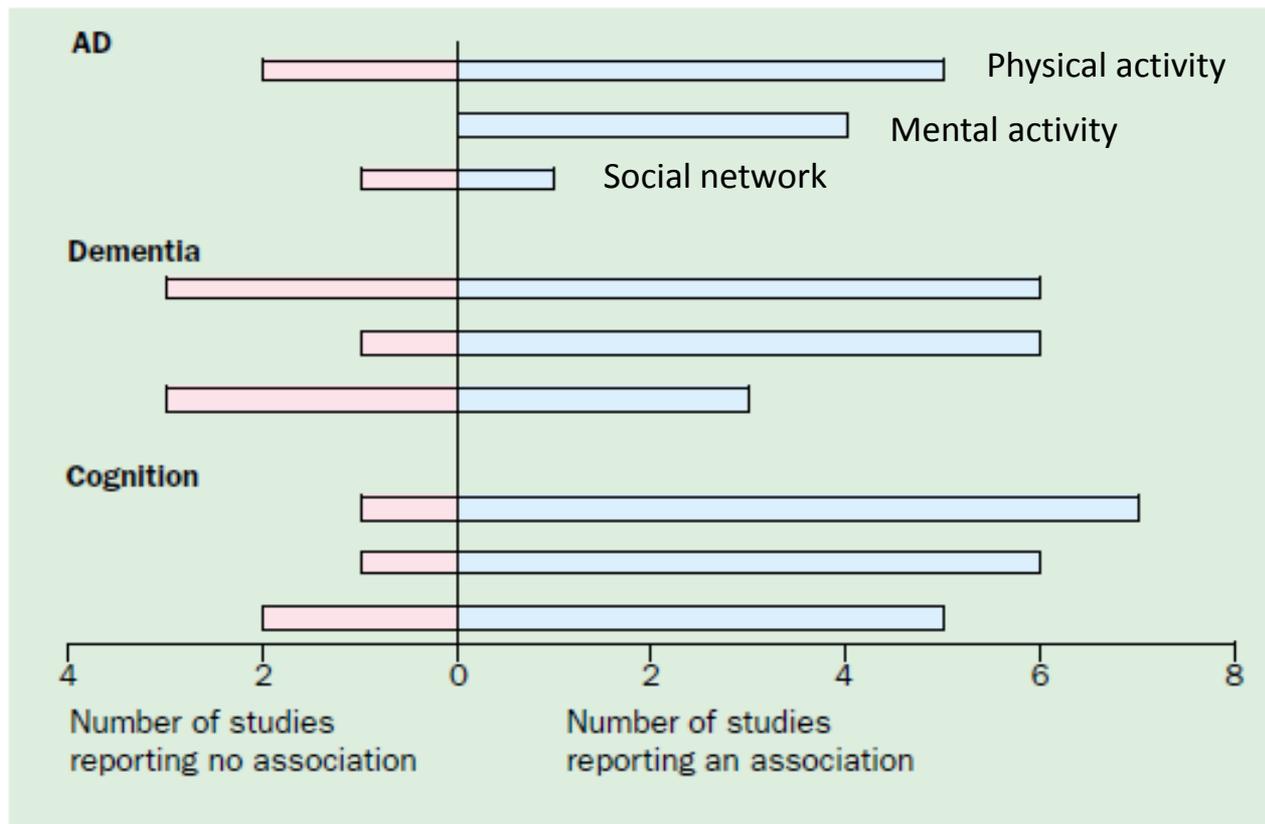


Figure 1. Evidence for protective factors for AD, dementia, and cognition. Top bar=physical activity; middle bar=mental activity; bottom bar=social network.

Fratiglioni et al. (2004). *Lancet Neurol*, 3, 343-353.

# Why lifestyle intervention?

Current research associates improved management of cardiovascular risk factors with reduced dementia prevalence AND greater education with better cognition and functioning in the 9<sup>th</sup> decade.

**SEE 2013 LANCET PAPERS [www.thelancet.com](http://www.thelancet.com) :**

Matthews, et. al., [http://dx.doi.org/10.1016/S0140-6736\(13\)61570-6](http://dx.doi.org/10.1016/S0140-6736(13)61570-6)

Christensen, et. al., [http://dx.doi.org/10.1016/S0140-6736\(13\)60777-1](http://dx.doi.org/10.1016/S0140-6736(13)60777-1)

# Why cognitive intervention?

Research shows people with MCI can acquire new information and apply that learning to improve their performance on cognitive tasks.

## FOR REVIEWS SEE:

Cotelli et al., *Frontiers in Human Neurosci.*, 2012:6.

Simon et al., *Neurosci Bio Behav Rev.*, 2012:36.

Tsolaki et al., *Neurodegenerative Dis.*, 2011:8.

# Learning the Ropes for MCI™

## Target Population & Format

Group intervention for people with MCI and their close family member

8, 2-hour sessions (6 weekly with follow-up at 1 & 3 mo.)

Detailed handouts with take home exercises

### Hour 1

- MCI Education / Resources
- Lifestyle factors

### Hour 2

- Memory Training (MCI)
- Psychosocial Intervention (Family)

# Healthy Lifestyle

In MCI Increased emphasis on **leisure activities**

- Identifying barriers to participation
- Solutions to barriers

In family emphasis on self-care and wellness

- Stress management

# Cognitive intervention

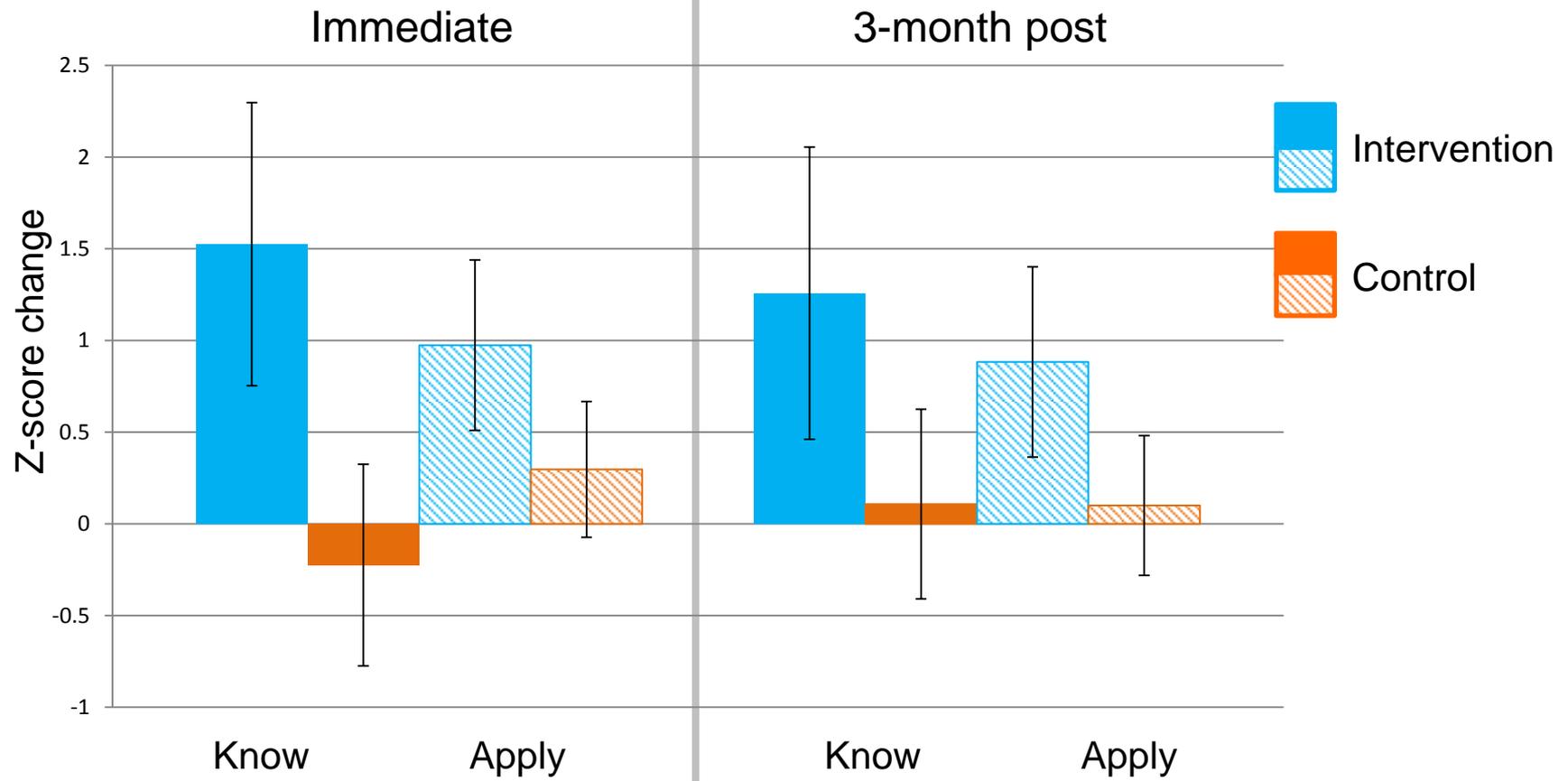
In MCI emphasis on memory training

- Practical strategies to manage everyday situations

In family emphasis on adapting to change

- Mastering positive approaches to everyday challenges

# Improved knowledge & application of memory strategies



# Commonly reported functional memory problems:

Names of people, places,

Misplacing things

Keeping track of schedule of commitments

Forgetting to carry out an intended activity

Numbers & passwords

Remembering what was said or decided upon

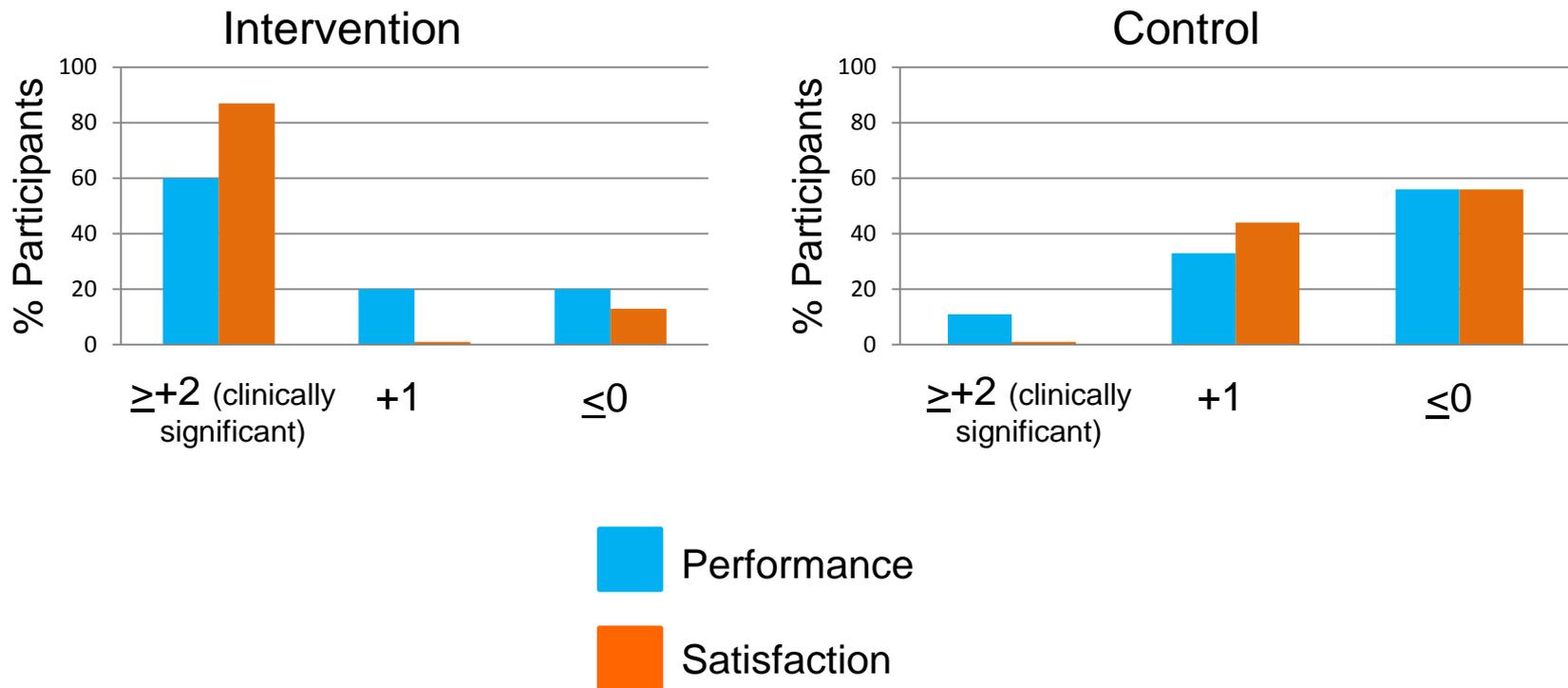
**Also see** Ahmed et al., *Alzheimer's Disease & Ass. Dis.*, 2008:22

# Strategies promoting functional memory:

- Evidence based memory strategies (e.g., records, logical locations, & spaced retrieval)
- Skills fostered through take home exercises & in-session practice to emphasize adoption of practical memory HABITS



# Self-report of improved functional memory skills in people with MCI



# Problem: I feel frustrated when my spouse repeats questions I already answered.

How would you rate your current **performance** or ability in dealing with this problem?

1 2 3 4 5 6 7 8 9 10

Not able  
to do it

Can do it  
extremely well

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How **satisfied** are you with the way you currently handle this problem?

1 2 3 4 5 6 7 8 9 10

Not able  
to do it

Can do it  
extremely well

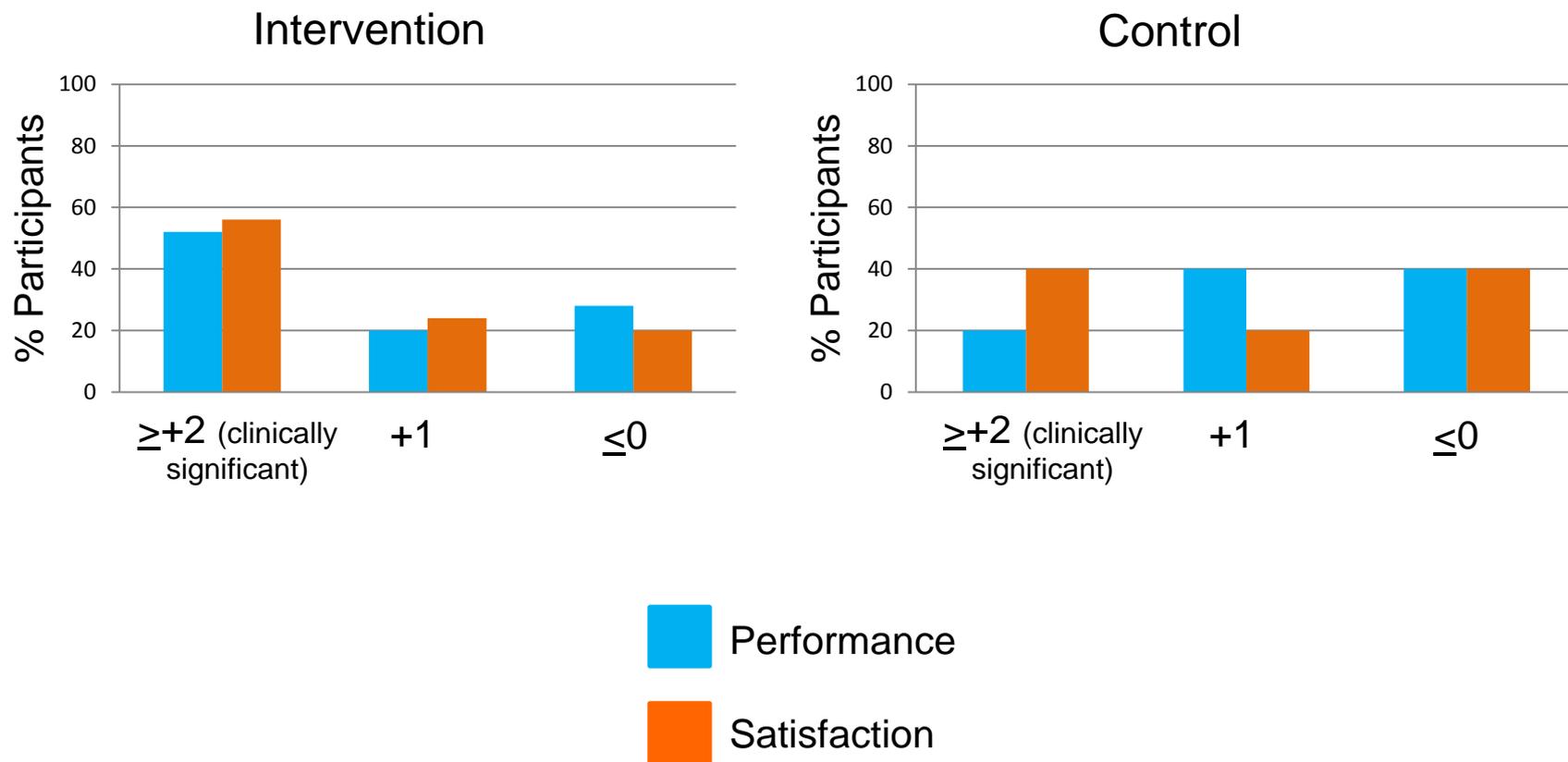
Measure adapted from

Law et al., (1994). Canadian Occupational Performance Measure (2<sup>nd</sup> ed.). Toronto, ON: CAOT

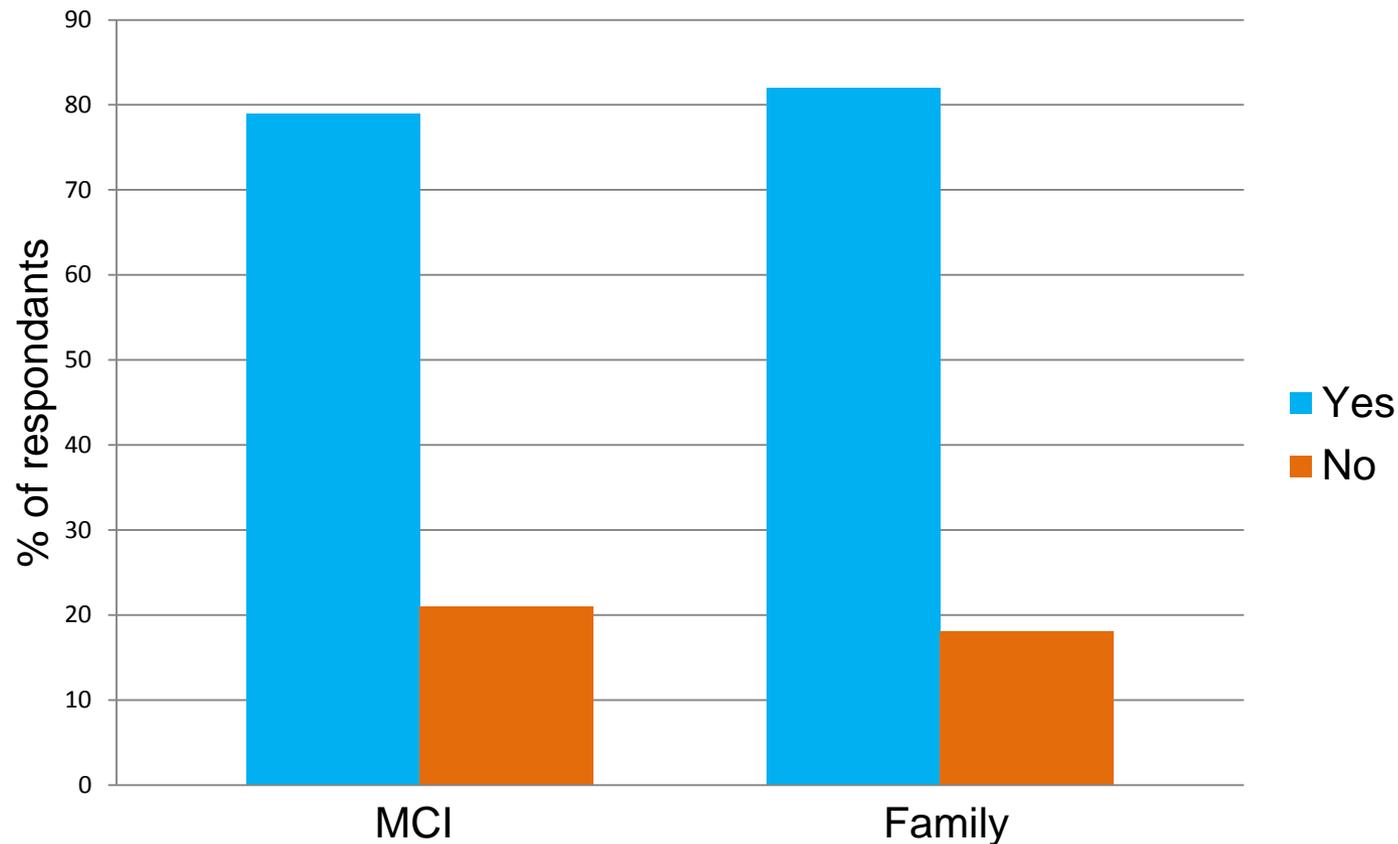
# Strategies to positively manage change:

- Evidence based cognitive therapy techniques (e.g., mind-body connection, shifting expectations).
- Skills fostered through shared stories, in-session practice and at-home reflection and application.

# Improved ability managing challenges related to living with a person with MCI

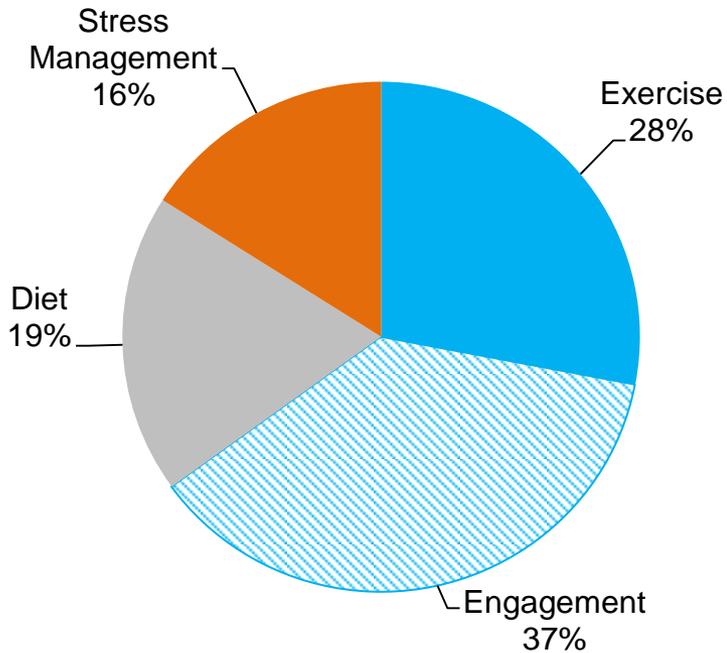


# Positive Lifestyle Change Post-Program Participation

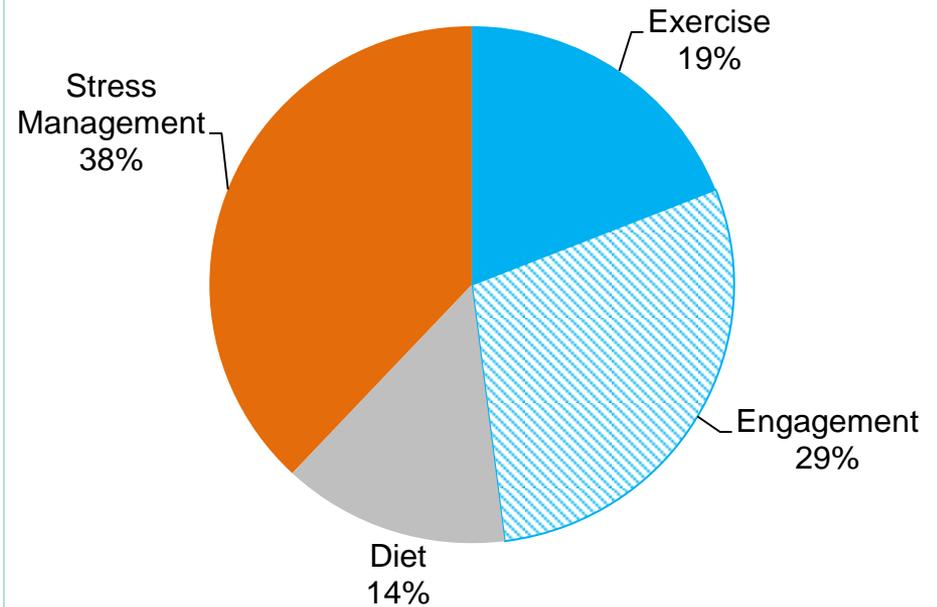


# Types of Reported Lifestyle Changes

**MCI**



**Family**



# Participant Feedback

## MCI

- increased confidence
- better functional memory
- 95% recommend program

## Family

- decreased worry
- improved skill at managing change
- 97% recommend program

# Overview of intervention effectiveness – [Learning the Ropes for MCI](#)

- Increased knowledge (memory strategy)
- Increased daily strategy application
- Improved functional memory
- Positive lifestyle changes
- Improved ability to manage change
- High participant satisfaction

# Current Directions

**Research Focus:** RCT evaluating program influence in

a) effecting positive change in healthy lifestyle behaviours,

b) improving *functional* memory in MCI participants, and

c) fostering adaptive approaches to managing change in close family

**Dissemination:** Making program materials available to other health professionals / centres.

[www.baycrest.org/care/care-programs/centre-for-memory-and-neurotherapeutics/learning-the-ropes-for-mild-cognitive-impairment/](http://www.baycrest.org/care/care-programs/centre-for-memory-and-neurotherapeutics/learning-the-ropes-for-mild-cognitive-impairment/)

OR [www.learningtheropesformci.com](http://www.learningtheropesformci.com)

## Learning the Ropes for Mild Cognitive Impairment™

(formerly the Memory Intervention Program)

**Learning the Ropes for Mild Cognitive Impairment™** is a program focused on optimizing cognitive health through lifestyle choices, memory training, and psychosocial support.

*Learning the Ropes* is aimed at older adults and their close family members/friends, who are living in the community, and are experiencing Mild Cognitive Impairment (MCI). MCI refers to cognitive decline, commonly involving memory that is greater than expected for age, but does not markedly compromise independence in carrying out daily responsibilities.



Program content includes:

- **Education about MCI and lifestyle factors** for promoting cognitive health and reducing risk of dementia.
- **Memory training** involving practical strategies aimed at improving everyday remembering, such as memory for names, appointments, location of items, and things to do.
- **Family support** focused on discovering approaches for effectively living with a relative experiencing MCI.

**Eligibility:** Physician referral required. [Referral form](#) 📄

**Fee:** OHIP covered

[Learning the Ropes™ program brochure](#) 📄

**New book** [Living with Mild Cognitive Impairment](#)

Contact information: 416-785-2500 📞 ext. 2445

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**THANK YOU**