



Interior Health

Phased Dementia Pathway Description of the Mild Cognitive Impairment or “MCI” Phase

What is MCI? (Mild Cognitive Impairment)

Mild cognitive impairment or MCI is frequently described as a “transition phase” of cognitive decline that can occur in some individuals between the cognitive changes associated with normal aging and cognitive losses identified in the early stages of various dementias¹. MCI is a clinical construct used to identify “**evidence of a cognitive decline that is not normal for age and not fulfilling diagnostic criteria for dementia, which includes essentially normal functional activities (preserved basic activities of daily living and minimal impairment in complex instrumental activities of daily living)**”². The cognitive decline is evidenced by either self and/or informant (e.g., family, caregiver) report along with deficits on objective cognitive tasks, and/or evidence of decline over time detected by neuropsychological testing.

There are different types of dementias. Are there different types of MCI?

Yes. The research literature is full of various definitions for these transition cognitive states. Over the past 20 years, there have been many descriptions and definitions attempting to capture the earliest pathological changes in cognitive function. The result is a large variation in the clinical descriptions of changes in cognitive function that precede the development of a dementia. It is thought that these changes reflect the underlying neuropathology of the type of dementia (Alzheimer Disease, Vascular, Mixed, Lewy Body, etc) that *may* progress, but not enough is yet known to clearly identify and differentiate the different dementias in these earliest stages of development.

At the current time, there is confusion in the literature as to whether or not “MCI” is a term reserved for pre-Alzheimer disease, or a larger umbrella term applied to the wider range of pre-dementia syndromes. The most accepted use of the term MCI is to describe a heterogeneous cognitive state that encompasses the earliest changes of the various types and expressions of pre-dementias^{3,4}. Therefore, for the purposes of the Phased Pathway, the term “mild cognitive impairment” will be used as an umbrella term to capture this transition cognitive phase. However with ongoing research and new developments, greater clarity and consistency in terminology should be close at hand and this dilemma may be resolved.

If there is no significant disability, why is it important to describe this phase?

There is a sizeable body of evidence that indicates that persons with MCI are likely to experience a *faster rate of cognitive decline*, and are at an *increased risk to progress to a dementia*⁵, (e.g. Alzheimer disease or related dementia - ADRD). There has been recent research interest to investigate and identify who is at greatest risk to develop what type of dementia, how quickly, what the transition states look like, and other predictive factors among MCI populations. An understanding of these factors would allow for early identification, possible treatment, provision of lifestyle behavioural counselling and organization of social supports for individuals with MCI, in an effort to slow or delay the progression of further cognitive loss into confirmed dementia and to mitigate any resulting disability.

¹ The word “dementia” is used throughout the Pathway as an umbrella term for the constellation of various types of dementing disorders. While Alzheimer Disease is the most common and recognizable form, the word “dementia” also refers to related dementing disorders such as Vascular, Mixed, Lewy-Body, etc. The technical term for this is “Alzheimer Disease and Related Dementias (ADRD)”, however for ease of communication, the umbrella term “dementia” was chosen to indicate this.

² Winblad et al. (2004). Mild cognitive impairment – beyond controversies, towards a consensus: report of the International Working Group on Mild Cognitive Impairment. *Journal of Internal Medicine*, 256:240-246

³ Gualtieri CT, Johnson LG. (2005). Neurocognitive testing supports a broader concept of mild cognitive impairment. *Am J Alzheimers Dis Other Demen.* 2005 Nov-Dec;20(6):359-66.

⁴ Nordlund A, Rolstad S, Hellstrom P, Sjogren M, Hansen S, Wallin A. (2005). The Goteborg MCI study: mild cognitive impairment is a heterogeneous condition. *J Neurol Neurosurg Psychiatry*;76(11):1485-90.

⁵ Petersen, RC. (2004) Mild cognitive impairment as a diagnostic entity. *J Intern Med*.256:183-194



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While it is true that individuals diagnosed or suspected to have MCI are unlikely to need an array of support services as currently exist in the formal health system, these individuals are likely to have health care encounters that will present as opportunities for early recognition and referral. The changes that accompany this phase are subtle, and may include alterations in thinking, functional abilities, behaviour or mood, all of which need to be investigated and differentiated from other possible (reversible) causes (e.g., medications, depression, physical illness, delirium, etc.). In this phase, self-awareness of changes in thinking or memory is more common than in dementia, so clients are more likely to report their concerns⁶. Family and close caregivers may also express concerns about witnessed changes over time. It is critical that health professionals take these cognitive complaints seriously and develop an index of suspicion for cognitive impairment which results in early recognition and referral to physician colleagues for investigation and follow-up.

What are the important clinical issues related to MCI?

The clinical “pinch points” at this phase of the pathway were identified and validated through client and caregiver focus groups. Interviews were held with members from both early client support groups (clients reported a variety of diagnoses from MCI to possible, to early dementia), and early stage family caregiver support groups. Members of these groups were asked about their experiences prior to diagnosis, receiving the diagnosis and in the period following. Individuals were asked to identify what they felt supported them in learning their diagnosis, and what did not, and to make recommendations on how to “make it better” for others.

The information out of these interviews along with a comprehensive literature review highlights the need for early recognition, referral leading to early diagnosis and disclosure, and a variety of support needs throughout the uncertainty of this transition period. While family physicians play a key critical role in this challenging and uncertain phase, the role for other members of the interdisciplinary team is to provide support to clients and family caregivers, as well as to their physician colleagues.

Three main clinical issues that require the development of evidence-informed practice recommendations for interdisciplinary health professionals were identified. These are:

1. Recognition of early cognitive-related changes and importance of early referral to GP;
2. Understanding the clinical and ethical challenges of the diagnostic and disclosure process;
3. Providing information and emotional support to the client and caregiver throughout this transition phase.

An Important Note about the Phased Dementia Pathway

It is important to mention that phasing and staging of pre-dementia and dementia is a mental construct, not a precise science that results in clinical certainty. Progression of disease is a gradual process, and there are no tidy markers or easily distinguished “cut-off points” that develop between one day and the next to differentiate “normal” cognitive function from MCI or MCI from early dementia, etc. It is helpful to view the Phased Dementia Pathway as a continuum that reflects cognitive changes from normal healthy aging through to end-stage dementia. At any point along the Pathway, the understanding of cognitive function may be blurry, uncertain, and often described with terms such as “possible” or “probable” cognitive impairment or dementia. There is no intention of the Phased Pathway to provide clinicians with rigid linear descriptions of disease progression, but simply a framework for organizing information and knowledge about the various progressive diseases collectively known as dementias along a cognitive continuum.

⁶ Farias ST, Mungas D & Jagust W. (2005). Degree of discrepancy between self and other-reported everyday functioning by cognitive status: dementia, mild cognitive impairment and healthy elders. *Intl J Geri Psych*,20:827-834.
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