Office Screening for Dementia

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Dementia is a common affliction in late life, affecting over 10% of US adults 65 and older, with prevalence doubling each five years of age thereafter. Dementia often goes unnoticed by primary care providers for several years after its onset. Not until sufficiently severe impairment such as difficulty with instrumental activities of daily living, including keeping appointments, impulsive purchasing, or getting lost driving prompts a caregiver to schedule a clinical visit or cognitive slip at the clinical encounter will the clinician realize a need to more carefully assess the patient. A public health threat with significant implications for patients, families and caregivers, dementia also produces a risk for increased health care utilization, including home health, nursing home and hospitalization; and, elder neglect and abuse. Those with mild cognitive impairment (MCI), but not dementia, incur a three to eightfold increased risk for ensuing dementia, depending on the definition used for MCI. Earlier recognition of MCI and dementia can help patients and those who care for them better prepare for later disability, and perhaps intervene to slow cognitive decline and keep patients and others safe. However, early recognition of cognitive impairment can only succeed if it is systematically implemented into clinical practice, a challenge for any busy primary care physician.

Cognitive Screening

Cognitive impairment often goes unnoticed because patients can cover defects by resorting to over-learned social skills and no real cognitive demands reveal the problems during usual social or clinical encounters. Busy clinicians will also miss cognitive impairment in many of their impaired patients unless they systematically look for the impairment. For a busy practice there are two complementary strategies that can help identify impaired patients or those at risk for impairment: having patients or their caregivers complete a screening questionnaire before the clinical encounter, such as in the waiting room; or, formally applying a dementia screening tool during the encounter. Of the several tools validated for screening, all have significant limitations (sensitivity and specificity) for identifying individuals with the least impairment. Also, more widely adopted tools for screening have the advantage of familiarity and ease of interpretation between providers who share patients, but such tools may take longer to administer or be less sensitive. Table 1 lists some commonly used screening instruments for cognitive impairment, including sensitivity and specificity for diagnosing dementia.

Of the available tools for screening, each has specific limitations, and the more comprehensive ones' greatest drawback has to do with the amount of time it takes to complete them. Of the ones that take more time to administer, the SLUMS has the potential advantage of greater sensitivity for mild impairment. The tools that take less time to administer generally miss important cognitive domains, whether language, spatial or executive function, and provide less utility in discriminating the source of the underlying pathology, but of these, we prefer the FAQ. The FAQ has the advantage of informing about functional impairment, directly informing potential interventions and types of community resources that can prove helpful to the patient and caregiver. The MiniCog has an embedded clock drawing activity, and is simple to score. A tool that can be consistently and efficiently applied can both provide a useful adjunct for systematic screening. More robust tools may offer added utility for monitoring progression of impairment, or response to interventions designed to stave off progression of impairment.

The approach to cognitive screening can mimic that of cardiac screening. Screening needs to include historical and clinical context, rather than just a screening instrument, and those patients who demonstrate risk or fail screening need further evaluation. If the patient has

Table 1. Cognitive screening: common tools for dementia.

Tool	Strengths	Weaknesses
Mini- mental status exam (MMSE)[1]	Well-known, best studied	Verbal, cultural bias; poor visuospatial, constructional praxis, problem solving; 5-10 m*
St. Louis University mental status (SLUMS)[2]	More sensitive for mild cognitive disorder than MMSE	Too complex for office use (10 min); age/education correction
Trails A[3]	Tests rapid visual search, 1-2 min	Not stand-alone; age/ education correction
Trails B[3]	Tests rapid visual search, 1-3 min	Not stand alone; age/ education correction
Mini-Cog[4]	Simple, 2-4 min, easy scoring	Not stand alone
Clock drawing test (CDT)[4]	1-5 min, minimal language, no prep	Not stand-alone
Time and Change[5]	Faster	Not stand-alone
Functional activities questionnaire (FAQ)[5]	Fast. Little skill to administer	Not stand-alone; needs informant
		Comparable to MMSE; may help distinguish MCI from Alzheimer's dementia

*time to administer

memory complaints or caregivers endorse memory issues, decline in instrumental activities of daily living—reduced ability to carry out routine daily tasks that require some cognition such as laundry, cooking, driving, shopping or balancing a checkbook—or are over age 65, brief cognitive screening is appropriate. If the screen is normal, consider rescreening every year or two. However, if the screen or clinical exam only establishes mild impairment, consider formal neuropsychological testing to establish a baseline, evidence of focal or more generalized dysfunction and whether further referral is needed to assist with additional evaluation. For patients who are clearly abnormal, evaluate for common causes of cognitive impairment, and consider formal neuropsychological assessment.

Clinical history should evaluate for risk factors for dementia: advancing age, history of loss of consciousness, vascular and cardiac risk factors including hypertension and hyperlipidemia, alcohol and drug abuse, metabolic disorders such as diabetes, and thyroid, other neurologic, psychiatric and infectious disease. Of neurologic disease, both familial history of dementia or cancer, and personal history of other neurodegenerative disease, falls, transient ischemic events, step-offs in cognition and cancer and can help. For psychiatric disease, depression and anxiety disorders can commonly affect cognition, especially for those who have a past history of these disorders. For infectious disease, history may identify risk for HIV, tuberculosis, or spirochetal disease, including syphilis or lyme disease. In any case, the history helps contextualize a differential diagnosis, and help target the exam for focal and other neurologic, vascular, infectious, metabolic, or findings. Always look for recent changes in medications, especially medications with anticholinergic effects (e.g, antimuscarinics, diphenhydramine), sedatives, and centrally active drugs.

In the screening activity, consider what other information the tool provides. For example, with visuospatial or executive function errors, consider whether a driving assessment may be indicated. With instrumental activities of daily living IADL dysfunction, consider whether the patient already has a power of attorney for finances and medical issues. Consider following abnormal cognitive screens with screens for depression, such as the geriatric depression scale (5-10 minutes), delirium using the confusion assessment method (CAM), and caregiver stress, like the one developed by Zarit and Zarit.[8, 9]

Patients who fail screening, in addition to a careful clinical exam, need laboratory evaluation to look for treatable conditions.

Screening is important to keep patients and their loved ones safe. In patients who fail screening, consider how you might assess whether they are safe with driving, judgment with managing a stove-top or electrical fire, taking medications independently, wandering or other accidents, such as falling or choosing an inappropriate temperature for food, home or bathing. A specific assessment of ability to manage medications, the Medi-Cog, combines the Mini-Cog with the ability to fill a pill box, has been studied.[10,11] Referral to an occupational therapist for a home visit can help elucidate the merit of such concerns, and even provide helpful interventions to the patient and caregiver.

Patients who fail screening, in addition to a careful clinical exam, need laboratory evaluation to look for treatable conditions. These will typically include a complete metabolic panel, complete blood count, TSH, B12 test, and may also include a lipid cascade, drug screen, ESR, cardiac evaluation (CNS perfusion), neuroimaging—especially for those patients with motor or focal findings, among other tests. Taken together, if laboratory testing is normal with the exception of cerebral atrophy, the clinical task remaining for most patients will be to distinguish mild cognitive impairment and the "three D's," depression, delirium and dementia from one another (Table 2).

Refer patients for whom the etiology remains unclear or who complement your clinical and diagnostic skill set, such as a neurologist, psychiatrist or geriatrician. The consultant will appreciate baseline information in cognitive and functional domains, and a copy of the screening tool you employed. Also, they can help address specific safety concerns you may have identified. The neuropsychologist can also help the physician consultants, especially in mildly impaired patients.

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Table 2. Distinctions between common causes of cognitive impairment

	Mild Cognitive Impairment	Depression	Delirium	Dementia
Confusion	Absent	Absent	Present	Variable
Attention	Good	Variable	Reduced	Good
Effort on tasks	Good	Reduced	Variable	Good
Consciousness	Clear	Clear, slowed	Clouded	Clear
Onset	Insidious	Recognized	Acute	Insidious
Duration	Months-years	Weeks-months	Acute	Months-years

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