

By Deirdre Mary Carolan Doerflinger, PhD, CRNP

The Mini-Cog

Simplify the identification of cognitive impairment with this easy-to-use tool.

Overview: As the population grows and the proportion of older adults increases, the incidence and prevalence of dementia are expected to increase dramatically. Health care providers' lack of awareness of current geriatrics practice and persistence in holding the outdated belief that confusion is a normal part of aging contribute to significant underrecognition of dementia in all settings. Early recognition and diagnosis are critical to carrying out best practices in the care of older patients. The Mini-Cog is a simple, effective, easily administered screening tool that can uncover cognitive impairment in its earliest stages. The tool consists of a three-item recall task and a simple clock-drawing task. The Mini-Cog takes only three to five minutes to administer and requires minimal training. For a free online video demonstrating the use of this tool, go to <http://links.lww.com/A204>.



Ed Eckstein

Dorothy Jensen is an 89-year-old woman who lives alone; she was admitted to the ED after falling in her home. (The case is a composite based on my clinical experience.) She phoned her daughter—a daily ritual—and mentioned that she had slipped on a throw rug in her hallway. She was not sure if she hit her head but had no loss of consciousness or obvious injury other than pain in her right wrist. Ms. Jensen's daughter arrived at the house and found her mother in her usual state of health but with a reddened, swollen right wrist. The daughter called Ms. Jensen's primary care provider, who advised her to take her mother to the local ED. On arrival, her vital signs were temperature, 36.6°C (97.9°F); blood pressure, 110/70 mmHg; heart rate, 92 beats per minute; and respirations, 18 breaths per minute and unlabored. Pulse oximetry showed an oxygen saturation of 99% on room air. After waiting for two hours, Ms. Jensen was examined by a physician, and her wrist appeared normal on X-ray. She rated her pain as 4 on a 0-to-10 pain-rating scale. She was given ibuprofen 400 mg orally, and her pain rating decreased to 1. Ms. Jensen was admitted to the general medical unit at 9 PM for observation. Her vital signs remained stable, and her pain ratings remained at 1 or 2.

Mild congestive heart failure has been diagnosed about a year earlier. It was being treated with digoxin (Lanoxin) 0.125 mg orally every other day and furosemide (Lasix) 20 mg orally every morning. Her only prior hospitalizations were for the births of her two children. Ms. Jensen had begun taking a baby aspirin daily six months earlier, after reading about it in a magazine.

At home, Ms. Jensen managed her finances, shopped for groceries, prepared meals, and did laundry. She enjoyed gardening, needlecrafts, and an active social life. Her daughter, who was present at admission, reported no concerns.

At 1 AM nurses doing hourly rounds found Ms. Jensen a bit disoriented. Her nurse, Carrie Underhill, sat down with her and took her hand. In a calm voice, she told Ms. Jensen that she was safe and reminded her that she was in the hospital and that her daughter knew exactly where she was. When Ms. Jensen voiced doubt, Ms. Underhill placed a call to the daughter, explaining what had happened and asking her to reassure her mother. After the call, Ms. Jensen was visibly calmer, and Ms. Underhill reassured Ms. Jensen that it isn't uncommon to become disoriented when one is ill and in a strange place. Ms. Jensen went back to sleep with no further



Web Video

Watch a video demonstrating the use and interpretation of the Mini-Cog at <http://links.lww.com/A204>.



A Closer Look

Get more information about the reasons for assessing older adults for cognitive impairment.



Try This: The Mini-Cog

This is the model in its original form. See page 67.




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distress. Aware that there's a high incidence of unrecognized and untreated dementia among older adults, and that some causes of cognitive impairment are treatable, Ms. Underhill reported her concerns to the oncoming day shift.

After Ms. Jensen had eaten and bathed, the day-shift RN, Kristen Palmer, approached her to further assess her mental status using the Mini-Cog.

WHY USE THE MINI-COG?

Many observers have noted that the U.S. health care system is not well prepared to handle its rapidly growing geriatric population. Among the improvements needed are accurate, reliable, evidence-based assessment instruments for the conditions that affect older adults. The Mini-Cog is a newly developed, reliable, and valid instrument used to screen for cognitive impairment consisting of a three-item recall test and a clock-drawing test.¹⁻⁴ It is evidence-based, easy to administer, and not too taxing for the patient or the provider.¹⁻⁴ (To see an algorithm showing when to use four different tools for assessing mental status in older adults, go to <http://links.lww.com/A334>.)  Ms. Jensen's case illustrates the importance of early diagnosis of cognitive impairment in an otherwise healthy older adult.

Why Assess For Cognitive Impairment?

The term *dementia* encompasses several progressive cognitive disorders, all involving memory loss caused by brain deterioration.¹² In order to be considered signs of dementia, the cognitive changes must interfere with the performance of activities of daily living. Alzheimer's disease is thought to be responsible for as many as 50% to 70% of cases.¹³ Other types or causes of dementia include vascular dementia, mixed dementia, Creutzfeldt–Jakob disease, Huntington's disease, Lewy body dementia, Parkinson's disease, frontotemporal dementia, normal pressure hydrocephalus, and Wernicke–Korsakoff syndrome.

The risk of dementia increases with age; as the population ages, the incidence of dementia rises. According to the Alzheimer's Association, more than 5 million people have Alzheimer's disease in the United States, 4.9 million of whom are over the age of 65; as many as 50% of those ages 85 or older are affected; and 200,000 to 500,000 people younger than age 65 have early-onset dementia.¹⁴ Ferri and colleagues estimated that 24.3 million people worldwide had dementia in 2001 and that 4.6 million new cases occur annually. They also projected that the number of new cases will double every 20 years.¹⁵

The population of the United States is aging rapidly. While the total population has grown an average of 1.2% each year since 1950, the segment of the population 65 years of age and older has increased at 2% annually.¹⁶ In 2005, 37 million Americans were ages 65 or older, an increase of 25 million since 1950. Those 75 years of age and older are the fastest-growing subgroup, increasing by 2.8% annually. By 2029 all the baby boomers (those born between 1946 and 1964) will be ages 65 years older, and the number of people 65 to 74 years of age will increase from 6% to as much as 10% of the population.

Up to 70% of people with Alzheimer's disease and other dementias are cared for at home by informal caregivers for much of the time between diagnosis and

death.¹³ Approximately 10 million Americans—almost one-third of the caregivers for patients who are 60 or older—care for a patient with dementia.¹⁴ Frequently, caregivers have inadequate support, and they rarely have training in dementia care. The disruption in a caregiver's life is long-term, and the family repeatedly suffers the loss of the family member who has dementia as the dementia progresses and at her or his death.

Diagnosis of dementia can be difficult, particularly when it is mild.⁸ Treatable conditions for which cognitive impairment may be a symptom include hypo- or hyperthyroidism, pernicious anemia, and chronic infections. Diagnostic tests and treatments for these disorders can be relatively simple, inexpensive, and quick.

An early, accurate diagnosis of dementia helps patients and their families plan for the future. Early diagnosis also offers the best opportunity to treat its symptoms and perhaps even to slow its progression. It allows time for care options to be discussed while the patient can still participate in decision making.

Delay in or absence of diagnosis deprives people of the opportunity to plan. If diagnosis is made early, they may be able to conclude unfinished business and arrange for caregiving by talking with family members, making legal arrangements, rearranging finances, and instituting advance directives.

In the United States in 2004, Alzheimer's disease was the seventh-leading cause of death; among those ages 65 and older it was the fifth-leading cause.¹⁷ Deaths from Alzheimer's disease increased by almost 33%, while deaths from heart disease dropped by 8%, those from breast cancer dropped by 2.6%, and those from stroke dropped by more than 10%.¹³ Patients survive four to six years, on average, from the time of diagnosis, but can survive as long as 20 years.

Direct and indirect costs of all dementias are estimated at \$148 billion per year, with Medicare reporting expenditures of \$91 billion in 2005.¹³ Medicare expenditures are expected to increase to \$189 billion by 2015.

Since 1975 the gold standard in assessing cognitive impairment has been the Folstein Mini-Mental State Exam (MMSE), which has been tested extensively in many settings and populations.⁹ The MMSE consists of 11 items designed to assess five areas of cognitive function:

- orientation (awareness of time and location)
- registration (ability to name objects)
- attention and calculation (assessed by having the patient count by sevens or spell *world* backward)

- recall (ability to remember objects named earlier)
- language (ability to follow a series of spoken and written instructions)

Some of the possible drawbacks of the MMSE are that the results have been found to be influenced by patients' levels of education and literacy, as well as by their cultural and ethnic backgrounds⁵⁻⁷; it takes 10 to 30 minutes to administer; and while the MMSE has been widely used, it has always been protected by copyright (in 2000, Psychological Assessment Resources, Inc., made an agreement with Folstein and



Watch It!

Go to <http://links.lww.com/A204> to watch a nurse use the Mini-Cog to screen for cognitive impairment in a hospitalized patient. The author then discusses its administration and interpretation of the results. Then watch the health care team discuss care plans and preventive strategies. The video also covers differences between delirium and dementia.

View this video in its entirety and then apply for CE credit at www.nursingcenter.com/AJNolderadults; click on the *How to Try This* series link. All videos are free and in a downloadable format (not streaming video) that requires Windows Media Player.

colleagues to distribute the MMSE, which now must be purchased). For these reasons, there's a clear need for another reliable, easy-to-administer screening tool. For a comparison of instruments that can be used to screen for cognitive impairment, go to <http://links.lww.com/A335>.

The Mini-Cog is a two-part test of executive function (the ability to plan, manage time, organize activities, and manage working memory, which is impaired in mild cognitive impairment or dementia) that can be used when there is a suspicion of cognitive impairment or during routine screening of an older adult patient.^{8,9} It is considered a screening test; it does not provide a diagnosis. A strength of this tool is its brevity: it takes three to five minutes to administer. Another advantage is that it requires minimal training of the tester and minimal equipment—a pen or pencil and paper.^{3,10} Its brevity and simplicity make its use appropriate in a variety of settings.^{3,4,11} Primary care providers may use the tool to facilitate early identification of cognitive impairment.^{8,11} All providers needing to determine whether cognitive impairment is present will find the tool useful. Of course, no test should be used alone to make a diagnosis of dementia, and the Mini-Cog is no exception. To view the segment of the online video discussing factors that contribute to changes in cognitive status, go to <http://links.lww.com/A206>.

ADMINISTERING THE MINI-COG

The examiner begins an assessment with the Mini-Cog by asking the patient to listen carefully to, remember, and then repeat three unrelated words the examiner will say. Next, the examiner instructs the patient to draw the face of a clock on a blank sheet of paper (or gives the patient a sheet with a circle already drawn on it); after the patient writes the numbers on the clock face, the examiner asks the patient to draw the hands of the clock so it indicates a specific time.^{1,3} (Several studies have shown that the time 11:10 is more sensitive for revealing deficits than other times might be.¹⁸⁻²⁰) Then the examiner asks the patient to repeat the three words again. If the patient misses all three words on the first round, the examiner doesn't need to ask that they be repeated because impaired cognition has already been demonstrated.


Ms. Jensen, continued. After knocking on the door and identifying herself, Ms. Palmer went into Ms. Jensen's room and asked for permission to sit and discuss how she was managing at home. Ms. Jensen reported that she did quite well, especially since she began using a biweekly cleaning service and lawn service about two years ago. She mentioned having missed paying the electric bill for the first time in her life two months before and that she

had not realized the error until a second notice arrived. Ms. Palmer explained that many people experience some forgetfulness as they age and that, in many cases, these memory lapses are not indicative of a more serious condition. She also explained that these symptoms can sometimes mean that a person may be developing cognitive impairment. Seeing the concern in Ms. Jensen's face, the nurse quickly reassured her that, if identified early enough, the disorder may be correctable or it may be possible to prescribe medications that can delay any worsening of symptoms. Having an increased awareness of memory lapses and other symptoms could also help the Jensen family take advantage of the valuable time remaining to plan for the future. Ms. Palmer emphasized that this would allow Ms. Jensen to communicate to her family her wishes and plans for her future. Ms. Jensen agreed to be assessed.

Ms. Palmer asked Ms. Jensen if she was more comfortable sitting up at the side of the bed or reclining in her bed and using a clipboard. Ms. Jensen chose the first option. Ms. Palmer explained that the test would take no more than five minutes and that it involved remembering words and then a drawing task. Since the admission assessment had shown that Ms. Jensen used reading glasses, they were cleaned and made easily accessible. Ms. Palmer told Ms. Jensen that she would say three unrelated words and then ask her to repeat the words. Ms. Palmer made sure Ms. Jensen could easily hear her and that there were no distracting noises. In a normal speaking voice, she said, "cup, train, blue," and requested that Ms. Jensen repeat the three words. Ms. Jensen repeated two of the words, "train" and "blue." Seeing that Ms. Jensen was upset about not remembering the first word, Ms. Palmer reassured her and asked if she wanted to continue. Ms. Jensen said yes. Ms. Palmer placed a sheet of paper on the over-bed table in front of Ms. Jensen, handed her a pen, and asked her to draw a clock face. Ms. Jensen drew a complete circle. She then began to insert the numbers, starting at 12. Numbers were written at appropriate spaces on the face. Then, Ms. Palmer asked Ms. Jensen to place hands on her clock to indicate 11:10. Ms. Jensen placed the short hour hand pointing at the 11 and the long minute hand

pointing at the 10. Ms. Palmer again reviewed the instructions for indicating the time requested to ensure that Ms. Jensen had understood and asked Ms. Jensen to repeat the three unrelated words. Ms. Jensen still missed the first one.

INTERPRETING THE RESULTS

Scoring of the recall of words is based upon the first repetition of the words if the person misses any of them. If the second repetition is requested, the score on the recall of words is based upon the second repetition. Some research on the Mini-Cog has only used the first repetition in all cases. A patient's recall of all three words indicates that there is no dementia, but completing the clock-drawing test is still recommended. Recalling one or two words indicates possible dementia, so the clock-drawing test should be completed. Recalling none of the three words is indicative of dementia.^{1, 3} Some researchers recommend giving one point for each recalled word, for a score of 0 to 3. A score of 0 indicates a positive screen, as does a score of 1 or 2 with an abnormal clock drawing test. A score of 1 or 2 with a normal clock drawing test indicates a negative screen for dementia. The drawing of the clock itself is scored as normal if the patient draws a complete, closed circle (if she or he was asked to draw one), all the face numbers are present and in the correct position and sequence in the circle (either drawn or provided), and the hands indicate the time that was requested by the examiner.^{1, 2, 4} To watch the segment of the online video showing a demonstration of administering and interpreting the Mini-Cog, go to <http://links.lww.com/A205>. 

Ms. Jensen, continued. Ms. Palmer reviewed the drawing with Ms. Jensen, pointing out that the clock face was round and a closed circle, that the numbers were in their correct places, that the hour hand pointed at 11, and that the minute hand was pointing at 10 instead of 2. She explained that patients who recall one or two words are scored on the basis of their clock drawing and that Ms. Jensen's abnormal clock drawing indicated possible cognitive impairment.

CULTURAL CONSIDERATIONS

The Mini-Cog has been tested extensively in a variety of settings and populations and with testers having different levels of training. The Mini-Cog has been shown to identify early dementia in nonnative and non-English speakers as well as in native English speakers. (If available, a translator should be used when testing non-English speakers. If a translator is not available, a family member can write down three words for the examiner to repeat and translate the

instructions for the clock-drawing test.) The tool may be less effective in patients who have poor eyesight or difficulty holding a pen or pencil.

Borson and colleagues conducted additional testing to examine the tool's accuracy in a "community sample of culturally, linguistically, and educationally heterogeneous older adults" (N = 249).² (Borson and other colleagues also developed the Mini-Cog.) Researchers tested 129 subjects who met the clinical criteria for probable dementia based on interviews and 120 subjects who had no history of cognitive impairment. There were 124 non-English speakers in the sample. The Mini-Cog was compared with the MMSE and the Cognitive Abilities Screening Instrument (CASI). The Mini-Cog correctly identified 96% of subjects—more than either of the other tools. It also had the highest sensitivity at 99% ($P < 0.001$). The researchers noted that the Mini-Cog's "diagnostic value was not influenced by education or language."² Both the MMSE and the CASI were influenced by education, language, and the two combined.

The Mini-Cog was further tested for the influence of ethnicity in a later study by Borson and colleagues.⁴ They assessed a sample of 371 "predominantly ethnic minority elderly," of whom 231 met criteria for dementia or mild cognitive impairment. The sample was 22% African American, 48% Asian American, 17% Hispanic, 7% white non-Hispanic, and 6% Native American and other. Borson and colleagues intentionally overrepresented underserved ethnic minority groups and those with cognitive impairment. The researchers found that "the Mini-Cog met or exceeded the performance of the MMSE in accuracy of screening for cognitive impairment but required much less time and effort" and avoided some of the MMSE's susceptibility to bias.

The Mini-Cog has been tested in multiethnic and multilingual populations without being formally translated.^{2, 4} Only a few reports have been published in English on the use of the Mini-Cog in populations who are not native English speakers: one in which the test subjects were older Italians,²¹ another in Koreans,²² and a third in Hungarians.²³

COMMUNICATING THE RESULTS

The initial Mini-Cog screening allows providers to recognize subtle changes in cognition and make a diagnosis of early dementia. Patients should be offered the option of having a family member or other support person present when the test is administered and the results are discussed, and the provider should help ensure that the family member or support person is present. Most patients will need to be taught about the continuum of dementia. Some

Mental Status Assessment of Older Adults: The Mini-Cog

By: *Deirdre M. Carolan Doerflinger, CRNP, PhD, Inova Fairfax Hospital, Falls Church, Virginia*

WHY: There is increased incidence of cognitive impairment with age. Increasing age is the greatest risk factor for Alzheimer's disease. One in 10 individuals over 65 and nearly half of those over 85 are affected (Evans, et al, 1989). The advent of treatment for dementing illness necessitates the early identification of cognitive impairment using a reliable and valid tool which can be quickly implemented in the primary care setting. Early diagnosis allows the person to plan for the future; medications may slow disease progression, delay functional dependency and nursing home placement. Cholinesterase inhibitors show less effectiveness initiated later in disease course.

BEST TOOL: The Mini-Cog exam is composed of three item recall and the Clock Drawing Test (CDT). This tool can be used to detect dementia quickly and easily in various settings, either during routine visits or hospitalization. Clinicians may use the tool to assess a person's registration, recall and executive function. The scoring algorithm is as follows: Unsuccessful recall of all three items after the CDT distractor is classified as demented. Successful recall of all three items is classified as non-demented. Those individuals able to recall one or two of the items are classified based on the CDT. An abnormal CDT equates with demented and a normal CDT is considered normal and equates with non-demented (Borson, S., et al, 2000).

TARGET POPULATION: The Mini-Cog is appropriate for use in all health care settings. It is appropriate to be used with older adults at various heterogeneous language, culture and literacy levels.

VALIDITY AND RELIABILITY: The Mini-Cog was developed as a brief screening tool to differentiate patients with dementia from those without dementia. The Mini-Cog has sensitivity ranging from 76-99%, and specificity ranging from 89-93% with 95% confidence interval. A chi square test reported 234.4 for Alzheimer's dementia and 118.3 for other dementias ($p < 0.001$). This tool has strong predictive value in multiple clinical settings (Borson, et al, 2000; Borson, et al, 2003).

STRENGTHS AND LIMITATIONS:

The Mini-Cog takes about 3 minutes to administer. The Clock Drawing component of the test is scored as normal or abnormal, for the purpose of the Mini-Cog. Some researchers suggest the clock drawing tool should be scored to quantify impairment. This would increase complexity and training requirements. The Mini-Cog is not influenced by education, culture or language. Simple, short training is required to perform the Mini-Cog accurately. Assessment using the Mini-Cog was perceived as less stressful to the patient than other longer mental status tests. Its accuracy in heterogeneous groups may increase the identification of dementias in populations less diagnosed, increasing minority participation in research and improving parity of early treatment.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGerIRN.org.

Borson, S., Scanlan, J.M., Brush, M., Vitallano, P., & Dokmak, A. (2000). The Mini-Cog: A cognitive 'vital signs' measure for dementia screening in multi-lingual elderly. *International Journal of Geriatric Psychiatry*, 15(11), 1021-1027.

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Borson, S., Scanlan, J.M., Watanabe, J., Tu, S.P., & Lessig, M. (2005). Simplifying detection of cognitive impairment: Comparison of the Mini-Cog and Mini-Mental State Examination in a multiethnic sample. *JAGS*, 53(5), 871-874.

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Royall, D.R., Cordes, J.A., & Polk, M. (1998). CLOX: An executive clock drawing task. *Journal of Neurology, Neurosurgery, and Psychiatry*, 64(5), 588-594.

Scanlan, J.M., & Borson, S. (2001). The Mini-Cog: Receiver operating characteristics with expert and naïve raters. *International Journal of Geriatric Psychiatry*, 16(2), 216-222.

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The Mini Cog

ADMINISTRATION

The test is administered as follows:

1. Instruct the patient to listen carefully to and remember 3 unrelated words and then to repeat the words.
2. Instruct the patient to draw the face of a clock, either on a blank sheet of paper or on a sheet with the clock circle already drawn on the page. After the patient puts the numbers on the clock face, ask him or her to draw the hands of the clock to read a specific time.
3. Ask the patient to repeat the 3 previously stated words.

SCORING

Give 1 point for each recalled word after the CDT distractor.

Patients recalling none of the three words are classified as demented (Score = 0).

Patients recalling all three words are classified as non-demented (Score = 3)

Patients with intermediate word recall of 1-2 words are classified based on the CDT (Abnormal = demented; Normal = non-demented)

Note: The CDT is considered normal if all numbers are present in the correct sequence and position, and the hands readably display the requested time.

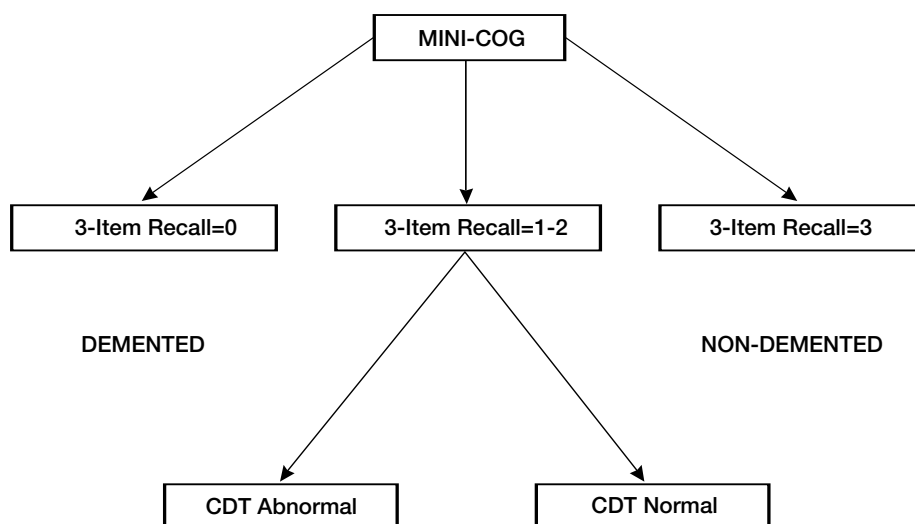


Fig. 1. Mini-Cog scoring algorithm (Borson, et al, p 1024).

From Borson, S., Scanlan, J., Brush, M., Vitallano, P., & Dokmak, A. (2000). The Mini-Cog: A cognitive 'vital signs' measure for dementia screening in multi-lingual elderly. *International Journal of Geriatric Psychiatry*, 15(11), 1021-1027. Copyright John Wiley & Sons Limited. Reproduced with permission.



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Other Steps to Take

people with dementia may be minimally impaired and require only monitoring rather than immediate assistance, and medication may be initiated. Such patients will also need to be reassured that their wishes will be the determining factors in their future care. Nurses should emphasize to patients and family members that it's important to get a clear sense of the problem and the care that will be required to cope with it, and that having this understanding can actually enhance their sense of self-determination and control. Patients who receive any serious diagnosis may develop depression and should be alerted to this possibility, and they should be encouraged to seek treatment and referrals from their primary care providers. Family members should be encouraged to let the patient be as independent as she or he desires, as long as there are no safety concerns. To see the segment of the online video dealing with a positive result of the Mini-Cog, go to <http://links.lww.com/A207>.

Ms. Jensen, continued. Ms. Palmer sat with Ms. Jensen and her daughter and explained the reason for administering the Mini-Cog and the meaning of the results: "Ms. Jensen, do you remember being disoriented last night? Do you remember the test I gave you in the morning? I asked you to remember three words and then you drew a clock for me. I want to explain why we did that test. Many older people and their families think it's normal to become forgetful as we age. New research shows that that isn't correct. While memory and thinking problems can increase as we age, they are often due to conditions that can be treated. If this is a dementia, there are medications that slow the course of the disease in some patients.

"Let's talk about how you did on your Mini-Cog. You had trouble remembering one of the three words. Your clock drawing was good, but you placed one of the hands incorrectly. This may mean that you have mild cognitive impairment. People who have this may or may not progress to worse memory problems. I would like to call your NP and let her know the results. Then she can order tests to find out whether the problem can be treated. Would that be okay?"

"Your NP may ask you to go in for testing after you leave the hospital, or she may do the tests here and discuss them at your appointment next week. It's important that you follow up with your primary care provider. She may be managing your care, or she may ask you to see a specialist."

Initial referral should be made to the patient's primary care provider for a full workup. If the patient does not have a primary care provider, one should be identified prior to leaving the hospital, and the Mini-Cog results should be communicated. After the evaluation is completed, referral should be made to

Patients whose Mini-Cog results are positive (indicating cognitive impairment) are at increased risk for delirium, falls, dehydration, inadequate nutrition, untreated pain, and medication-related problems. The following are some of the interventions nurses should consider initiating if a positive screen is obtained.

- Review medications for adverse effects.
- Assess for acute changes in mental status.
- Assess for depression.
- Assess for fall risk.
- Assess for malnutrition and dehydration.
- Encourage fluid intake unless contraindicated.
- Monitor for adequate nutritional intake.
- Assess for pain.
- Assess for constipation and fecal impaction.
- Assess for pressure ulcer risk.
- Collaborate with interdisciplinary team members.
- Monitor laboratory results.

For more on how one hospital is using the Mini-Cog, see <http://links.lww.com/A336>. —Rita LaRue, MSN, APRN, BC, GNP, geriatric clinical nurse specialist, Bronson Methodist Hospital, Kalamazoo, MI

community resources such as the Area Agency on Aging and the Alzheimer's Association. Completion of an advance directive and assignment of a durable power of attorney should be suggested, and if the patient and family so desire, institutional copies of these forms should be provided. The patient could be given a list of elder care lawyers who can assist in making legal arrangements and planning care and give family members and caregivers valuable direction regarding the patients' wishes for care.

Patients and their family members should receive information and education on what the future may hold and how the disease might progress. The nurse should emphasize that the Mini-Cog is only a screening tool; it may improperly identify dementia in some people who do not have it, or it may miss it in some people who do. If dementia is suspected, family members who may have already identified behavioral or personality changes may need reassurance that the changes in behavior are not conscious choices on the part of the patient but rather manifestations of the dementia process. Issues that may become of greater concern as the disease progresses (such as behavioral problems, the importance of maintaining a consistent environment, and the need for caregiver support) should be introduced gently and with sensitivity. (For other interventions, see *Other Steps to Take*, above.)

Ms. Jensen, continued. Ms. Jensen and her daughter agreed that Ms. Palmer should notify Ms. Jensen's NP of the Mini-Cog results. Ms. Palmer stressed the importance of the blood tests to determine whether there was a correctable cause of Ms. Jensen's lapse. The tests (complete blood count



Online Resources

For more information on the Mini-Cog and other geriatric assessment tools and best practices, go to www.hartfordign.org, the Web site of the John A. Hartford Foundation–funded Hartford Institute for Geriatric Nursing at New York University College of Nursing. The institute focuses on improving the quality of care provided to older adults by promoting excellence in geriatric nursing practice, education, research, and policy.

For more information on best practices in the care of older adults go to www.ConsultGerRN.org. The site lists many related resources and offers continuing education opportunities.

Go to www.nursingcenter.com/AJNolderadults and click on the *How to Try This* link to access all articles and videos in this series.

with differential, chemistry panel, serum magnesium test, thyroid stimulating hormone level, vitamin B₁₂ and folate levels, sedimentation rate, and serologic tests for syphilis) were conducted on a single blood draw in order to detect any infection, inflammatory process, anemia, electrolyte or metabolic imbalance, thyroid problem, or tertiary syphilis—all conditions that can be treated to correct the cognitive impairment or arrest its progression. Ms. Palmer, at the patient's request, also explained the test to Ms. Jensen's daughter, including a description of the workup that would be done and emphasizing to both patient and daughter that Ms. Jensen should make an appointment to discuss the blood work with her NP. This would allow her NP to expand the workup and plan interventions. Ms. Jensen continued to perform her self-care well and, because she had her daughter's support and encouragement, it was deemed safe to plan a home discharge. Ms. Jensen was discharged the next morning.

CONSIDER THIS

Many screening tools assess cognitive impairment. Most are reliable and valid. The Mini-Cog is an excellent tool that is easily and quickly administered and very accurate in identifying cognitive impairment. This tool was initially created and tested in a community-dwelling sample. It performed as well as older, well-tested, relatively brief instruments, in addition to standard screening tests that take up to 10 minutes to administer.^{9,24}

What is the evidence for using the Mini-Cog?

The earliest study of the Mini-Cog, conducted by Borson and colleagues in 2000, demonstrated its validity and reliability as a screening tool for cognitive impairment. Further testing has supported the use of the tool in educationally, culturally, and linguistically diverse populations.

- **Reliability.** There is only one report of test–retest reliability, which looked at a Korean translation of the Mini-Cog and demonstrated “reasonable” test–retest reliability over four weeks ($r = 0.85$, $P < 0.01$).²² In the 2000 study by Borson and colleagues, the Mini-Cog correctly identified all 92 subjects with probable Alzheimer's disease and 36 of 37 patients who had other dementias.²
- **Validity.** The Mini-Cog has demonstrated good validity in comparison with other tools that assess dementia in older adults with cognitive impairment. In addition, Borson and colleagues demonstrated that the older adult's language or education level did not affect the Mini-Cog but did affect scores on the MMSE.⁴
 - **Sensitivity.** Studies have shown that the Mini-Cog identified people with probable dementia 76% to 99% of the time among community-dwelling, ethnically diverse older adults.³
 - **Specificity.** Research has demonstrated that the Mini-Cog is able to correctly identify those who do not have dementia, with specificity rates ranging from 89% to 96%.³ These are comparable or superior to the specificity of the MMSE in identifying the *absence* of cognitive impairment. In 2005 the same researchers compared the Mini-Cog and MMSE in a sample of 371 subjects.⁴ Incorrect identification of dementia occurred in 17% of subjects with the Mini-Cog, the same rate that occurred using the MMSE.

Does the Mini-Cog work as well in people who are functionally impaired? While it has not been specifically tested, visual impairment would limit the use of the Mini-Cog, as would the inability to perform the drawing component of the tool. Hearing impairment could affect the three-item recall task if no compensatory mechanisms or alternative communication methods were available or effective. ▼

Deirdre Mary Carolan Doerflinger is a geriatrics clinical nurse specialist at Inova Fairfax Hospital in Falls Church, VA. Contact author: deirdre.carolan@inova.org. The author has no significant ties, financial or otherwise, to any company that might have an interest in the publication of this educational activity.

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Routine use of a Try This tool may require formal review and approval by your employer.

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