

Mental Status Examination in Primary Care: A Review

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The mental status examination is an essential tool that aids physicians in making psychiatric diagnoses. Familiarity with the components of the examination can help physicians evaluate for and differentiate psychiatric disorders. The mental status examination includes historic report from the patient and observational data gathered by the physician throughout the patient encounter. Major challenges include incorporating key components of the mental status examination into a routine office visit and determining when a more detailed examination or referral is necessary. A mental status examination may be beneficial when the physician senses that something is “not quite right” with a patient. In such situations, specific questions and methods to assess the patient’s appearance and general behavior, motor activity, speech, mood and affect, thought process, thought content, perceptual disturbances, sensorium and cognition, insight, and judgment serve to identify features of various psychiatric illnesses. The mental status examination can help distinguish between mood disorders, thought disorders, and cognitive impairment, and it can guide appropriate diagnostic testing and referral to a psychiatrist or other mental health professional. (*Am Fam Physician*. 2009;80(8):809-814. Copyright © 2009 American Academy of Family Physicians.)

ABSTRACT This article exemplifies the AAFP 2009 Annual Clinical Focus on management of chronic illness.

Although it is unrealistic to routinely perform a comprehensive mental status examination (MSE) in a single primary care office visit, incorporating key components of a formal MSE when the physician senses that something is “not quite right” with the patient can help the physician identify psychiatric illnesses, follow up as needed for more extensive evaluation, and make referrals when necessary. The examination can also help distinguish mood disorders, thought disorders, and cognitive impairment.^{1,2} Key components of the MSE are summarized in *Table 1*.¹⁻⁴

Appearance and General Behavior

The MSE begins when the physician first encounters and observes the patient. How the patient interacts with the physician and the environment may reveal underlying psychiatric disturbances or clues signifying the patient’s emotional and mental state. Collaborative observations from office staff may also be useful.¹ If the physician has known the patient for some time, it may be helpful to acknowledge and document any changes that have occurred over time that may correlate with changes in mental health.

Important observations of appearance may include the disheveled appearance of a patient with schizophrenia, the self-neglect of a patient with depression, or the provocative style of a patient with mania.

Motor Activity

Observations of motor activity include body posture; general body movement; facial expressions; gait; level of psychomotor activity; gestures; and the presence of dyskinesias, such as tics or tremors.² Psychomotor retardation (a general slowing of physical and emotional reactions) may signify depression or negative symptoms of schizophrenia.⁵ Psychomotor agitation may occur with anxiety or mania. Changes in motor activity over time may correlate with progression of the patient’s illness, such as increasing bradykinesia with worsening parkinsonism. In addition, changes in motor activity may be related to treatment response (e.g., parkinsonism secondary to an antipsychotic medication).

Speech

Observations of speech may include rate, volume, spontaneity, and coherence. Incoherent speech may be caused by dysarthria, poor articulation, or inaudibility.² The form

Table 1. Components of the Mental Status Examination

<i>Component</i>	<i>Elements to assess</i>	<i>Potential illnesses</i>
Appearance and general behavior	Body habitus, grooming habits, interpersonal style, degree of eye contact, how the patient looks compared with his or her age Appearance: well-groomed, immaculate, attention to detail, unkempt, distinguishing features (e.g., scars, tattoos), ill- or well-appearing Eye contact: good, fleeting, sporadic, avoided, none General behavior: congenial, cooperative, open, candid, engaging, relaxed, withdrawn, guarded, hostile, irritable, resistant, shy, defensive	Disheveled appearance may suggest schizophrenia Provocative dress may suggest bipolar disorder Unkempt appearance may suggest depression, psychosis Poor eye contact may occur with psychotic disorders Paranoid, psychotic patients may be guarded Irritability may occur in patients with anxiety
Motor activity	Body posture and movement, facial expressions Akathisia (restlessness), psychomotor agitation: excessive motor activity may include pacing, wringing of hands, inability to sit still Bradykinesia, psychomotor retardation: generalized slowing of physical and emotional reactions Catatonia: neurologic condition leading to psychomotor retardation; immobility with muscular rigidity or inflexibility; may present in excited forms, including excessive motor activity	Parkinsonism, schizophrenia, severe major depressive disorder, posttraumatic stress disorder, anxiety, medication effect (e.g., depression), drug overdose or withdrawal, anxiety Symptoms may develop within weeks of starting or increasing dosages of antipsychotic agents Tendency toward exaggerated movements occurs in the manic phase of bipolar disorder and with anxiety
Speech	Quantity: talkative, expansive, paucity, poverty (alogia) Rate: fast, pressured, slow, normal Volume and tone: loud, soft, monotone, weak, strong, mumbled Fluency and rhythm: slurred, clear, hesitant, aphasic Coherent/incoherent	Schizophrenia; substance abuse; depression; bipolar disorder; anxiety; medical conditions affecting speech, such as cerebrovascular accident, Bell palsy, poorly fitting dentures, laryngeal disorders, multiple sclerosis, amyotrophic lateral sclerosis
Mood and affect	Mood: patient's subjective report of emotional state Affect: physician's objective observation of patient's expressed emotional state	Depression, bipolar disorder, anxiety, schizophrenia
Thought process	Form of thinking, flow of thought	Anxiety, depression, schizophrenia, dementia, delirium, substance abuse
Thought content	What the patient is thinking about	Obsessions, phobias, delusions (e.g., schizophrenia, alcohol or drug intoxication), suicidal or homicidal thoughts
Perceptual disturbances	Hallucinations	Schizophrenia, severe unipolar depression, bipolar disorder, dementia, delirium, acute intoxication and withdrawal
Sensorium and cognition	Sensorium: level and stability of consciousness Cognition: attention, concentration, memory	Underlying medical conditions, dementia, delirium
Insight	Patient's awareness and understanding of illness and need for treatment	Bipolar disorder, schizophrenia, dementia, depression
Judgment	Patient's recognition of consequences of actions	Bipolar disorder, schizophrenia, dementia

Information from references 1 through 4.

Sample questions

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How are your spirits?
How would you describe your mood?
Have you felt discouraged/low/blue lately?
Have you felt angry/irritable/on edge lately?
Have you felt energized/high/out of control lately?

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Obsessions: Do you have intrusive thoughts or images that you can't get out of your head?
Phobias: Do you have an irrational or excessive fear of something?
Delusions: Do you think people are stealing from you? Are people talking behind your back? Do you think you have special powers? Do you feel guilty, as if you committed a crime? Do you feel like you are a bad person? (Positive responses to last two questions may also suggest a psychotic depression)
Suicidality: Do you ever feel that life is not worth living? Have you ever thought about cutting yourself? Have you ever thought about killing yourself? If so, how would you do it?
Homicidality: Have you ever thought about killing others or getting even with those who have wronged you?

Do you see things that upset you? Do you ever see/feel/hear/smell/taste things that are not really there? If so, when does it occur? Have you had any strange sensations in your body that others do not seem to have?

See Tables 2 and 3

What brings you here today? What is your understanding of your problems? Do you think your thoughts and moods are abnormal?

What would you do if you found a stamped envelope on the sidewalk?
Physician should adapt questions to clinical circumstances and patient's education level

of speech is more important than the content of speech in this portion of the examination, and may provide clues to associated disorders. For example, patients with mania may speak quickly, whereas patients with depression often speak slowly.

Mood and Affect

Mood is the patient's internal, subjective emotional state.¹ Of note, this is one of the few elements of the MSE that rely on patient self-report in addition to physician observation. It is helpful to ask the patient to report his or her mood over the past few weeks, as opposed to merely asking about the moment. It may also be helpful to determine if mood remains constant over time or varies from visit to visit. Physicians may perform a more objective assessment by asking the patient at each visit to rate mood from 1 to 10 (with 1 being sad, and 10 being happy).

Affect is the physician's objective observation of the patient's expressed emotional state. Often, the patient's affect changes with his or her emotional state and can be determined by facial expressions, as well as interactions. Descriptors of affect may address emotional range (broad or restricted), intensity (blunted, flat, or normal), and stability.¹ Affect may or may not be congruent with mood, such as when a patient laughs when talking about the recent death of a family member. Additionally, affect may not be appropriate for a given situation. For example, a patient with delusions of persecution may not seem frightened, as expected. Inappropriateness of affect occurs in some patients with schizophrenia.

Thought Process

Thought process can be used to describe a patient's form of thinking and to characterize how a patient's ideas are expressed during an office visit. Physicians may note the rate of thought (extremely rapid thinking is called flight of ideas) and flow of thought (whether thought is goal-directed or disorganized).² Additional descriptors include whether thoughts are logical, tangential, circumstantial, and closely or loosely associated. Often, a patient's thought process can be described in relation to a continuum between

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goal-directed and disconnected thoughts.² Incoherence of thought process is the lack of coherent connections between thoughts.

Thought Content

Thought content describes what the patient is thinking and includes the presence or absence of delusional or obsessional thinking and suicidal or homicidal ideas. If any of these thoughts are present, details regarding intensity and specificity should be obtained.

More specifically, delusions are fixed, false beliefs that are not in accordance with external reality.³ Delusions can be distinguished from obsessions because persons who experience the latter recognize that the intrusiveness of their thoughts is not normal. Bizarre delusions that occur over a period of time often suggest schizophrenia and schizoaffective disorder, whereas acute delusions are more consistent with alcohol or drug intoxication.

Perceptual Disturbances

Hallucinations are perceptual disturbances that occur in the absence of a sensory stimulus. Hallucinations can occur in different sensory systems, including auditory, visual, olfactory, gustatory, tactile, or visceral.² The content of the hallucination and the sensory system involved should be noted. Hallucinations are symptoms of a schizophrenic disorder, bipolar disorder, severe unipolar depression, acute intoxication, withdrawal from alcohol or illicit drug use, delirium, and dementia. Perceptual disturbances may be difficult to elicit during an office visit because patients may deny having hallucinations. The physician may conclude that hallucinations are present if the patient is responding to internal stimuli as if the patient is hearing somebody speaking to him or her.

Sensorium and Cognition

The evaluation of a patient's cognitive function is an essential component of the MSE. The assessment of sensorium includes the patient's level and stability of consciousness. A disturbance or fluctuation of consciousness may indicate delirium. Descriptors of a patient's level of consciousness include alert, clouded, somnolent, lethargic, and comatose.

Elements of a patient's cognitive status include attention, concentration, and memory. *Table 2* presents assessment tools for these and other elements of cognition. Attention and concentration can be assessed by asking

Table 2. Assessment Tools for the Elements of Cognition

Cognitive element	Assessment tools
Language functions	Naming, reading, writing
Visuospatial ability	Copying a figure; drawing the face of a clock
Abstract reasoning	Explaining proverbs; describing similarities (e.g., comparing an apple to a pear)
Executive functions	List making (e.g., name as many animals [or fruits or vegetables] as you can in one minute); drawing the face of a clock
General intellectual level/fund of knowledge	Identify the previous five presidents; physician must take into account the patient's education level and socioeconomic status; screen for mental retardation
Attention and concentration	Spell "world" forward and backward, subtract serial sevens from 100
Memory	Mini-Cog, MMSE

Mini-Cog = Mini-Cognitive Assessment Instrument; MMSE = Mini-Mental State Examination.

the patient to spell "world" forward and backward, or to subtract serial sevens from 100. Another key element of cognition is the patient's memory. A deeper understanding of memory function and brain systems has served to refine and expand the classification of short- and long-term memory into four memory systems (*Table 3*).⁶ In the cognitive portion of the MSE, it is important that questions match the patient's education level and cultural background.

A systematic approach to evaluating for cognitive impairment is helpful. The most commonly used method is the Mini-Mental State Examination (MMSE), which takes five to 10 minutes to administer. The MMSE has been validated and used extensively in practice and in research. In clinical practice, it is usually used to detect cognitive impairment in older patients. The MMSE includes 11 questions that test five areas of cognitive function: orientation, registration, attention and calculation, recall, and language.⁷ Using the MMSE as a screening instrument has not been supported because the specificity of screening tools is poor despite good sensitivity.⁸ *Table 4* summarizes U.S. Preventive Services Task Force screening recommendations for cognitive impairment and other mental disorders.^{8,9} However, the MMSE is a useful measure of change in cognitive status over time, as well as potential response to treatment. The test is limited in patients who have visual impairment, are intubated, or have a low literacy level.¹⁰

Another tool for assessing cognition is the Mini-Cognitive Assessment Instrument (Mini-Cog), which combines a clock drawing test and a three-word memory test. Advantages of the Mini-Cog include its brevity, its validity irrespective of the patient's education level and language, and its high sensitivity for identifying adults with cognitive impairment.¹¹

Table 3. Classification of Memory Systems

<i>Memory type</i>	<i>Description</i>	<i>Significance of deficit</i>	<i>Examples</i>
Episodic	Ability to recall personal experiences	May be transient secondary to seizure, concussion, amnesia, medication use, hypoglycemia Also occurs with degenerative disorders, including Alzheimer disease, vascular dementia, dementia with Lewy bodies	Knowing what you had for breakfast, how you celebrated your last birthday
Semantic	Ability to learn and store conceptual and factual information	Most common with advanced Alzheimer disease	Knowing who is the president of the United States, how many planets are in the solar system
Procedural	Ability to learn behavioral and cognitive skills that are used on an unconscious level	Most common with Parkinson disorders May also occur with Huntington disease, cerebrovascular accident, tumors, depression (secondary to effect on basal ganglia) May not be present in early Alzheimer disease	Learning to ride a bike, play a musical instrument, swim
Working	Ability to temporarily maintain information	Combination of attention, concentration, and short-term memory May occur with delirium	Remembering a list of seven words in order, a phone number

Information from reference 6.

Insight

Insight is the patient's awareness and understanding of his or her illness and need for treatment. When evaluating a patient's insight, the physician may assess the degree to which the patient understands how the psychiatric illness impacts his or her life, relationship with others, and willingness to change. Evaluating insight is crucial for making a psychiatric diagnosis and for assessing potential adherence to treatment. Compared with patients with other psychiatric disorders, those with schizophrenia are often unaware of their mental illness and often have a poorer response to treatment.^{12,13} A recent study showed an association between unawareness and executive

dysfunction, suggesting that cognitive impairment may be the basis for lack of insight in patients with schizophrenia.¹⁴ Patients with dementia may also lack insight, a feature that is particularly characteristic of frontotemporal dementia affecting function and performance.¹⁵ Patients in the manic phase of bipolar disorder may demonstrate little insight, whereas patients having a depressive episode may overemphasize problems.³

Judgment

Judgment, the ability to identify the consequences of actions, can be assessed throughout the MSE,² by asking "What would you do if you found a stamped envelope

Table 4. USPSTF Screening Recommendations for Mental Disorders

<i>Disorder</i>	<i>Recommendation</i>	<i>Clinical considerations</i>
Dementia	The evidence is insufficient to recommend for or against routine screening for dementia in older adults	Sensitivity and specificity of the MMSE range from 71 to 92 percent and 52 to 96 percent, respectively, depending on the cutoff for an abnormal test result ⁸ Accuracy is also reliant on patient age, education level, and ethnicity
Depression	Screening adults for depression is recommended in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and follow-up	The following two-question screen can be as effective as longer instruments (sensitivity = 96 percent, specificity = 57 percent) ⁹ "Over the past two weeks, have you felt down, depressed, or hopeless?" "Over the past two weeks, have you had little interest or pleasure in doing things?"
Illicit drug use	The evidence is insufficient to determine the benefits and harms of screening for illicit drug use in adolescents, adults, and pregnant women	Physicians should evaluate for symptoms and signs of drug use

MMSE = Mini-Mental State Examination; USPSTF = U.S. Preventive Services Task Force.

Information from references 8 and 9.

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SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendations	Evidence rating	References
The mental status examination can help distinguish mood disorders, thought disorders, and cognitive impairment.	C	1, 2
The USPSTF cites insufficient evidence to recommend for or against screening for cognitive impairment (dementia).	C	8
The USPSTF recommends screening adults for depression in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and follow-up.	A	8

USPSTF = U.S. Preventive Services Task Force.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to <http://www.aafp.org/afpsort.xml>.

on the sidewalk?" Yet, asking more pertinent questions specific to the patient's illness is likely to be more helpful than hypothetical questions. A patient's compliance with prescribed treatments can also serve as a measure of judgment.

Further Evaluation and Referral

Depending on MSE findings, further evaluation may include laboratory testing to identify causative or potentially reversible medical conditions. Additionally, if an underlying brain disorder is suspected, brain imaging (computed tomography or magnetic resonance imaging) may be helpful. The primary care physician should consult a psychiatrist, and possibly other mental health professionals, if the diagnosis is uncertain, the patient's safety is in question, the patient is actively psychotic, or treatment response is inadequate.

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Author disclosure: Nothing to disclose.

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