

The Mental Status Examination (MSE)



Mental Status

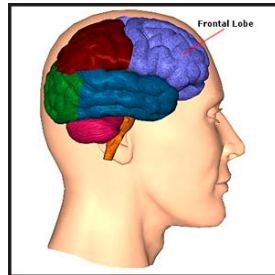


- **Mental status** is the total expression of a person's emotional responses, mood, cognitive function, and personality
- It is closely linked to the individual's executive functioning, i.e. motivation, initiative, goal formation, planning and performing, self-monitoring, and integration of feedback

Quick Neurology Review



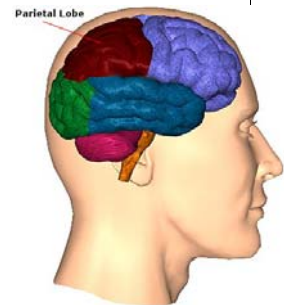
- Frontal lobe
 - Speech formation (Broca area)
 - Emotions/affect
 - Drive
 - Awareness of self
 - Short-term memory
 - Goal-oriented behavior



Quick Neurology Review



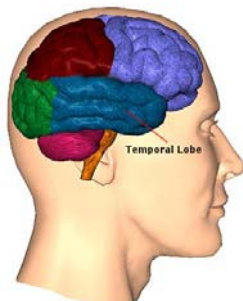
- Parietal lobe
 - Sensory perception
 - Spatial sense and navigation



Quick Neurology Review



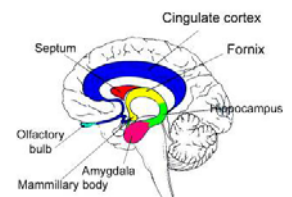
- Temporal lobe
 - Perception and interpretation of sounds
 - Wernicke's area
 - Integration of behavior, emotion, and personality
 - Long-term memory



Quick Neurology Review



- Limbic system
 - Survival behaviors (mating, aggression, fear, affection)
 - Reactions to emotions, and expression of affect is mediated by connections of the limbic system and the frontal lobe



Dementia

- Dementia is a clinical syndrome, characterized by deteriorating cognition, behavior, and functional independence
- It is usually related to obvious structural disease of the brain (most commonly atrophy)
- **Dementia affects 3-11% of adults older than 65**

Mnemonic for causes of dementia

- D: drugs and toxins
- E: endocrine
- M: metabolic and mechanical
- E: epilepsy
- N: nutritional and nervous system
- T: tumor and trauma
- I: infection
- A: arterial

Delirium

- Delirium is different than dementia
- It is an acute confusional state accompanied by a disorder of perception
 - Symptoms include alterations in mental status (disorientation), attention span, sleep patterns, and affect
 - Sudden and fluctuating
 - Usually reversible

- <http://www.youtube.com/watch?v=Nv-fnD5ZrT0>
 - The Alzheimer's Project with Maria Shriver—HBO
 - 30 minutes
- <http://www.youtube.com/watch?v=3hROU6f5TUQ>
 - The Virtual Dementia Tour
 - 3 minutes

Mental Status Examination

- The MSE is one component of an exam and may be viewed as the psychological equivalent of the physical exam
- It is an important component to a neurological evaluation

Factors affecting the MSE

- Culture and educational background of the patient
 - What is abnormal for a person with high intellectual ability may be normal for a person of less education
 - Patients with ESL may have difficulty with some components of the exam

Major Components of the MSE



1. Appearance
2. Motor
3. Speech
4. Affect & mood
5. Thought Content
6. Thought Process
7. Perception
8. Intellect
9. Insight

Appearance



- Age
- Gender
- Race
- Body build
- Posture
- Eye contact
- Dress
- Grooming
- Manner
- Attentiveness to examiner
- Emotional facial expression
- Alertness

Motor



- Behavior: Pleasant? Cooperative?
Appropriate for the particular situation?
- Hesitancy
- Agitation
- Abnormal movements
- Gait
- Catatonia

Speech



- Rate
- Rhythm
- Volume
- Amount
- Articulation
- Spontaneity

Affect and Mood



- Affect: How do they appear to you?
- Stability
- Range
- Appropriateness
- Intensity
- Mood: Dr. asks the patient directly how he/she feels

Thought Content



Description of what the patient is thinking about

- Suicidal ideation
- Death wishes
- Homicidal ideation
- Depressive cognition
- Obsessions
- Ruminations
- Phobias
- Paranoid ideation
- Magical ideation
- Delusions
- Overvalued ideas

Thought Process

Description of the way in which the patient thinks

- Associations
- Coherence
- Logic
- Stream
- Clang associations
- Perseveration
- Neologism
- Thought blocking
- Attention

Perception

- Hallucinations
- Illusions
- Depersonalization
- Derealization
- déjà vu
- jamais vu

Intellect

- Global impression: average, above average, below average

Insight

- Awareness of illness

MSE

- The full MSE is a lengthy exam
 - You assess many components of the MSE in your normal work up of a patient
 - When you need to do a shorter neurological screening exam, you may shorten the MSE to the Mini Mental Status Exam (MMSE)

MMSE

- Takes approximately 10 minutes
- The MMSE tests:
 - Orientation
 - Immediate and short-term memory
 - Concentration
 - Arithmetic ability
 - Language
 - Praxis (learning)

MMSE

- Orientation:
 - What is the (year) (season) (date) (day) (month)?
 - Where are we?(state) (country) (town) (office) (floor) 5 points
 - Registration:
 - Name 3 objects, taking 1 second to name each. Then ask the patient to repeat them. 1 point for each correct.
 - Attention and Calculation:
 - Ask the patient to count backwards from 100 in 7s. Stop after 5 answers.
 - Alternatively, ask the patient to spell "world" backwards.
- 1 point for each correct answer (5)
 - 1 point for each correct answer (5)
 - 1 point for each correct answer (3)
 - 1 point for each correct answer (5)

MMSE

- Recall:
 - Ask the patient for the 3 objects named under "Registration".
 - Language:
 - Point to two objects and ask the patient to name them (pen and watch).
 - Ask the patient to repeat "No ifs, ands, or buts."
 - Ask the pt. to follow a 3-step command: "Take this paper in your right hand, fold it in half, and put it on the table."
 - Ask the pt. to read and obey the following: "Close your eyes."
 - Write a sentence.
 - Copy a drawing of intersecting pentagons.
- 1 point for each correct answer (3)
 - 1 point for each correct answer (2)
 - 1 point for correct answer (1)
 - 1 point for each correct task (3)
 - 1 point for correct task (1)
 - 1 point for correct task (1)
 - 1 point for correct task (1)
 - Total (30)

Interpretation of the MMSE

- The traditional threshold for the MMSE is a score of 23 or greater
- Scores of 0-23 argue strongly for the diagnosis of dementia
- But, false-positive results are a concern when applied to large populations with low incidence of dementia, so some experts prefer the following scoring system:
 - 0-20: dementia highly probable
 - 26-30: dementia highly unlikely
 - 21-25: results not conclusive

- The MMSE is a copyrighted psychological test published by Psychological Assessment Resources (PAR), Inc.

So, why do DCs need to do MSEs?

- Emotional and behavioral changes are often the first signs of organic brain disease
- Does the patient see his or her M.D. as frequently as he or she sees you, the chiropractor?
- Brain tumors, subdural hematomas, small infarcts, and cerebral atrophy may be undetected on routine neurological examination, whereas the cognitive effects of these lesions may be apparent on an MSE

Drawbacks

- Does a normal MSE or MMSE indicate competence?
 - No
 - Competence relates to a pt.'s ability to provide food & shelter, to manage \$, and to participate in activities and decisions
 - Pts. who score well may have difficulty with basic activities of daily living

Drawbacks



- Does an abnormal MSE or MMSE indicate incompetence?
 - Not necessarily
 - Many pts. with cognitive limitations develop alternative means of coping with deficits, allowing them to live fairly independent lives

Drawbacks



- The MSE and MMSE screenings have limitations
 - They are subject to interpretive bias and experience of the interviewer
 - They have a fairly significant false-negative rate, esp. in pts. with right hemisphere lesions
 - Demographics and culture: Age (>60), education (<9th grade), limited cultural experiences, and low socioeconomic status limit usefulness
 - Screening questionnaires are less sensitive to cognitive impairments

Do you have to be a DC & a Psychiatrist/Psychologist?



- No. It is not realistic to expect that you evaluate a patient to the same level of a psychiatrist or a psychologist
- But, a large part of a person's overall health is his or her mental health
- As subluxations may be caused by "thoughts", a person's mental status should be important to you

Documentation of Mental Status



- Documentation of the patient's mental status is not remarkably different than the documentation for the history exam or physical exam
- Include it in the Neurology section of your narrative history

Example of normal:



- "The patient is alert and oriented x 3. Correct registration of 3 objects was noted. Attention and calculation are appropriate with serial 7 counting. Short term memory is intact. Language skills are demonstrated without evidence of agnosia, aphasia or apraxia."

Example of abnormal:



- "The patient is alert and oriented to person and time, but is unable to identify the location, believing she is in her childhood home in Omaha. Correct registration of 3 objects is noted. The patient's attention and calculation are deficient, with the patient correctly counting backwards from 100 by 7s to 86. The patient correctly repeats the names of objects, without evidence of agnosia or aphasia. The patient is unable, however, to complete commands or purposeful actions and demonstrates difficulty completing written or verbal commands. Apraxia is suspected.

The MMSE and CPT



- The MMSE is considered a component of the neurological portion of the E&M; therefore, no separate CPT code is entered