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Mental Status Exam

Level of Consciousness

The level of consciousness refers to the state of wakefulness of the patient and depends both on brainstem and cortical components. Levels are operationally defined by the strength of stimuli needed to elicit responses, and the scheme of Plum and Posner (1980) is widely accepted.

A normal level of consciousness is one in which the patient is able to respond to stimuli at the same lower level of strength as most people who are functioning without neurologic abnormality. Clouded consciousness is a state of reduced awareness whose main deficit is one of inattention. Stimuli may be perceived at a conscious level but are easily ignored or misinterpreted. Delirium is an acute or subacute (hours to days) onset of a grossly abnormal mental state often exhibiting fluctuating consciousness, disorientation, heightened irritability, and hallucinations. It is often associated with toxic, infectious, or metabolic disorders of the central nervous system. Obtundation refers to moderate reduction in the patient's level of awareness such that stimuli of mild to moderate intensity fail to arouse; when arousal does occur, the patient is slow to respond. Stupor may be defined as unresponsiveness to all but the most vigorous of stimuli. The patient quickly drifts back into a deep sleep-like state on cessation of the stimulation. Coma is unarousable unresponsiveness. The most vigorous of noxious stimuli may or may not elicit reflex motor responses.

When examining patients with reduced levels of consciousness, noting the type of stimulus needed to arouse the patient and the degree to which the patient can respond when aroused is a useful way of recording this information.

Appearance and General Behavior

These variables give the examiner an overall impression of the patient. The patient's physical appearance (apparent vs. stated age), grooming (immaculate/unkempt), dress (subdued/riotous), posture (erect/kyphotic), and eye contact (direct/furtive) are all pertinent observations. Certain specific syndromes such as unilateral spatial neglect and the disinhibited behavior of the frontal lobe syndrome are readily appreciated through observation of behavior.

Speech and Motor Activity

Listening to spontaneous speech as the patient relates answers to open-ended questions yields much useful information. One might discern problems in output or articulation such as the hypophonia of Parkinson's disease, the halting speech of the patient with word-finding difficulties, or the rapid and pressured speech of the manic or amphetamine-intoxicated patient. Overall motor activity should also be noted, including any tics or unusual mannerisms. Slowness and loss of spontaneity in movement may characterize a subcortical dementia or depression, while akathisia (motor restlessness) may be the harbinger of an extrapyramidal syndrome secondary to phenothiazine use.

Affect and Mood

Affect is the patient's immediate expression of emotion; mood refers to the more sustained emotional makeup of the patient's personality. Patients display a range of affect that may be described as broad, restricted, labile, or flat. Affect is inappropriate when there is no consonance between what the patient is experiencing or describing and the emotion he is showing at the same time (e.g., laughing when relating the recent death of a loved one). Both affect and mood can be described as dysphoric (depression, anxiety, guilt), euthymic (normal), or euphoric (implying a pathologically elevated sense of well-being).

Affect must be judged in the context of the setting and those observations that have gone before. For example, the startled-looking patient with eyes wide open and perspiration beading out on the forehead is soon recognized as someone suffering from Parkinson's disease, when the paucity of motion and diminished eye blink are noted and the beads of perspiration turn out to be seborrhea.

Thought and Perception

The inability to process information correctly is part of the definition of psychotic thinking. How the patient perceives and responds to stimuli is therefore a critical psychiatric assessment. Does the patient harbor realistic concerns, or are these concerns elevated to the level of irrational fear? Is the patient responding in exaggerated fashion to actual events, or is there no discernible basis in reality for the patient's beliefs or behavior?

Patients may exhibit marked tendencies toward somatization or may be troubled with intrusive thoughts and obsessive ideas. The more seriously ill patient may exhibit overtly delusional thinking (a fixed, false belief not held by his cultural peers and persisting in the face of objective contradictory evidence), hallucinations (false sensory perceptions without real stimuli), or illusions (misperceptions of real stimuli). Because patients often conceal these experiences, it is well to ask leading questions, such as, "Have you ever seen or heard things that other people could not see or hear? Have you ever seen or heard things that later turned out not to be there?" Likewise, it is necessary to interpret affirmative responses conservatively, as mistakenly hearing one's name being called, or experiencing hypnagogic hallucinations in the peri-sleep period, is within the realm of normal experience.

Of all portions of the mental status examination, the evaluation of a potential thought disorder is one of the most difficult and requires considerable experience. The primary-care physician will frequently desire formal psychiatric consultation in patients exhibiting such disorders.

Attitude and Insight

The patient's attitude is the emotional tone displayed toward the examiner, other individuals, or his illness. It may convey a sense of hostility, anger, helplessness, pessimism, overdramatization, self-centeredness, or passivity. Likewise, the patient's attitude toward the illness is an important variable. Is the patient a help-rejecting complainer? Does the patient view the illness as psychiatric or nonpsychiatric? Does the patient look for improvement or is he or she resigned to suffer in silence?

Patient attitude often changes through the course of the interview, and it is important to note any such changes.

Examiner's Reaction to the Patient

The feelings aroused in the examiner by the patient are often a source of very useful information. These data are sometimes subtle and easily overlooked as the examiner, in an attempt to remain objective, fails to note how he or she is responding to the patient.

A developing sense of dysphoria in the examiner may be the first clue that the physician is dealing with a depressed patient. Frustration may be the response to the help-rejecting complainer while a feeling of being off-balance and slightly out of touch with the conversation may be an early indication that one is dealing with a schizophrenic patient.

Structured Examination of Cognitive Abilities

The preceding sections of the mental status examination provide a Gestalt view of the patient and his illness. A structured examination of specific cognitive abilities is a more reductionistic approach to the patient and pays careful attention to neuroanatomic correlates. Such testing logically follows a hierarchic ordering of cortical function with attention and memory being the most basic functions on which higher-ordered abilities of language, constructional ability, and abstract thinking are layered.

Attention

The testing of attention is a more refined consideration of the state of wakefulness than level of consciousness. An ideal test of attentiveness should assay concentration on a simple task, placing minimal demand on language function, motor response, or spatial conception. Reaction times are frequently slowed in patients who have diminished attentiveness. This may become evident early in the course of examination and provide an important clue that the examiner is dealing with decreased attentiveness. One test often recommended is the ability to listen to digit spans of increasing length and repeal them back to the examiner. Another is to have the patient listen to a digit span and then repeat it backward. Perhaps a better test is to have the patient listen to a string of letters in which one letter is repeated frequently but randomly and to tap each time that letter is heard, for example, "Please tap each time you hear the letter K."

T L K B K M N Z K K T K G B H W K L T K …

The number of errors the patient makes is noted. Another test might be to have the patient count the number of times a given letter appears on a page full of randomly ordered letters.

Language

The left perisylvian cortex mediates most aspects of language function in 99% of right-handed individuals and over half of left-handed individuals. Thus, an aphasia implies damage to the left hemisphere about 95% of the time. Basic examination of language function should include an assessment of spontaneous speech, comprehension of spoken commands, reading ability, reading comprehension, writing, and repetition.

The assessment of spontaneous speech is performed as the patient supplies answers to open-ended questions. In this evaluation one looks for disorders of articulation, abnormalities of content, disorders of output, and paraphasic errors. Phonemic errors are mistakes in pronunciation; semantic errors are errors in the meaning of words; neologisms are meaningless nonwords that have a specific meaning for the patient.

Repetition is tested by having the patient repeat sentences with several nouns and pronouns, for example, "That's what she said to them yesterday," and "No ifs, ands, or buts."

Comprehension is tested with several levels of responses. First the patient is asked complex yes and no questions such as, "Do you take off your clothes before taking a shower?" thereby minimizing the need for motoric and speech acts. Second, questions where gesture alone can be an adequate response are asked, for example, "Point to where people may sit down in this room." finally, the patient is asked to follow a command with a motor response: "Squeeze my fingers."

Word-finding disability may be suspected when spontaneous speech is halting in nature as the patient searches for the proper word. To test this ability, the patient is asked to name a number of objects of several categories ranging from the everyday to the more unusual. To stress this ability further the naming of parts of objects, for example, the crystal of a watch, the lead of a pencil, is also tested. Word fluency is more specifically tested by having the patient generate as many words in a given category as he or she is able in a fixed time period. Standard tests ask for such things as "items found in a supermarket" or "words beginning with the letters F, then A, then S."

Reading is tested by having the patient read out loud, listening for errors and testing reading comprehension by having the patient follow a written command, for example, "Close your eyes." Standardized short stories are available that patients can be asked to read and then later recall. These are scored on the remembrance of key items.

Writing is tested by having the patient sign his name, generate spontaneous sentences, or describe an object in writing.

Memory

Memory disturbance is a common complaint and is often a presenting symptom in the elderly. Memory can be grouped simplistically into three subunits: immediate recall, short-term memory, and long-term storage.

Short-term memory is the most clinically pertinent, and the most important to be tested. Short-term retention requires that the patient process and store information so that he or she can move on to a second intellectual task and then call up the remembrance after completion of the second task. Short-term memory may be tested by having the patient learn four unrelated objects or concepts, a short sentence, or a five-component name and address, and then asking the patient to recall the information in 3 to 5 minutes after performing a second, unrelated mental task.

Orientation largely reflects recent memory function. Questions such as, "Where are we right now? What city are we in? What is today's date? What time is it right now (to the nearest hour)?" are pertinent questions.

Immediate recall can be tested once again by having the patient repeal digit spans, both forward and backward. Long-term memory can be tested by the patient's ability to recall remote personal or historic events (e.g., the naming of previous presidents, major wars, date of the bombing of Pearl Harbor) or answer select questions from the WAIS information subtest. Obviously, in asking remote personal events, the physician must be privy to accurate information to judge the accuracy of the patient's response.

Constructional Ability and Praxis

Apraxia is the inability, not due to weakness, to perform previously learned motor acts. The more common of these are ideomotor apraxias wherein the patient can initiate movements and manipulation of objects but is unable to pretend a given action. This modality is tested by asking the patient to "sew on an imaginary button," "use an imaginary scissors," or "light an imaginary cigarette."

Ideatory apraxia is the breakdown of higher-ordered sequencing of steps in the manipulation of real objects. It is tested by serial step commands, for example, "Take this piece of paper in your left hand, then fold it up, place it in the envelope, and seal the envelope."

Constructional inability is loss of the capacity to generate line drawings or manipulate block designs from verbal command or visual reproduction. Geschwind (1965) has pointed out that the older term "constructional apraxia" is insufficient to describe this ability as it involves integration of occipital, parietal, and frontal lobe functions and is therefore more complex than the word "praxis" would indicate. The patient is tested by being shown line drawings of increasing complexity and being asked to reproduce them. Next, the patient is asked to generate pictures from memory, for example, "Draw a clock face; put in the numbers; draw hands on the clock to say 8:20." Finally, the patient may be asked to manipulate blocks (multicolored cubes from WAIS-R) to reproduce stimulus designs.