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31.2 Assessment, Examination, and Psychological Testing

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excellent informants about symptoms related to mood and inner experiences, such as psychotic phenomena, sadness, fears, and anxiety, but they often have difficulty with the chronology of symptoms and are sometimes reticent about reporting behaviors that have gotten them into trouble. Very young children often cannot articulate their experiences verbally and do better showing their feelings and preoccupations in a play situation. Assessment of a child or adolescent includes identifying the reasons for referral; assessing the nature and extent of the child’s psychological and behavioral difficulties; and determining family, school, social, and developmental factors that may be influencing the child’s emotional well-being. The first step in the comprehensive evaluation of a child or adolescent is to obtain a full description of the current concerns and a history of the child’s previous psychiatric and medical problems. This is often done with the parents for school-aged children, whereas adolescents may be seen alone first, to get their perception of the situation. Direct interview and observation of the child is usually next, followed by psychological testing, when indicated. Clinical interviews offer the most flexibility in understanding the evolution of problems and in establishing the role of environmental factors and life events, but they may not systematically cover all psychiatric diagnostic categories. To increase the breadth of information generated, the clinician may use semistructured interviews such as the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children (KSADS); structured interviews such as the National Institute for Mental Health Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV); and rating scales, such as the Child Behavior Checklist and Connors Parent or Teacher Rating Scale for ADHD. It is not uncommon for interviews from different sources, such as parents, teachers, and school counselors, to reflect different or even contradictory information about a given child. When faced with conflicting information, the clinician must determine whether apparent contradictions actually reflect an accurate picture of the child in different settings. Once a complete history is obtained from the parents, the child is examined, the child’s current functioning at home and at school is assessed, and psychological testing is completed, the clinician can use all the available information to make a best-estimate diagnosis and can then make recommendations. Once clinical information is obtained about a given child or

adolescent, it is the clinician's task to determine whether criteria are met for one or more psychiatric disorders according to the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). This most current version is a categorical classification reflecting the consensus on constellations of symptoms believed to comprise discrete and valid psychiatric disorders. Psychiatric disorders are defined by the DSM-5 as a clinically significant set of symptoms that is associated with impairment in one or more areas of functioning. Whereas clinical situations requiring intervention do not always fall within the context of a given psychiatric disorder, the importance of identifying psychiatric disorders when they arise is to facilitate meaningful investigation of childhood psychopathology.

CLINICAL INTERVIEWS To conduct a useful interview with a child of any age, clinicians must be familiar with normal development to place the child's responses in the proper perspective. For example, a young child's discomfort on separation from a parent and a school-age child's lack of clarity about the purpose of the interview are both perfectly normal and should not be misconstrued as psychiatric symptoms. Furthermore, behavior that is normal in a child at one age, such as temper tantrums in a 2-year-old, takes on a different meaning, for example, in a 17-year-old. The interviewer's first task is to engage the child and develop a rapport so that the child is comfortable. The interviewer should inquire about the child's concept of the purpose of the interview and should ask what the parents have told the child. If the child appears to be confused about the reason for the interview, the examiner may opt to summarize the parents' concerns in a developmentally appropriate and supportive manner. During the interview with the child, the clinician seeks to learn about the child's relationships with family members and peers, academic achievement and peer relationships in school, and the child's pleasurable activities. An estimate of the child's cognitive functioning is a part of the mental status examination. The extent of confidentiality in child assessment is correlated with the age of the child. In most cases, almost all specific information can appropriately be shared with the parents of a very young child, whereas privacy and permission of an older child or adolescent are mandated before sharing information with parents. School-age and older children are informed that if the clinician becomes concerned that any child is dangerous to himself or herself or to others, this information must be shared with parents and, at times, additional adults. As part of a psychiatric assessment of a child of any age, the clinician must determine whether that child is safe in his or her environment and must develop an index of suspicion about whether the child is a victim of abuse or neglect. Whenever there is a suspicion of child maltreatment, the local child protective service agency must be notified. Toward the end of the interview, the child may be asked in an open-ended manner whether he or she would like to bring up anything else. Each child should be complimented for his or her cooperation and thanked for participating in the interview, and the interview should end on a positive note. Infants and Young Children Assessments of infants usually begin with the parents present, because very young children may be frightened by the interview situation; the interview with the parents present also allows the clinician to assess the parent–infant interaction. Infants may be referred for a variety of reasons, including high levels of irritability, difficulty being consoled, eating disturbances, poor weight gain, sleep disturbances, withdrawn behavior, lack of engagement in play, and developmental delay. The clinician assesses areas of functioning that include motor development, activity level, verbal

communication, ability to engage in play, problem-solving skills, adaptation to daily routines, relationships, and social responsiveness. The child's developmental level of functioning is

determined by combining observations made during the interview with standardized developmental measures. Observations of play reveal a child's developmental level and reflect the child's emotional state and preoccupations. The examiner can interact with an infant age 18 months or younger in a playful manner by using such games as peek-a-boo. Children between the ages of 18 months and 3 years can be observed in a playroom. Children ages 2 years or older may exhibit symbolic play with toys, revealing more in this mode than through conversation. The use of puppets and dolls with children younger than 6 years of age is often an effective way to elicit information, especially if questions are directed to the dolls, rather than to the child. School-Age Children Some school-age children are at ease when conversing with an adult; others are hampered by fear, anxiety, poor verbal skills, or oppositional behavior. School-age children can usually tolerate a 45-minute session. The room should be sufficiently spacious for the child to move around, but not so large as to reduce intimate contact between the examiner and the child. Part of the interview can be reserved for unstructured play, and various toys can be made available to capture the child's interest and to elicit themes and feelings. Children in lower grades may be more interested in the toys in the room, whereas by the sixth grade, children may be more comfortable with the interview process and less likely to show spontaneous play. The initial part of the interview explores the child's understanding of the reasons for the meeting. The clinician should confirm that the interview was not set up because the child is "in trouble" or as a punishment for "bad" behavior. Techniques that can facilitate disclosure of feelings include asking the child to draw peers, family members, a house, or anything else that comes to mind. The child can then be questioned about the drawings. Children may be asked to reveal three wishes, to describe the best and worst events of their lives, and to name a favorite person to be stranded with on a desert island. Games such as Donald W. Winnicott's "squiggle," in which the examiner draws a curved line and then the child and the examiner take turns continuing the drawing, may facilitate conversation. Questions that are partially open-ended with some multiple choices may elicit the most complete answers from school-age children. Simple, closed (yes or no) questions may not elicit sufficient information, and completely open-ended questions can overwhelm a school-age child who cannot construct a chronological narrative. These techniques often result in a shoulder shrug from the child. The use of indirect commentary—such as, "I once knew a child who felt very sad when he moved away from all his friends"—is helpful, although the clinician must be careful not to lead the child into confirming what the child thinks the clinician wants to hear. School-age children respond well to clinicians who help them compare moods or feelings by asking

them to rate feelings on a scale of 1 to 10. Adolescents Adolescents usually have distinct ideas about why the evaluation was initiated, and can usually give a chronological account of the recent events leading to the evaluation, although some may disagree with the need for the evaluation. The clinician should clearly communicate the value of hearing the story from an adolescent's point of view and must be careful to reserve judgment and not assign blame. Adolescents may be concerned about confidentiality, and clinicians can assure them that permission will be requested from them before any specific information is shared with parents, except in situations involving danger to the adolescent or others, in which case confidentiality must be sacrificed. Adolescents can be approached in an open-ended manner; however, when silences occur during the interview, the clinician should attempt to reengage the patient. Clinicians can explore what the adolescent believes the outcome of the evaluation will be (change of school, hospitalization, removal from home, removal of privileges). Some adolescents approach the interview with apprehension or hostility, but open up when it becomes evident that the clinician is neither punitive nor judgmental.

Clinicians must be aware of their own responses to adolescents' behavior (countertransference) and stay focused on the therapeutic process even in the face of defiant, angry, or difficult teenagers. Clinicians should set appropriate limits and should postpone or discontinue an interview if they feel threatened or if patients become destructive to property or engage in self-injurious behavior. Every interview should include an exploration of suicidal thoughts, assaultive behavior, psychotic symptoms, substance use, and knowledge of safe sexual practices along with a sexual history. Once rapport has been established, many adolescents appreciate the opportunity to tell their side of the story and may reveal things that they have not disclosed to anyone else. Family Interview An interview with parents and the patient may take place first or may occur later in the evaluation. Sometimes, an interview with the entire family, including siblings, can be enlightening. The purpose is to observe the attitudes and behavior of the parents toward the patient and the responses of the children to their parents. The clinician's job is to maintain a nonthreatening atmosphere in which each member of the family can speak freely without feeling that the clinician is taking sides with any particular member. Although child psychiatrists generally function as advocates for the child, the clinician must validate each family member's feelings in this setting, because lack of communication often contributes to the patient's problems. Parents The interview with the patient's parents or caretakers is necessary to get a chronological

picture of the child's growth and development. A thorough developmental history and details of any stressors or important events that have influenced the child's development must be elicited. The parents' view of the family dynamics, their marital history, and their own emotional adjustment are also elicited. The family's psychiatric history and the upbringing of the parents are pertinent. Parents are usually the best informants about the child's early development and previous psychiatric and medical illnesses. They may be better able to provide an accurate chronology of past evaluations and treatment. In some cases, especially with older children and adolescents, the parents may be unaware of significant current symptoms or social difficulties of the child. Clinicians elicit the parents' formulation of the causes and nature of their child's problems and ask about their expectations for the current assessment. DIAGNOSTIC INSTRUMENTS The two main types of diagnostic instruments used by clinicians are diagnostic interviews and questionnaires. Diagnostic interviews are administered to either children or their parents and typically are designed to elicit sufficient information on various aspects of functioning in order to determine whether DSM-5 criteria are met. Semistructured interviews, or "interviewer-based" interviews, such as K-SADS and the Child and Adolescent Psychiatric Assessment (CAPA), serve as guides for the clinician. They help the clinician clarify answers to questions about symptoms. Structured interviews, or "respondent-based" interviews, such as NIMH DISC-IV, the Children's Interview for Psychiatric Syndromes (ChIPS), and the Diagnostic Interview for Children and Adolescents (DICA), provide a script for the interviewer without interpretation of the patient responses during the interview process. Two other diagnostic instruments, the Dominic-R and the Pictorial Instrument for Children and Adolescents (PICA-III-R), use pictures as cues along with an accompanying question to elicit information about symptoms, which can be especially useful for young children as well as for adolescents. Diagnostic instruments aid the collection of information in a systematic way. Diagnostic instruments, even the most comprehensive, however, cannot replace clinical interviews, because clinical interviews are superior in understanding the chronology of symptoms, the interplay between environmental stressors and emotional responses, and developmental issues. Clinicians often find it helpful to combine data from diagnostic instruments with clinical material gathered in a comprehensive evaluation. Questionnaires can cover a broad range of symptom

areas, such as the Achenbach Child Behavior Checklist, or they can be focused on a particular type of symptomatology, such as the Connors Parent Rating Scale for ADHD. Semistructured Diagnostic Interviews Kiddie Schedule for Affective Disorders and Schizophrenia for SchoolAge Children. The K-SADS can be used for children and adolescents from 6 to 18 years of age. It contains multiple items with some space for further clarification of

symptoms. It elicits information on current diagnosis and on symptoms present in the previous year. Another version can also ascertain lifetime diagnoses. This instrument has been used extensively, especially in evaluation of mood disorders, and includes measures of impairment caused by symptoms. The schedule comes in a form for parents to give information about their child and in a version for use directly with the child. The schedule takes about 1 to 1.5 hours to administer. The interviewer should have some training in the field of child psychiatry, but need not be a psychiatrist. Child and Adolescent Psychiatric Assessment. The CAPA is an “interviewerbased” instrument that can be used for children from 9 to 17 years of age. It comes in modular form so that certain diagnostic entities can be administered without having to give the entire interview. It covers disruptive behavior disorders, mood disorders, anxiety disorders, eating disorders, sleep disorders, elimination disorders, substance use disorders, tic disorders, schizophrenia, posttraumatic stress disorder, and somatization symptoms. It focuses on the 3 months before the interview, called the “primary period.” In general, it takes about 1 hour to administer. It has a glossary to help clarify symptoms, and it provides separate ratings for presence and severity of symptoms. The CAPA can be used to obtain information that is applicable to making diagnoses according to the DSM-5. Training is necessary to administer this interview, and the interviewer must be prepared to use some clinical judgment in interpreting elicited symptoms. Structured Diagnostic Interviews National Institute of Mental Health Interview Schedule for Children Version IV. The NIMH DISC-IV is a highly structured interview designed to assess more than 30 DSM-IV diagnostic entities administered by trained “laypersons.” Although it was formulated to match diagnostic criteria in DSM-IV, information from this interview can be utilized, along with clinical information for diagnoses in DSM-5. It is available in parallel child and parent forms. The parent form can be used for children from 6 to 17 years of age, and the direct child form of the instrument was designed for children from 9 to 17 years of age. A computer scoring algorithm is available. This instrument assesses the presence of diagnoses that have been present within the last 4 weeks, and also within the last year. Because it is a fully structured interview, the instructions serve as a complete guide for the questions, and the examiner need not have any knowledge of child psychiatry to administer the interview correctly. Children’s Interview for Psychiatric Syndromes. The ChIPS is a highly structured interview designed for use by trained interviewers with children from 6 to 18 years of age. It is composed of 15 sections, and it elicits information on psychiatric symptoms as well as psychosocial stressors targeting 20 psychiatric disorders, according to DSM-IV criteria; however, it can also be applied to diagnoses in DSM-5. There are parent and child forms. It takes approximately 40 minutes to administer the ChIPS.

Diagnoses covered include depression, mania, attention-deficit/hyperactivity disorder (ADHD), separation disorder, obsessive-compulsive disorder (OCD), conduct disorder, substance use disorder, anorexia, and bulimia. The ChIPS was designed for use as a screening instrument for clinicians and a diagnostic instrument for clinical and epidemiological research. Diagnostic Interview for Children and Adolescents. The current version of the DICA was developed in 1997 to assess information resulting in diagnoses according to either DSM-IV or DSM-III-R. This instrument

can be used to help obtain information that can be applied to DSM-5 as well. Although the DICA was originally designed to be a highly structured interview, it can now be used in a semistructured format. This means that, although interviewers are allowed to use additional questions and probes to clarify elicited information, the method of probing is standardized so that all interviewers will follow a specific pattern. When using the interview with younger children, more flexibility is built in, allowing interviewers to deviate from written questions to ensure that the child understands the question. Parent and child interviews are expected to be used. The DICA is designed for use with children 6 to 17 years of age and generally takes 1 to 2 hours to administer. It covers externalizing behavior disorders, anxiety disorders, depressive disorders, and substance abuse disorders, among others. Pictorial Diagnostic Instruments Dominic-R. The Dominic-R is a pictorial, fully structured interview designed to elicit psychiatric symptoms from children 6 to 11 years of age. The pictures illustrate abstract emotional and behavioral content of diagnostic entities according to the DSMIII-R; however, information gleaned from this instrument can also be applied in conjunction with clinical information to the DSM-5. The instrument uses a picture of a child called “Dominic” who is experiencing the symptom in question. Some symptoms have more than one picture, with a brief story that is read to the child. Along with each picture is a sentence asking about the situation being shown and asking the child if he or she has experiences similar to the one that Dominic is having. Diagnostic entities covered by the Dominic-R include separation anxiety, generalized anxiety, depression and dysthymia, ADHD, oppositional defiant disorder, conduct disorder, and specific phobia. Although symptoms of the preceding diagnoses can be fully elicited from the Dominic-R, no specific provision within the instrument inquires about frequency of the symptom, duration, or age of onset. The paper version of this interview takes about 20 minutes, and the computerized version of this instrument takes about 15 minutes. Trained lay-interviewers can administer this interview. Computerized versions of this interview are available with pictures of a child who is white, black, Latino, or Asian. Pictorial Instrument for Children and Adolescents. PICA-III-R is composed of 137 pictures organized in modules and designed to cover five diagnostic categories, including disorders of anxiety, mood, psychosis, disruptive disorders, and substance use

disorder. It is designed to be administered by clinicians and can be used for children and adolescents ranging from 6 to 16 years of age. The PICA-III_R provides a categorical (diagnosis present or absent) and a dimensional (range of severity) assessment. This instrument presents pictures of a child experiencing emotional, behavioral, and cognitive symptoms. The child is asked, “How much are you like him/her?” and a fivepoint rating scale with pictures of a person with open arms in increasing degrees is shown to the child to help him or her identify the severity of the symptoms. It takes about 40 minutes to 1 hour to administer the interview. This instrument is currently keyed to the DSM-III-R, but can be used along with clinical information to make diagnoses according to the DSM-5. This assessment can be used to aid in clinical interviews and in research diagnostic protocols. QUESTIONNAIRES AND RATING SCALES Achenbach Child Behavior Checklist The parent and teacher versions of the Achenbach Child Behavior Checklist were developed to cover a broad range of symptoms and several positive attributes related to academic and social competence. The checklist presents items related to mood, frustration tolerance, hyperactivity, oppositional behavior, anxiety, and various other behaviors. The parent version consists of 118 items to be rated 0 (not true), 1 (sometimes true), or 2 (very true). The teacher version is similar, but without the items that apply only to home life. Profiles were developed based on normal children of three different age groups (4 to 5, 6 to 11, and 12 to 16). Such a checklist identifies

specific problem areas that might otherwise be overlooked, and it may point out areas in which the child's behavior deviates from that of normal children of the same age group. The checklist is not used specifically to make diagnoses. Revised Achenbach Behavior Problem Checklist Consisting of 150 items that cover a variety of childhood behavioral and emotional symptoms, the Revised Achenbach Behavior Problem Checklist discriminates between clinicreferred and nonreferred children. Separate subscales have been found to correlate in the appropriate direction with other measures of intelligence, academic achievement, clinical observations, and peer popularity. As with the other broad rating scales, this instrument can help elicit a comprehensive view of a multitude of behavioral areas, but it is not designed to make psychiatric diagnoses. Connors Abbreviated Parent-Teacher Rating Scale for ADHD In its original form, the Connors Abbreviated Parent-Teacher Rating Scale for ADHD consisted of 93 items rated on a 0 to 3 scale and was subgrouped into 25 clusters, including problems with restlessness, temper, school, stealing, eating, and sleeping. Over the years, multiple versions of this scale were developed and used to aid in

systematic identification of children with ADHD. A highly abbreviated form of this rating scale, the Connors Abbreviated Parent-Teacher Questionnaire, was developed for use with both parents and teachers by Keith Connors in 1973. It consists of ten items that assess both hyperactivity and inattention. Brief Impairment Scale A newly validated 23-item instrument suitable to obtain information on children ranging from 4 years to 17 years, the Brief Impairment Scale (BIS) evaluates three domains of functioning: interpersonal relations, school/work functioning, and care/selffulfillment. This scale is administered to an adult informant about his or her child, does not take long to administer, and provides a global measure of impairment along the above three dimensions. This scale cannot be used to make clinical decisions on individual patients, but it can provide information on the degree of impairment that a given child is experiencing in a certain area. COMPONENTS OF THE CHILD PSYCHIATRIC EVALUATION Psychiatric evaluation of a child includes a description of the reason for the referral, the child's past and present functioning, and any test results. An outline of the evaluation is given in Table 31.2-1. Table 31.2-1 Child Psychiatric Evaluation Identifying Data Identifying data for a child includes the child's gender, age, as well as the family

constellation surrounding the child. History A comprehensive history contains information about the child's current and past functioning from the child's report, from clinical and structured interviews with the parents, and from information from teachers and previous treating clinicians. The chief complaint and the history of the present illness are generally obtained from both the child and the parents. Naturally, the child will articulate the situation according to his or her developmental level. The developmental history is more accurately obtained from the parents. Psychiatric and medical histories, current physical examination findings, and immunization histories can be augmented with reports from psychiatrists and pediatricians who have treated the child in the past. The child's report is critical in understanding the current situation regarding peer relationships and adjustment to school. Adolescents are the best informants regarding knowledge of safe sexual practices, drug or alcohol use, and suicidal ideation. The family's psychiatric and social histories, and family function are best obtained from the parents. Mental Status Examination A detailed description of the child's current mental functioning can be obtained through observation and specific questioning. An outline of the mental status examination is presented in Table 31.2-2. Table 31.2-3 lists components of a comprehensive neuropsychiatry mental status. Table 31.2-2 Mental Status Examination for Children Table 31.2-3 Neuropsychiatric Mental Status Examination*

Physical Appearance. The examiner should document the child’s size, grooming, nutritional state, bruising, head circumference, physical signs of anxiety, facial expressions, and mannerisms.

Parent–Child Interaction. The examiner can observe the interactions between parents and child in the waiting area before the interview and in the family session. The manner in which parents and child converse and the emotional overtones are pertinent. Separation and Reunion. The examiner should note both the manner in which the child responds to the separation from a parent for an individual interview and the reunion behavior. Either lack of affect at separation and reunion or severe distress on separation or reunion can indicate problems in the parent–child relationship or other psychiatric disturbances. Orientation to Time, Place, and Person. Impairments in orientation can reflect organic damage, low intelligence, or a thought disorder. The age of the child must be kept in mind, however, because very young children are not expected to know the date, other chronological information, or the name of the interview site. Speech and Language. The examiner should evaluate the child’s speech and language acquisition. Is it appropriate for the child’s age? A disparity between expressive language usage and receptive language is notable. The examiner should also note the child’s rate of speech, rhythm, latency to answer, spontaneity of speech, intonation, articulation of words, and prosody. Echolalia, repetitive stereotypical phrases, and unusual syntax are important psychiatric findings. Children who do not use words by age 18 months or who do not use phrases by age 2.5 to 3 years, but who have a history of normal babbling and responding appropriately to nonverbal cues, are probably developing normally. The examiner should consider the possibility that a hearing loss is contributing to a speech and language deficit. Mood. A child’s sad expression, lack of appropriate smiling, tearfulness, anxiety, euphoria, and anger are valid indicators of mood, as are verbal admissions of feelings. Persistent themes in play and fantasy also reflect the child’s mood. Affect. The examiner should note the child’s range of emotional expressivity, appropriateness of affect to thought content, ability to move smoothly from one affect to another, and sudden labile emotional shifts. Thought Process and Content. In evaluating a thought disorder in a child, the clinician must always consider what is developmentally expected for the child’s age and what is deviant for any age group. The evaluation of thought form considers loosening of associations, excessive magical thinking, perseveration, echolalia, the ability to distinguish fantasy from reality, sentence coherence, and the ability to reason logically. The evaluation of thought content considers delusions, obsessions, themes, fears, wishes, preoccupations, and interests. Suicidal ideation is always a part of the mental status examination for children who are sufficiently verbal to understand the questions and old enough to understand the

concept. Children of average intelligence who are older than 4 years of age usually have some understanding of what is real and what is make-believe and may be asked about suicidal ideation, although a firm concept of the permanence of death may not be present until several years later. Aggressive thoughts and homicidal ideation are assessed here. Perceptual disturbances, such as hallucinations, are also assessed. Very young children are expected to have short attention spans and may change the topic and conversation abruptly without exhibiting a symptomatic flight of ideas. Transient visual and auditory hallucinations in very young children do not necessarily represent major psychotic illnesses, but they do deserve further investigation. Social Relatedness. The examiner assesses the appropriateness of the child’s response to the interviewer, general level of social skills, eye contact, and degree of familiarity or withdrawal in the interview process. Overly friendly or familiar behavior may be as troublesome as extremely retiring and withdrawn

responses. The examiner assesses the child’s self-esteem, general and specific areas of confidence, and success with family and peer relationships. Motor Behavior. The motor behavior part of the mental status examination includes observations of the child’s coordination and activity level and ability to pay attention and carry out developmentally appropriate tasks. It also involves involuntary movements, tremors, motor hyperactivity, and any unusual focal asymmetries of muscle movement. Cognition. The examiner assesses the child’s intellectual functioning and problemsolving abilities. An approximate level of intelligence can be estimated by the child’s general information, vocabulary, and comprehension. For a specific assessment of the child’s cognitive abilities, the examiner can use a standardized test. Memory. School-age children should be able to remember three objects after 5 minutes and to repeat five digits forward and three digits backward. Anxiety can interfere with the child’s performance, but an obvious inability to repeat digits or to add simple numbers may reflect brain damage, mental retardation, or learning disabilities. Judgment and Insight. The child’s view of the problems, reactions to them, and suggested solutions may give the clinician a good idea of the child’s judgment and insight. In addition, the child’s understanding of what he or she can realistically do to help and what the clinician can do adds to the assessment of the child’s judgment. Neuropsychiatric Assessment A neuropsychiatric assessment is appropriate for children who are suspected of having a psychiatric disorder that coexists with neuropsychiatric impairment, or psychiatric

symptoms that may be caused by neuropsychiatric dysfunction, or a neurologic disorder. Although a neuropsychiatric assessment is not sufficient in most cases to make a psychiatric diagnosis, neuropsychological profiles have been, in some cases correlated with particular psychiatric symptoms and syndromes. For example, neuropsychological differences in executive function, language and memory functions, as well as measures of mood and anxiety, have been found between youth with histories of childhood maltreatment and those without it. The neuropsychiatric evaluation combines information from neurological, neuropsychological testing, and mental status examinations. The neurological examination can identify asymmetrical abnormal signs (hard signs) that may indicate lesions in the brain. A physical examination can evaluate the presence of physical stigmata of particular syndromes in which neuropsychiatric symptoms or developmental aberrations play a role (e.g., fetal alcohol syndrome, Down syndrome). In a study of 119 youth with either early onset schizophrenia or schizoaffective disorder, by Hooper and colleagues, significantly high rates of deficits in intellectual function and academic skills were found, and the severity of these deficits was mildly correlated with severity of their psychiatric illness. A neuropsychiatric examination also includes neurological soft signs and minor physical anomalies. The term neurological soft signs was first noted by Loretta Bender in the 1940s in reference to nondiagnostic abnormalities in the neurological examinations of children with schizophrenia. Soft signs do not indicate focal neurological disorders, but they are associated with a wide variety of developmental disabilities and occur frequently in children with low intelligence, learning disabilities, and behavioral disturbances. Soft signs may refer to both behavioral symptoms (which are sometimes associated with brain damage, such as severe impulsivity and hyperactivity), physical findings (including contralateral overflow movements), and a variety of nonfocal signs (e.g., mild choreiform movements, poor balance, mild incoordination, asymmetry of gait, nystagmus, and the persistence of infantile reflexes). Soft signs can be divided into those that are normal in a young child, but become abnormal when they persist in an older child, and those that are abnormal at any age. The Physical and Neurological Examination for Soft Signs (PANESS) is an instrument used with children up to the age of 15 years. It consists of 15 questions about general physical status and medical

history and 43 physical tasks (e.g., touch your finger to your nose, hop on one foot to the end of the line, tap quickly with your finger). Neurological soft signs are important to note, but they are not useful in making a specific psychiatric diagnosis. Minor physical anomalies or dysmorphic features occur with a higher than usual frequency in children with developmental disabilities, learning disabilities, speech and language disorders, and hyperactivity. As with soft signs, the documentation of minor physical anomalies is part of the neuropsychiatric assessment, but it is rarely helpful in the diagnostic process and does not imply a good or bad prognosis. Minor physical anomalies include a high-arched palate, epicanthal folds, hypertelorism, low-set ears, transverse palmar creases, multiple hair whorls, a large head, a furrowed tongue, and partial syndactyl of several toes. When a seizure disorder is being considered in the differential diagnosis or a structural

abnormality in the brain is suspected, electroencephalography (EEG), computed tomography (CT), or magnetic resonance imaging (MRI) may be indicated. Developmental, Psychological, and Educational Testing Psychological testing, structured developmental assessments and achievement testing are valuable in evaluating a child's developmental level, intellectual functioning, and academic difficulties. A measure of adaptive functioning (including the child's competence in communication, daily living skills, socialization, and motor skills) is the most definitive way to determine the level of intellectual disability in a child. Table 31.2-4 outlines the general categories of psychological tests. Table 31.2-4 Commonly Used Child and Adolescent Psychological Assessment Instruments

Development Tests for Infants and Preschoolers. The Gesell Infant Scale, the Cattell Infant Intelligence Scale, Bayley Scales of Infant Development, and the Denver Developmental Screening Test include developmental assessments of infants as young as 2 months of age. When used with very young infants, the tests focus on sensorimotor and social responses to a variety of objects and interactions. When these instruments are used with older infants and preschoolers, emphasis is placed on language acquisition. The Gesell Infant Scale measures development in four areas: motor, adaptive functioning, language, and social. An infant's score on one of these developmental assessments is not a reliable way to

predict a child's future intelligence quotient (IQ) in most cases. Infant assessments are valuable, however, in detecting developmental deviation and mental retardation and in raising suspicions of a developmental disorder. Whereas infant assessments rely heavily on sensorimotor functions, intelligence testing in older children and adolescents includes later-developing functions, including verbal, social, and abstract cognitive abilities. Intelligence Tests for School-Age Children and Adolescents. The most widely used test of intelligence for school-age children and adolescents is the third edition of the Wechsler Intelligence Scale for Children (WISC-III-R). It can be given to children from 6 to 17 years of age and yields a verbal IQ, a performance IQ, and a combined full-scale IQ. The verbal subtests consist of vocabulary, information, arithmetic, similarities, comprehension, and digit span (supplemental) categories. The performance subtests include block design, picture completion, picture arrangement, object assembly, coding, mazes (supplemental), and symbol search (supplemental). The scores of the supplemental subtests are not included in the computation of IQ. Each subcategory is scored from 1 to 19, with 10 being the average score. An average full-scale IQ is 100; 70 to 80 represents borderline intellectual function; 80 to 90 is in the low average range; 90 to 109 is average; 110 to 119 is high average; and above 120 is in the

superior or very superior range. The multiple breakdowns of the performance and verbal subscales allow great flexibility in identifying specific areas of deficit and scatter in intellectual abilities. Because a large part of intelligence testing measures abilities used in academic settings, the breakdown of the WISC-III-R can also be helpful in pointing out skills in which a child is weak and may benefit from remedial education. The Stanford-Binet Intelligence Scale covers an age range from 2 to 24 years. It relies on pictures, drawings, and objects for very young children and on verbal performance for older children and adolescents. This intelligence scale, the earliest version of an intelligence test of its kind, leads to a mental age score as well as an intelligence quotient. The McCarthy Scales of Children's Abilities and the Kaufman Assessment Battery for Children are two other intelligence tests that are available for preschool and school-age children. They do not cover the adolescent age group. LONG-TERM STABILITY OF INTELLIGENCE. Although a child's intelligence is relatively stable throughout the school-age years and adolescence, some factors can influence intelligence and a child's score on an intelligence test. The intellectual functions of children with severe mental illnesses and of those from deprived and neglectful environments may decrease over time, whereas the IQs of children with intensively enriched environments, may increase over time. Factors that influence a child's score on a given test of intellectual functioning and, thus, affect the accuracy of the test are motivation, emotional state, anxiety, and cultural milieu. The interactions between cognitive ability and anxiety, and depression and psychosis are complex. One study of 4,405 youth from the Canadian National Longitudinal Study of Children and Youth (NLSCY), by Weeks and colleagues (2013) found that greater cognitive ability was associated with less risk

for anxiety and depressive symptoms in youth from 12 years to 13 years of age, however, by age 14 years to 15 years, cognitive ability had no effect on the odds of anxiety or depression. Perceptual and Perceptual Motor Tests. The Bender Visual Motor Gestalt Test can be given to children between the ages of 4 and 12 years. The test consists of a set of spatially related figures that the child is asked to copy. The scores are based on the number of errors. Although not a diagnostic test, it is useful in identifying developmentally age-inappropriate perceptual performances. Personality Tests. Personality tests are not of much use in making diagnoses, and they are less satisfactory than intelligence tests with regard to norms, reliability, and validity, but they can be helpful in eliciting themes and fantasies. The Rorschach test is a projective technique in which ambiguous stimuli—a set of bilaterally symmetrical inkblots—are shown to a child, who is then asked to describe what he or she sees in each. The hypothesis is that the child's interpretation of the vague stimuli reflects basic characteristics of personality. The examiner notes the themes and patterns. A more structured projective test is the Children's Apperception Test (CAT), which is an adaptation of the Thematic Apperception Test (TAT). The CAT consists of cards with pictures of animals in scenes that are somewhat ambiguous, but are related to parent– child and sibling issues, caretaking, and other relationships. The child is asked to describe what is happening and to tell a story about the scene. Animals are used because it was hypothesized that children might respond more readily to animal images than to human figures. Drawings, toys, and play are also applications of projective techniques that can be used during the evaluation of children. Dollhouses, dolls, and puppets have been especially helpful in allowing a child a nonconversational mode in which to express a variety of attitudes and feelings. Play materials that reflect household situations are likely to elicit a child's fears, hopes, and conflicts about the family. Projective techniques have not fared well as standardized instruments. Rather than being considered tests, projective techniques are best considered as additional clinical modalities. Educational Tests.

Achievement tests measure the attainment of knowledge and skills in a particular academic curriculum. The Wide-Range Achievement Test-Revised (WRAT-R) consists of tests of knowledge and skills and timed performances of reading, spelling, and mathematics. It is used with children from 5 years of age to adulthood. The test yields a score that is compared with the average expected score for the child's chronological age and grade level. The Peabody Individual Achievement Test (PIAT) includes word identification, spelling, mathematics, and reading comprehension. The Kaufman Test of Educational Achievement, the Gray Oral Reading Test-Revised

(GORT-R), and the Sequential Tests of Educational Progress (STEP) are achievement tests that determine whether a child has achieved the educational level expected for his or her grade level. Children whose achievement is significantly lower than expected for their grade level in one or more subjects, often exhibit a specific learning disorder. Biopsychosocial Formulation. A clinician's task is to integrate all of the information obtained into a formulation that takes into account the biological predisposition, psychodynamic factors, environmental stressors, and life events that have led to the child's current level of functioning. Psychiatric disorders and any specific physical, neuromotor, or developmental abnormalities must be considered in the formulation of etiologic factors for current impairment. The clinician's conclusions are an integration of clinical information along with data from standardized psychological and developmental assessments. The psychiatric formulation includes an assessment of family function as well as the appropriateness of the child's educational setting. A determination of the child's overall safety in his or her current situation is made. Any suspected maltreatment must be reported to the local child protective service agency. The child's overall well-being regarding growth, development, and academic and play activities is considered. Diagnosis Structured and semistructured (evidence-based) assessment tools often enhance a clinician's ability to make the most accurate diagnoses. These instruments, described earlier, include the K-SADS, the CAPA, and the NIMH DISC-IV interviews. The advantages of including an evidence-based instrument in the diagnostic process include decreasing potential clinician bias to make a diagnosis without all of the necessary symptoms information, and serving as guides for the clinician to consider each symptom that could contribute to a given diagnosis. These data can enable the clinician to optimize his expertise to make challenging judgments regarding child and adolescent disorders, which may possess overlapping symptoms. The clinician's ultimate task includes making all appropriate diagnoses according to the DSM-5. Some clinical situations do not fulfill criteria for DSM-5 diagnoses, but cause impairment and require psychiatric attention and intervention. Clinicians who evaluate children are frequently in the position of determining the impact of behavior of family members on the child's well-being. In many cases, a child's level of impairment is related to factors extending beyond a psychiatric diagnosis, such as the child's adjustment to his or her family life, peer relationships, and educational placement. RECOMMENDATIONS AND TREATMENT PLAN The recommendations for treatment are derived by a clinician who integrates the data gathered during the evaluation into a coherent formulation of the factors that are contributing to the child's current problems, the consequences of the problems, and strategies that may ameliorate the difficulties. The recommendations can be broken

down into their biological, psychological, and social components. That is, identification of a biological predisposition to a particular psychiatric disorder may be clinically relevant to inform a psychopharmacologic recommendation. As part of the formulation, an understanding of the psychodynamic interactions between family members may lead a clinician to recommend

treatment that includes a family component. Educational and academic problems are addressed in the formulation and may lead to a recommendation to seek a more effective academic placement. The overall social situation of the child or adolescent is taken into account when recommendations for treatment are developed. Of course, the physical and emotional safety of a child or adolescent is of the utmost importance and always at the top of the list of recommendations. The child or adolescent's family, school life, peer interactions, and social activities often have a direct impact on the child's success in overcoming his or her difficulties. The psychological education and cooperation of a child or adolescent's family are essential ingredients in successful application of treatment recommendations. Communications from clinicians to parents and family members that balance the observed positive qualities of the child and family with the weak areas are often perceived as more helpful than a focus only on the problem areas. Finally, the most successful treatment plans are those developed cooperatively between the clinician, child, and family members during which each member of the team perceives that he or she has been given credit for positive contributions. REFERENCES Achenbach TM, Dumenci L, Rescorla LA. Ratings of relations between DSM-IV diagnostic categories and items of the CBCL/6–18, TRF, and YSR. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families; 2001. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013. Bird HR, Canino GJ, Davies M, Ramirez R, Chavez L, Duarte C, Shen S. The Brief Impairment Scale (BIS): A multidimensional scale of functional impairment for children and adolescents. J Am Acad Child Adolesc Psychiatry. 2005;44:699. De Bellis MD, Wooley DP, Hooper SR. Neuropsychological findings in pediatric maltreatment: relationship of PTSD, dissociative symptoms and abuse/neglect indices to neurocognitive outcomes. Child Maltreat. 2013;18:171–183. Doss AJ. Evidence-based diagnosis: Incorporating diagnostic instruments into clinical practice. J Am Acad Child Adolesc Psychiatry. 2005;44:947. Frazier JA, Giuliano AJ, Johnson JL, Yakuris L, Youngstrom EA, Breiger D, Sikich L, Findling RL, McClellan J, Hamer RM, Vitiello B, Lieberman JA, Hooper SA. Neurocognitive outcomes in the treatment of early-onset schizophrenia Spectrum Disorders Study. J Am Acad Child Adolesc Psychiatry. 2012;51:496–505. Hamilton J. Clinician's guide to evidence-based practice. J Am Acad Child Adolesc Psychiatry. 2005;44:494. Hamilton J. The answerable question and a hierarchy of evidence. J Am Acad Child Adolesc Psychiatry. 2005;44:596. Hooper SR, Giulano AJ, Youngstrom EA, Breiger D, Sikich L, Frazier JA, Findling RL McClellan J, Hamer RM, Vitiello B, Lieberman JA. Neurocognition in early-onset schizophrenia and schizoaffective disorders. J Am Acad Child Adolesc Psychiatry. 2010;49:52–60. Kavanaugh B, Holler KI, Selke G. A neuropsychological profile of childhood maltreatment within an adolescent inpatient

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