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INTRODUCTION

Pediatric primary care settings are often the first points of entry into behavioral health systems for the 14%–20% of children and adolescents affected by mental or behavioral health issues. Beyond addressing identified and diagnosable mental health conditions, pediatric primary care settings are tasked with: (1) screening and surveillance, (2) early identification, and (3) triage and referral around complex behavioral health issues for the child, their family, and the environments with which the child interacts. Primary care providers see approximately 75% of children with psychiatric disturbances, and half of all pediatric office visits involve behavioral, psychosocial, or educational concerns. Parents and children often prefer discussing these issues with someone they already know and trust. As a result, pediatric primary care providers play an important role in the prevention, identification, initiation, management, and coordination of mental health, as well as behavioral and developmental care for children and adolescents. Unfortunately, the shortage of mental health providers, stigma attached to receiving mental health services, chronic underfunding for behavioral/mental health services, institutional barriers within the public mental health system, and disparate insurance benefits contribute to the fact that only 2% of children with diagnosable disorders are seen by mental health specialists.

Despite being strategically positioned as the gatekeepers for identifying mental health and behavioral concerns, primary care providers typically identify fewer than 20% of children with emotional and behavioral problems during routine health supervision visits. In addition, these problems may not be identified when they initially emerge and are more amenable to treatment. This gatekeeper role has become increasingly important over the past decade as advances in mental health awareness and treatment have improved opportunities for early identification and intervention. The role is especially critical because children who have developed mental health issues often run multiple systems, and too often get disconnected due to complexities in needs.

MODELS OF CARE FOR IN-PATIENT AND BEHAVIORAL HEALTH CARE SETTINGS

Mental health, behavioral health, family medicine, and primary care make up the full continuum of behavioral health care settings. Providers spend an average of 1% to 10% of their time with the majority of the population with developmental issues, emotional and behavioral issues; however, in patients with complex needs, it may be up to 10% of patients. Pediatricians are seeing an increase in the total numbers of patients referred for services, but children and adolescents with complex needs have increased significantly. This chapter includes guidance on the role of pediatricians and other healthcare providers in addressing these needs. It also includes information on the role of pediatricians in identifying, assessing, and referring children and adolescents with complex needs for care within these settings. This includes surveillance and screening, referral, and collaboration with other specialists and resources. The typical recommendations can include evaluation for autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), anxiety, and depression, and may require further testing and follow-up with specialists.

References:

and adolescents with emotional and behavioral problems. As such, this chapter includes information about approaches to care within these settings. This chapter reviews prevention, surveillance, and screening for mental and behavioral health concerns; situations that may arise in the context of such assessments; psychiatric illnesses that are often diagnosed during childhood or adolescence; current treatment recommendations; and indications for referral to mental health professionals.


MODELS OF CARE ENCOMPASSING BEHAVIORAL HEALTH IN THE PRIMARY CARE SETTING

Mental health, behavior, and development are routinely addressed in the context of pediatric primary care. The continuum of behavioral health services in primary care settings spans from providing anticipatory guidance around development, behavior, and socio-emotional well-being, to screening and identification of concerns, to making external referrals and/or providing on-site services to address the identified issues.

Routine pediatric care of emotional and behavioral problems is typically related to the knowledge and comfort level of the individual pediatric provider and available resources within the primary care setting (eg, onsite mental health support) and in the surrounding community. The efficacy of surveillance in the form of developmentally appropriate anticipatory guidance and counseling varies. Providers spend an average of 2.5 minutes on surveillance, with the majority of that time spent on safety and general developmental issues. Within this model, the majority of emotional and behavioral problems are not readily identified. Even when they are identified, the logistics of identifying resources and referrals present problems. One recently published study identified barriers such that when pediatricians had referred to external mental health services, less than 12% of patients completed care, compared to over 76% who completed care when treated within the setting of their primary care provider.

Traditional models of identification within the primary care setting and referral to external, community-based services are most prevalent, but there are a number of different models currently being utilized by providers to better access mental health services in a primary care setting. Telephonic consultation or telepsychiatry with mental health consultation teams in a stepped care approach allows enhanced access to mental health providers, especially for providers seeing children in rural communities. Many states are moving toward providing primary care providers with ready access to mental health consultation by phone, and further care such as telepsychiatry or in-person visit with the patient if indicated, similar to the system piloted in Massachusetts. Consultation to pediatric care providers also facilitates ongoing education with the eventual goal of pediatric providers learning to manage many behavioral health concerns on their own.

Co-location or enhanced care models are further along the continuum of behavioral health integration. The co-location of behavioral health clinicians in primary care settings affords access to scheduled appointments with clinicians working in offices within close proximity to the primary care setting. This allows for warm handoffs between primary care and behavioral health providers but does not necessarily improve coordination of care. Functionally, this type of practice operates like an outpatient mental health service with the potential to improve access (eg, patients can see their physical and behavioral health providers in the same setting) and decrease stigma associated with obtaining mental health services because of the shared practice location for both behavioral and physical health services.

Collaborative or integrated care provides high-quality, transdisciplinary care through the integration of behavioral health providers within the primary care clinic. The integrated clinician operates as a member of the care team, providing more specialized, on-site services when needed (eg, brief therapy, consultation) and facilitating referrals to external mental health resources. Integrated behavioral health services increase access to immediate supports and reduce barriers, including transportation challenges, systems navigation, and stigma associated with going to see a community-based mental health specialist. This model provides comprehensive and coordinated care, improves communication among care team members, and enhances referral uptake for community-based services. Successful components of this model include a leadership team, primary clinicians, mental health and developmental specialists, administrators, clinical informatics specialists, and care managers. Integrated care implies that visits are primarily conducted jointly, care is coordinated among physical and behavioral health providers, and that mental health professionals are always available for case consultation.

PREVENTION, EARLY IDENTIFICATION, & DEVELOPMENTAL CONTEXT

Developmental contexts and the environments in which children and adolescents grow up play a significant role in their development and well-being. Environments provide access to resources, relationships, and supports in addition to being settings for learning, growth, and development. Longitudinal and retrospective research studies link adverse experiences in childhood to significant, lifelong health problems. In a study of more than 17,000 adults insured through Kaiser Permanente, researchers found that experiencing adversity in childhood (e.g., child abuse, neglect, household dysfunction) was correlated with poor health outcomes (e.g., substance use, heart disease, depression, adolescent pregnancy), lower quality of life, and decreased lifespan. Understanding social determinants of health helps the provider attend to the needs of particular children in a practice setting that serves as a medical home. Increasingly, however, the major threats to the health of US children—the new morbidity—arise from problems that cannot be adequately addressed by the practice model alone. These problems include unacceptably high infant mortality rates in certain communities, extraordinary levels of intentional and unintentional injuries, increasing rates of childhood obesity, chemical dependency, behavioral and developmental consequences of inappropriate care and experience, family dysfunction, sexually transmitted diseases, unplanned pregnancies, and lack of a medical home. The American Academy of Pediatrics (AAP) policy statement, “we must become partners with others, or we will become increasingly irrelevant to the health of children,” implies that the work of pediatricians extends to advocacy and community work. Today’s community pediatrician seeks to provide a far more realistic and complete clinical picture by taking responsibility for all children in a community, providing preventive and curative services, and understanding the determinants and consequences of child health and illness, as well as the effectiveness of services provided.

Bright Futures is a national health promotion and disease prevention initiative that addresses children’s health needs in the context of family and community. In addition to using in pediatric practice, many states implement Bright Futures principles, guidelines, and tools to strengthen the connections between state and local programs, pediatric primary care, families, and local communities. The Bright Futures Guidelines, now in its fourth edition, was developed to provide comprehensive health supervision guidelines, including recommendations on immunizations, routine health screenings, and anticipatory guidance. In addition, Bright Futures for Mental Health provides numerous guidelines, tools, and strategies for improving mental health identification, assessment, initiation, management, and coordination.

It is exciting that prevention and early intervention programs are showing promise in helping to reduce risk for patients and their families. Evidenced-based and promising programs and strategies include, but are not limited to:

- Parent–Child Interaction Therapy (PCIT), www.pcit.org
- Triple P (Positive Parenting Program), www.triplep-americas.com
- Healthy Steps for Young Children, www.healthysteps.org
- Nurse-Family Partnership, www.nursefamilypartnership.org
- Hospital-based abusive head trauma prevention approaches (Pennsylvania Abusive Head Trauma Prevention Program)
- Multi-component programs (Child-Parent Centers)
- Incredible Years, www.incredibleyears.com
- Strengthening Families for Parents and Youth, www.extension.iastate.edu/sf
- Early Head Start, www.earlyheadstart.org
- The Safe Environment for Every Kid (SEEK), https://unm.edu/programs/childrens/services/child-protection/seek-project

LIFESTYLE RECOMMENDATIONS

Proper screening, assessment, and treatment issues are fundamentally linked to lifestyle issues. It is equally important that all children be familiar with factors that contribute to both physical and mental health. A healthy lifestyle can provide protection in high-risk cases, may help prevent illness, and demonstrate clear physiological benefits from regular exercise, optimal diet, and participation in programs that focus on factors that directly impact health. Sleep and the use of relaxation techniques are recommended engaging families to support the consumption of fruits and vegetables, fresh juices, and drinks, encourage physical activity, and limit screen time. When a child uses too much health, successful implementation of lifestyle interventions within the relationships that children live.

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Summary of the Prevention Program

Given these calls for a national priority for social-emotional health...
LIFESTYLE RECOMMENDATIONS

Proper screening, assessment, diagnosis, and treatment of issues are fundamental aspects of practice. In addition, it is equally important that a primary care provider become familiar with factors that can help promote health, both physical and mental. Therefore, activities that support a healthy lifestyle can positively impact health and, in some cases, may help prevent a future problem. Many studies demonstrate clear physical and behavioral health benefits from regular exercise, optimal nutrition, meditation, yoga, and participation in prosocial activities. Other contributing factors that directly impact overall health include adequate sleep and use of relaxation techniques. The AAP recommends engaging families in conversations to encourage consumption of fruits and vegetables, avoid sugar-containing drinks, encourage physical activity and to make family plans around screen time. While these guidelines focus on physical health, successful implementation and adherence to them resides within the relationships and environments in which children live.


| Table 7-1. The pediatric primary care provider’s role in mental health. |
|--------------------------|------------------|---------------------|
| Role                     | Specific Activities                              |
| Prevention               | Screen and address social risk factors on intake  |
| Identification           | Screen and refer for early socioemotional risk    |
| Assessment               | Interview and physical Assessment tools           |
| Initiation               | Education about condition and treatment options  |
| Management               | Monitor condition for improvement                 |
| Coordination             | With social work, therapist, psychologist, or psychiatrist |
| Collaboration            | With mental health service providers              |

Summary of the Pediatrician’s Role

Given these calls for a new pediatric role as the gatekeeper for social-emotional health and well-being, the expanding role of the primary care pediatric provider encompasses the following broad categories: prevention, identification, assessment, initiation, management, coordination, and collaboration (Table 7-1).

IDENTIFICATION & ASSESSMENT DURING HEALTH SUPERVISION VISITS

Historically, the most efficient indicator in eliciting psychosocial problems is the history provided by parents or guardians and interview and observation of the child. The possible approaches to identification of problems include surveillance, screening, and assessment. Surveillance consists of the following elements: checking in, eliciting concerns, asking open-ended questions, listening for red flags, identifying risk factors, and monitoring closely over time. Like vital signs, which represent an essential component of the physical evaluation, the essential components of the primary care surveillance for mental health concerns should generally include a review of the youth’s general functioning in different aspects of their life. Five questions forming the mnemonic PSYCH can be addressed to parents and youth as a surveillance means of uncovering areas of concern.
1. Parent-child interaction: How are things going with you and your parents? Or, in early childhood: What's it like to take care of your baby/toddler?

2. School: How are things going in school (or child care; ask about academics, behaviors, and social interactions)?

3. Youth: How are things going with peer relationships/friendships (how does child get along with same-aged peers)?

4. Casa: How are things going at home (including siblings, family stresses, and relationship with parents)?

5. Happiness: How would you describe your mood? How would you describe your child's mood?

Many pediatric practices are hampered by lack of continuity and not enough time for in-depth surveillance. Given limited time available for pediatric visits (e.g., families spend only a few minutes in person time with their pediatric provider during routine health supervision visits), and the fact that only 18% of parents who report elevated behavior problems in their children, it is important to be aware of potential problems and to consider alternative methods for monitoring.

**Screening** involves using standardized instruments to identify areas of risk, delay, or concern. Newborn hearing, vision, and developmental screenings are common in today's pediatric practice. However, the morbidity associated with developmental, emotional, and psychosocial problems requires that social-emotional and psychosocial screening be performed to identify the presence of symptoms of emotional, behavioral, or relationship disorders and that environmental factors that negatively influence development. Screening tools are brief, easy to use, and can be administered as a questionnaire or using an interview format. A positive screen warrants referral for a more thorough assessment. The use of screening tools can also help to identify early intervention and interrupt the advancement of symptoms. Newer methods of eliciting socioemotional and behavior concerns have been developed (see section below on Tools). Helpful information can also be obtained from broad screening checklists and symptom-specific questionnaires such as depression or anxiety self-report inventories. Questions can be incorporated into the general pediatric office screening forms or specific questionnaires can be used. Beyond identification, successful screening requires attention to appropriate referrals, referral uptake and completion, and communication back to the referring entity regarding the results of the evaluation. These activities often require additional care coordination resources that could be provided through non-medical staff such as family navigators and community health workers. Pediatric primary care providers need information about eligibility for services in order to successfully monitor and address behavioral and developmental issues.

### Tools for Mental Health Screening in the Primary Care Office Setting

Given the low rates of identification of psychosocial problems using pediatric surveillance, the use of standardized screening tools has become standard practice. Typically, broad screeners that elicit information regarding multiple domains are employed first and are followed by targeted screens to address symptomatology, severity, impairment, and context of specific psychosocial problems.

**Resources for obtaining screening tools**

- [https://www.aapc.com/Provider/ScreeningNToolkits.aspx](https://www.aapc.com/Provider/ScreeningNToolkits.aspx)
- [http://www.pulforkids.org](http://www.pulforkids.org)
- [http://www.schoolpsychiatry.org](http://www.schoolpsychiatry.org)
- [http://www.wpic.pitt.edu/research](http://www.wpic.pitt.edu/research)
- [http://www.thewycw.com](http://www.thewycw.com)
- [http://www.sdqinfo.com](http://www.sdqinfo.com)

### A. General or Broad Screening Tools

#### 1. Strengths and difficulties questionnaires (SDQs)

Strengths and difficulties questionnaires (SDQs) are brief behavioral screening questionnaires targeting patients 3-16 years old with parent, teacher, and child self-report versions available. Several versions are available and can be readily used by researchers, clinicians, and educators. They are well validated and available on the Internet without cost in over 40 languages. The domains assessed include emotional problems, conduct problems, hyperactivity/inattention, peer relationship problems, and social behaviors. For further information, refer to the website [http://www.sdqinfo.org](http://www.sdqinfo.org).


#### 2. Pediatric Symptoms Checklist (PSC)

The PSC is a one-page questionnaire listing a broad range of children's emotional and behavioral problems that reflects parents' impressions of their children's psychosocial functioning. An adolescent self-report version is also available for children ages 11 and older. The PSC was developed initially for children older than age 5, but cutoff scores for preschool and school-aged children indicating clinical levels of dysfunction have been empirically derived. The questionnaire is easy to score, free of charge, and available in English and Spanish from the website [http://www.brightfutures.org/mentalhealth/pdf/professionals/ped_symptom_childst.pdf](http://www.brightfutures.org/mentalhealth/pdf/professionals/ped_symptom_childst.pdf).


#### 3. Parents' Evaluation of Developmental Status (PEDS)

The PEDS is a validated, developmental, and behavioral measure designed to detect problems beginning at age 1 month to 8 years. Parents and teachers complete the PEDS at home, and problems are noted in various areas of development. The PEDS provides valid and reliable screening for developmental disorders. The PEDS is more labor intensive in collection, and the instrument includes extensive validity data and reliable scales for rating of concern and referral. It is available in English, French, and Spanish. For further information, visit [http://www.pedtest.com](http://www.pedtest.com).


### 4. Ages and Stages, Socio-emotional Development (ASEED), and Stages, SE is a companion to the AED. It is an easy-to-use, self-administered, and an accurate brief instrument for use across diverse populations. It is available for the 6-, 12-, 18-, 24-, and 30-month ages, and it is available in English, French, and Spanish.


### 5. Family Psychosocial Screener


### 6. WE CARE

Available in English, Spanish, and Chinese.


### C. Adolescent Screening

The American Academy of Pediatrics Committee on Adolescence Services Task Force recommends
3. Parents' Evaluation of Developmental Status (PEDS)—The PEDS is a validated screener for socio-emotional, developmental, and behavioral concerns in children aged 1 month to 8 years. Parents answer yes/no about their concerns in various areas of their child's development. Scoring the PEDS is more labor-intensive than other general screeners and the instrument must be purchased. Its benefits include extensive validity data and useful pathways for level of concern and referral. It is available in English, Vietnamese, and Spanish. For further information, see the website http://www.pedsquest.com.


4. Ages and Stages, Socio-emotional (ASQ: SE)—The Ages and Stages, SE is a companion to the Ages and Stages Developmental Screen. It is an easy-to-use tool with a deep, exclusive focus on infant, toddlers, and younger children's social and emotional behavior. After a one-time process, the instrument is reproducible, making it cost-effective. It is culturally sensitive for use across diverse pediatric populations. Screens are available for the 6-, 12-, 18-, 24-, 36-, 48- and 60-month visits, and in English, French, Spanish, and Korean.


C. Adolescent Screening Tools

The American Academy of Pediatrics and the U.S. Preventive Services Task Force recommend routine screening for depression and substance abuse for youth 12 and older and 14 and older, respectively. Adolescents are more likely to reveal problems when completing screening tools than through general discussions with their pediatric provider.


1. Patient Health Questionnaire 9 (PHQ-9) modified for teens can be completed in less than 5 minutes and scored in less than 3 minutes, is freely available and screens for both depression and suicide.


2. CRAFFT can be administered as an interview or completed by adolescents and screens for substance use problems and disorders. It is in the public domain and can be accessed at http://www.ceasar-boston.org/CRAFFT/pdf/CRAFFT_SA_English.pdf.

Assessment of Behavioral & Emotional Signs & Symptoms

When an emotional problem or mental illness is mentioned by the patient or parents, elicited by an interview, or identified by a screening instrument, the next step should include a more thorough triage. In a clinic with integrated care, a mental health professional may step in to complete this part of the evaluation. However, in other models such as telephone consultation, the pediatrician is often the one who completes this further assessment. The goal of this, more detailed assessment includes determining if the patient is safe to leave the office or if immediate intervention is required. Additionally, assessment information is used to make targeted referrals and recommendations for follow-up.

Situations Requiring Emergent or More Extensive Psychiatric Assessment

If there is any concern about the child's safety, the provider must also evaluate the risk of danger to self (eg, suicidal
A. Civil Commitment and Involuntary Mental Health "Holds"

If further assessment indicates a need for inpatient hospitalization, it is optimal if the patient and guardian give consent for this care. In a situation in which the guardian is unwilling or unable to give consent for emergency department (ED)-based assessment or inpatient hospitalization of a child or adolescent, an involuntary mental health "hold" may become necessary.

The term involuntary mental health "hold" refers to a legal process that can be initiated by providers, police officers, and certified mental health professionals, which allows the individual to be prevented from leaving the ED or hospital for up to 72 hours. This allows the provider to establish a safe environment and prevent the individual from harming themselves or others, and allows sufficient time for a formal assessment to determine if the individual is at risk to him- or herself or others due to mental illness, requiring further treatment. Each state has laws specifying rules and regulations that must be followed as part of this process. A specific form must be completed and the patient and family informed of their rights. As this involves revoking the civil rights of a patient or their guardian, it is critical to implement the procedure correctly. All providers should be familiar with their state's laws regulating this process.

Although the precise wording and conditions of involuntary mental health holds may vary slightly from state to state, they are generally quite similar. A 72-hour involuntary mental health hold is obtained for the purpose of acute evaluation and determination of the patient's safety when the evaluator elicits sufficient information to determine that a significant risk exists of danger to self or others. Additional criteria for involuntary psychiatric admission include a determination that the patient is "gravely disabled" by virtue of impaired judgment, which renders the patient unable to provide food, clothing, or shelter for him- or herself, or in the case of a child or adolescent, that he or she is unable to eat and perform normal activities of daily living. Patients who have a medical condition(s) requiring urgent or emergent treatment do not require a mental health hold. In this case, the primary team/provider should conduct a capacity evaluation.

B. Mandatory Reporting of Abuse or Neglect or Threat to Others

Mandatory reporting by a provider of suspicion of physical or sexual abuse or neglect to the local human services agency is discussed in greater detail in Chapter 8. The "Taraosof Rule" refers to a California legal case that led to a "duty to warn": Providers, or specific sites in some states, are mandated to warn potential victims of harm when plans are disclosed to them about serious threats to harm specific individuals or to perform harmful acts at specific sites. Documentation of a phone call and registered letter to the individual (or site) being threatened are mandated. Under such circumstances, arrangement for the involuntary civil commitment of the potential perpetrator of harm is likely to be in order as well.

Examples of more thorough questions and observations are given in Table 7-2. Targeted assessment screening tools are also useful in determining severity, comorbidity, and context of impairment.

Once it is established that the patient does not need immediate intervention, the provider should determine if the patient's family can return for another visit, or if further assessment can be managed within this visit. Integrated care provides the distinct advantage of immediate further assessment within the primary care setting.

Further Evaluation of Emotional or Behavioral Problem

The following is a general guide for providers who do not have access to integrated behavioral health care and are evaluating a behavioral or emotional problem to determine appropriate next steps. Since this guide is based on the steps described later, the steps may overlap some of the topics that might be helpful for the provider. However, given the discussion above, the focus is to focus on the discussion to the steps with the patient and their family.

It is often useful to first evaluate and understand their perspective, and discuss the child together.
Table 7-2. Possible topics for discussion and observation when assessing psychosocial problem.

<table>
<thead>
<tr>
<th>Developmental history</th>
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<tbody>
<tr>
<td>1. Review the landmarks of psychosocial development</td>
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<tr>
<td>2. Summarize the child’s temperament traits</td>
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<tr>
<td>3. Review stressful life events and the child’s reactions to them</td>
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<tr>
<td>a. Separations from primary caregivers or close family members</td>
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<tr>
<td>b. Losses</td>
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<tr>
<td>c. Marital conflict, family violence, divorce</td>
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<tr>
<td>d. Illnesses, injuries, and hospitalizations</td>
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<tr>
<td>e. Moves, household changes</td>
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<tr>
<td>f. School transitions</td>
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<tr>
<td>g. Traumatic events</td>
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<tr>
<td>h. Financial changes (e.g., employment issues) that impact daily living environment</td>
</tr>
<tr>
<td>i. Resource issues including food insecurity, housing instability, and inability to</td>
</tr>
<tr>
<td>make ends meet</td>
</tr>
<tr>
<td>4. Obtain details of past mental health problems and their treatment</td>
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<table>
<thead>
<tr>
<th>Family history</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Marital/relationship history</td>
</tr>
<tr>
<td>a. Overall satisfaction with the marriage/partnership</td>
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<tr>
<td>b. Conflicts or disagreements within the relationship</td>
</tr>
<tr>
<td>c. Quantity and quality of time together away from children</td>
</tr>
<tr>
<td>d. Whether the child comes between or is a source of conflict between the parents</td>
</tr>
<tr>
<td>e. Marital history prior to having children</td>
</tr>
<tr>
<td>2. Parenting history</td>
</tr>
<tr>
<td>a. Feelings about parenthood</td>
</tr>
<tr>
<td>b. Whether parents feel united in parenting the child</td>
</tr>
<tr>
<td>c. “Division of labor” in parenting</td>
</tr>
<tr>
<td>d. Parental energy or stress level</td>
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<tr>
<td>e. Sleeping arrangements</td>
</tr>
<tr>
<td>f. Privacy</td>
</tr>
<tr>
<td>g. Attitudes about discipline</td>
</tr>
<tr>
<td>h. Interference with discipline from outside the family (e.g., ex-spouses, grandparents)</td>
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<tr>
<td>3. Stresses on the family</td>
</tr>
<tr>
<td>a. Problems with employment</td>
</tr>
<tr>
<td>b. Financial problems</td>
</tr>
<tr>
<td>c. Resource needs</td>
</tr>
<tr>
<td>d. Changes of residence or household composition</td>
</tr>
<tr>
<td>e. Illness, injuries, and deaths</td>
</tr>
<tr>
<td>4. Family history of mental health problems and treatment</td>
</tr>
<tr>
<td>a. Depression? Who?</td>
</tr>
<tr>
<td>b. Bipolar Disorder? Who?</td>
</tr>
<tr>
<td>c. Suicide attempts? Who?</td>
</tr>
<tr>
<td>d. Psychiatric hospitalizations? Who?</td>
</tr>
<tr>
<td>e. “Nervous breakdowns”? Who?</td>
</tr>
<tr>
<td>f. Substance abuse or problems? Who?</td>
</tr>
<tr>
<td>g. Nervousness or anxiety? Who?</td>
</tr>
<tr>
<td>h. Other concerns about behavior or mental health problems in family members? Who?</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Observation of the parents</th>
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<tbody>
<tr>
<td>1. Do they agree on the existence of the problem or concern?</td>
</tr>
<tr>
<td>2. Are they uncooperative or antagonistic about the evaluation?</td>
</tr>
<tr>
<td>3. Do the parents appear depressed or overwhelmed?</td>
</tr>
<tr>
<td>4. Can the parents present a coherent picture of the problem and their family life?</td>
</tr>
<tr>
<td>5. Do the parents accept some responsibility for the child’s problems, or do they blame</td>
</tr>
<tr>
<td>forces outside the family and beyond their control?</td>
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<tr>
<td>6. Do they appear burdened with guilt about the child’s problem?</td>
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<table>
<thead>
<tr>
<th>Observation of the child</th>
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</thead>
<tbody>
<tr>
<td>1. Does the child acknowledge the existence of a problem or concern?</td>
</tr>
<tr>
<td>2. Does the child want help?</td>
</tr>
<tr>
<td>3. Is the child uncooperative or antagonistic about the assessment?</td>
</tr>
<tr>
<td>4. What is the child's predominant mood or attitude?</td>
</tr>
<tr>
<td>5. What does the child wish could be different (e.g., “three wishes”)?</td>
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<tr>
<td>6. Does the child display unusual behavior (activity level, mannerisms, fearfulness)?</td>
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<tr>
<td>7. What is the child’s apparent cognitive level?</td>
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<tr>
<th>Observation of parent-child interaction</th>
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</thead>
<tbody>
<tr>
<td>1. Do the parents show concern about the child’s feelings?</td>
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<tr>
<td>2. Does the child control or disrupt the joint interview?</td>
</tr>
<tr>
<td>3. Do the parents set appropriate limits?</td>
</tr>
<tr>
<td>4. Does the child respond to parental limits and control?</td>
</tr>
<tr>
<td>5. Do the parents inappropriately answer questions addressed to the child?</td>
</tr>
<tr>
<td>6. Is there obvious tension between family members?</td>
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<table>
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<tr>
<th>Data from other sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Waiting room observations by office staff</td>
</tr>
<tr>
<td>2. School (teacher, nurse, social worker, counselor, day care provider)</td>
</tr>
<tr>
<td>3. Department of social services</td>
</tr>
<tr>
<td>4. Other caregivers: grandparents, etc.</td>
</tr>
</tbody>
</table>

Appropriate next steps. Simple problems may not require all the steps described later. Table 7-2 reminds pediatricans of topics that might be helpful to consider when assessing problems. Given time limits, the pediatrician is encouraged to focus the discussion to inform decision making for next steps with the patient and family.

It is often useful to first see parents/caregivers, if present, and the child together and then, depending on the age, the child alone. In some cases, it may be necessary to speak with the parents privately, without the child present. This sequence enables the provider to observe interactions among family members, allows the child to feel more comfortable with the provider, and offers the parents and the child an opportunity to talk confidentially about their concerns. The provider can facilitate the assessment by acknowledging that the family is trying to cope and that the ultimate task
of assessment is to identify solutions that will help improve things for both the child and family. An attitude of nonjudgmental inquiry can be communicated with supportive statements such as, “Let’s see if we can figure out what might be happening here and find some ways to make things better.”

A. History of the Presenting Problem
First, obtain a detailed description of the problem.
- When did it start?
- Where and with whom does it occur?
- Were there unusual stresses, changes, or life events at that time?
- How is the child affected?
- How is the family’s function affected?
- What does the child say about the problem?
- What attempts have been made to alleviate the problem?
- Do the parents have any opinions about the cause of the problem?

B. Techniques for Interviewing Children and Adolescents

1. Interviewing the preschool child—Preschool children should be interviewed with their parents. As the parents discuss their concerns, the provider can observe the child’s behavior, including activity level and any unusual behaviors or symptoms. It is helpful to have toy human figures, animals, or puppets, and crayons and paper available that the child can use to express him- or herself. Before hearing the history from the parents and observing and talking with the child, the provider can begin to develop an impression about the problem and formulate a treatment plan to discuss with the family. Although the child should not be interviewed separately, the parent may need to discuss sensitive issues with the provider privately. Some children can tolerate playing with another provider or staff member, while their parent talks to the provider.

2. Interviewing the school-aged child—Most school-aged children have mastered separation anxiety sufficiently to tolerate at least a brief interview alone with the provider. In addition, they may have important information to share about their own worries. The child should be told beforehand by the parents or provider (or both) that the doctor will want to talk to the child about his or her feelings. School-aged children understand and even appreciate parental concern about unhappiness, worries, and difficulty in getting along with people. At the outset, it is useful to explore the child’s thoughts about certain issues raised by the parents and ask whether the child thinks that a problem exists (e.g., unhappiness, anxiety, or sleep disturbance), and if there are any other concerns. The provider should ask the child to describe the problem in his or her own words and ask what he or she thinks is causing the problem. It is important to ask the child how the problem affects the child and the family. At the end of the interview with the child, it is important to share or reiterate the central points derived from the interview and to state that the next step is to talk with the parents about ways to make things better for the child. At that time, it is good to discuss any concerns or misgivings the child might have about sharing information with parents so that the child’s right to privacy is not arbitrarily violated. Most children want to make things better and thus will allow the provider to share appropriate concerns with the parents.

3. Interviewing the adolescent—The provider usually begins by meeting briefly with the parents and adolescent together to define the concerns. Because the central developmental task of adolescence is to create an identity separate from that of the parents, the provider must show respect for the teen’s point of view. The provider should then meet alone with the adolescent or at least give the teen the option. After the provider has interviewed the adolescent and talked further with the parents, he or she should formulate thoughts and recommendations. Whenever possible, it is helpful to discuss these with the adolescent before presenting them to the parents and teen together. The issue of confidentiality must be discussed early in the interview. “What we talk about today is between you and me unless we decide together that someone should know or unless it appears to me that you might be in a potentially dangerous situation.” Exceptions to confidentiality should also be discussed with the teen.

   The interview with the adolescent alone might start with a restatement of the parents’ concerns. The teen should be encouraged to describe the situation in his or her own words and say what he or she would like to be different. The provider should ask questions about the adolescent’s primary concerns, predominant mood state, relationships with family members, level of satisfaction with school and peer relationships, plans for the future, drug and alcohol use, and sexual activity.

   In concluding the interview, the provider should summarize his or her thoughts and develop a plan with the teenager to present to the parents. If teenagers participate in the solution, they are more likely to work with the family to improve the situation. This should include a plan either for further investigation or for ways of dealing with the problem and arranging subsequent appointments with the provider or an appropriate referral to a mental health care provider.

C. Targeted Screening Tools and Assessment Measures
As with broad screening tools, targeted screening tools or assessment instruments can be very valuable in the clinic since they are standardized, quick, and current symptoms and sources of follow-up or reassessing aspects of treatment.


2. Center for epidemiologic studies depression (CES-D)—Available at http://www.hhs.gov/mentalhealth/pdf/professional/cesd.pdf


4. Other Tools
   A. BRIGHT Futures—The American Academy of Pediatrics has numerous guidelines, tools, and resources for identifying mental health conditions. See brightfutures.org/mental-health
   B. EDINBURGH POSTNATAL DEPRESSION SCALE—Used widely as a screen for postnatal depression and related depression (PRD) in women; it is effective for detecting depression during the postnatal period, when maternal mood and cognitive symptoms may be less evident, and when moderate to severe symptoms are common.


C. DISORDER-SPECIFIC SCALEs—Specific tools for evaluating other disorders, such as obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), and depression, can be found at the following: http://www.cdc.gov/echhs/consumer/information/mental-health-approved-screenings/index.html

The Mental Status Exam
The Mental Status Exam is an important part of the physical examination. It helps evaluate an individual’s level of consciousness and cognitive functioning. Through observing
since they are standardized and allow for the assessment of current symptoms and severity. They can also be useful for following or reassessing a patient’s progress after initiation of treatment.


2. **Center for epidemiologic studies depression scale for children (CES-DC)**—Available at http://www.brightfutures.org/mentalhealth/pdf/professionals/bridges/ces_dc.pdf.


4. **Other Tools**

   A. **BRIGHT FUTURES**—The Bright Futures Tool Kit has numerous guidelines, tools, and other resources for identifying mental health concerns. Available at http://www.brightfutures.org/mentalhealth/pdf/tools.html.

   B. **Edinburgh postnatal depression scale**—The scale is used widely as a screening instrument for pregnancy-related depression (PRD) and anxiety. It measures emotional and cognitive symptoms of PRD and anxiety and demonstrates moderate to good reliability and validity across diverse samples.


   C. **Disorder-specific screening tools**—Useful tools for evaluating other mental health concerns, such as obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), and autism spectrum disorders, can be found at the following website: http://www.mass.gov/eohhs/consumer/insurance/cbhi/cbhi-screening/masshealth-approved-screening-tools/.

**The Mental Status Examination**

The Mental Status Examination (MSE) is a tool equivalent to the physical examination. It includes some standard aspects to help evaluate an individual, including observation of an individual’s overall cognitive, emotional, and behavioral presentation. Through observations, interaction, and questions, the MSE identifies current behavioral presentation and areas of clinical concern (e.g., suicidal thinking, hallucinations). Depending on the presenting problem, pediatricians may choose to document a complete MSE or a focused MSE. Please refer to standard elements of MSE (Table 7–3).

**Diagnostic Formulation & Interpretation of Findings**

Diagnosis, the final product of an assessment, starts with a description of the presenting problem, which is then evaluated within the context of the child’s age, developmental abilities, the context in which a child exists, including adverse experiences and stressors that impact the child and the family, and the functioning of the family system.

In the absence of integrated mental health providers, the primary care provider uses the information gathered to distinguish among the following possible explanations for the emotional or behavioral problem(s):

1. The behavior falls within the range of normal given the child’s developmental level.
2. The behavior is a temperamental variation.
3. The behavior is related to central nervous system impairment (e.g., prematurity, exposure to toxins in utero, seizure disorder, or genetic disorders).
4. The behavior is a normal reaction to stressful circumstances (e.g., medical illness, change in family structure, or loss of a loved one).
5. The behavior is related to relationship problems within the family.
6. The problem is complicated or exacerbated by an underlying medical condition.
7. The problem reaches threshold for a diagnosis.
8. Some combination of the above.

While it is not necessary to identify a diagnosis in order to refer a patient to a mental health provider, it is important to identify any diagnosis that may be addressed within the community pediatric setting, such as attention-deficit/hyperactivity disorder (ADHD), mild anxiety, mild depression and mild adjustment disorders. This involves deciding whether particular behaviors or symptoms constitute a pattern consistent with a diagnosis. For example, how hyperactive must a 5-year-old child be before he or she is hyperactive enough to meet diagnostic criteria for ADHD? Providers use caregiver reports of behaviors and symptoms in combination with their clinical observations and assessments of duration, severity, and impairment to determine what, if any, is the correct diagnosis. When a child’s functioning is impaired in major domains of life, such as learning, peer relationships, family relationships, authority relationships, and recreation,
Table 7-3. Standard elements of mental status examination.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Questions to Ask/Observations to Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>General appearance</td>
<td>Physical presentation, attitude and how the child carries themselves (observation, interaction).</td>
<td>Does the child look their stated age? Document physical size compared to peers, dysmorphic features, grooming, cooperation, level of distress, and quality of interaction.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Quality of eye contact in context (observation, interaction).</td>
<td>Observe and document quality of eye contact, eg, good, fair or poor. Is gaze fixed?</td>
</tr>
<tr>
<td>Psychomotor activity</td>
<td>Overall energy and physical movement (observation).</td>
<td>Document whether activity level is normal, slowed, or increased.</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>Gait, range of motion (extremities), abnormal movements (observation and directed tasks).</td>
<td>Document gait and the presence of any rigidity, ataxia, tics, or other abnormal movements.</td>
</tr>
<tr>
<td>Speech/language</td>
<td>Rate, volume, tone, articulation, coherence and spontaneity, appropriate naming and word usage (observation).</td>
<td>Observe and document pattern and quality of speech.</td>
</tr>
<tr>
<td>Mood/affect</td>
<td>Subjective (child’s stated mood); objective (clinician’s observation of affect) and how well the two correspond (observation, direct questioning, and optional self-report questionnaire).</td>
<td>Is the child able to identify their mood, happy, sad, angry, anxious? Is the child’s affect congruent with mood? What is the observed range of affect?</td>
</tr>
<tr>
<td>Thought process; associations</td>
<td>Rate, relevance and reasoning (observation).</td>
<td>Are the child’s thoughts goal-directed, logical, tangential, or circumstantial? How does the child reason and problem solve? Is thought process concrete or does the child demonstrate abstract reasoning?</td>
</tr>
<tr>
<td>Thought content</td>
<td>Content of what the child is actually saying (observation).</td>
<td>Does the child express suicidal or homicidal ideation, and if so, is there intent and a plan? Does the child express obsessions? Does the child experience perceptual abnormalities such as, hallucinations or illusions.</td>
</tr>
<tr>
<td>Attention span</td>
<td>Child’s ability to stay on task, focus, and concentrate (observation).</td>
<td>Does the child have an age-appropriate attention span? Is the child able to stay on task or are they easily distracted? What is the child’s capacity for insight into his/her situation (intact, poor, impaired)?</td>
</tr>
<tr>
<td>Insight; judgment</td>
<td>Child’s psychological understanding of his/her situation; ability to make safe and appropriate choices based on situation (observation and response to directed questions).</td>
<td>Does the child know where he/she is, the date, who he/she is, who the parents are? Response to direct questions about current events and memory.</td>
</tr>
<tr>
<td>Orientation</td>
<td>Awareness of oneself, location, date and reason for care (observation and response to directed questions).</td>
<td>Results of cognitive testing (from outside source), assessment of intellectual capacity based on interaction, and other sources of information (average, below average, above average for age and level of education).</td>
</tr>
<tr>
<td>Fund of knowledge; memory</td>
<td>Common knowledge, ability to recall long-term events and recent details (observation and response to directed questions).</td>
<td></td>
</tr>
<tr>
<td>Cognition</td>
<td>Intelligence</td>
<td></td>
</tr>
</tbody>
</table>

or when substantial deviation from typical developmental trajectories occurs, a differential diagnosis may be considered based on the symptom profile.

Identifying and discussing the diagnosis is often the beginning of initiating treatment. The provider’s interpretation of the presenting problem and diagnosis in the context of current family circumstances and available resources and supports enhances referral uptake, engagement in treatment, and coordinated care. The interpretive process includes the following components:

1. Psychoeducation: A discussion of the following options:
   a. Close monitoring
   b. Counseling provided by the primary care provider or integrated mental health
   c. Referral to a mental health specialist
   d. Initiation of medications
   e. Some combination of these

2. A discussion of the specific medication to the diagnosis and dosing:

   A joint plan involving the provider and the child is then negotiated to address current developmental needs in the face of challenges and stresses. If an appropriate plan is not reached, the provider feels that a specialist initiate or increase the medication. If the provider feels that additional consultation is required, referral to a more appropriate provider is recommended.

A. Referral of Patients to Health Professionals

Primary care providers often refer adolescents to a psychiatrist or other mental health professional when the diagnosis or when medication is indicated. If the provider feels that a specialist initiate or increase the medication or when medication is indicated. If the provider feels that a specialist initiate or increase the medication or if the provider feels that additional consultation is required, referral to a more appropriate provider is recommended.

Table 7-4. When to consider referral to a child and adolescent psychiatrist

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Referral Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>The diagnosis is not clear</td>
<td>The pediatrician feels that further consultation is needed.</td>
</tr>
<tr>
<td>The pediatrician believes medication is indicated</td>
<td>The pediatrician has started or increased the medication and is not achieving desired outcomes.</td>
</tr>
<tr>
<td>The pediatrician has stopped the psychopharmacological consultation</td>
<td>The parent or child requests further consultation.</td>
</tr>
<tr>
<td>Individual, family, or group psychotherapy</td>
<td>Bipolar affective disorder is suspected</td>
</tr>
<tr>
<td>Psychotic symptoms (hallucinations, delusions)</td>
<td>Chronic medical regimen noncompliance</td>
</tr>
</tbody>
</table>

Primary care providers often refer adolescents to a psychiatrist or other mental health professional when the diagnosis is indicated. If the provider feels that a specialist initiate or increase the medication or if the provider feels that additional consultation is required, referral to a more appropriate provider is recommended.
1. Psychoeducation: An explanation of how the presenting problem or symptom is a reflection of a suspected cause, and typical outcomes both with and without intervention.

2. A discussion of possible interventions, including the following options:
   a. Close monitoring
   b. Counseling provided by the primary care provider or integrated mental health provider
   c. Referral to a mental health professional outside of the primary care clinic
   d. Initiation of medication
   e. Some combination of the above

3. A discussion of the parent's and adolescent's response to the diagnosis and potential interventions.

A joint plan involving the provider, parents, and child is then negotiated to address the child's symptoms and developmental needs in light of the family structure and stresses. If an appropriate plan cannot be developed, or if the provider feels that further diagnostic assessment is required, referral to a mental health practitioner should be recommended.

A. Referral of Patients to Mental Health Professionals

Primary care providers often refer patients to a child and adolescent psychiatrist or other qualified child mental health professional when the diagnosis or treatment plan is uncertain, or when medication is indicated and the pediatrician prefers that a specialist initiate or manage treatment of the mental illness (Table 7-4). For academic difficulties not associated with behavioral difficulties, a child educational psychologist or multidisciplinary learning disorder team may be most helpful in assessing patients for learning disorders and potential remediation. For cognitive difficulties associated with head trauma, epilepsy, or brain tumors, a referral to a pediatric neuropsychologist may be indicated.

![Table 7-4. When to consider consultation or referral to a child and adolescent psychiatrist.]

| The diagnosis is not clear |
| The pediatrician feels that further assessment is needed |
| The pediatrician believes medication may be needed, but will not be prescribing |
| The pediatrician has started medications and needs further psychopharmacologic consultation |
| Individual, family, or group psychotherapy is needed |
| Psychotic symptoms (hallucinations, paranoia) are present |
| Bipolar affective disorder is suspected |
| Chronic medical regimen nonadherence |

Patients who are publicly insured or do not have mental health insurance coverage can usually be assessed and treated at their local mental health care center. Patients with private mental health insurance typically need to contact their insurance company for a list of local mental health professionals trained in the assessment and treatment of children and adolescents who are on their insurance panel. The referring pediatrician or staff should assist the family by providing information to put them in touch with the appropriate services. Personal relationships between staff or providers in the primary care office and community mental health administrators improve the success of referrals. Systems of care in which mental health professionals are co-located in the clinic remove barriers and improve access and care (see earlier discussion). In addition, there are many levels of care between involuntary inpatient psychiatric hospitalization and outpatient treatment including the following: day treatment hospitalization, home-based care, intensive outpatient, and primary care management. The pediatrician should arrange a follow-up visit, after a referral has been made, to monitor if the family was able to establish care with the mental health provider, and to help troubleshoot any barriers to care.

Pediatricians who feel comfortable implementing the recommendations of a mental health professional with whom they have a collaborative relationship should consider remaining involved in the management and coordination of treatment of mental illness in their patients. The local branches of the American Academy of Child and Adolescent Psychiatry and the American Psychological Association should be able to provide a list of mental health professionals who are trained in the evaluation and treatment of children and adolescents.

B. Other Resources

The Partnership Access Line (PAL) Washington website (www.palforkids.org) is another useful tool to assist the primary care provider in diagnosis and treatment of the more common psychiatric conditions. The PAL algorithms provide decision trees and guidance for treating specific diagnoses, considering alternative diagnoses in the differential, and reviewing medication treatment tables for specific information regarding psychopharmacologic treatments.

Integrated Care for Kids is a resource center to promote the integration of behavioral/mental health services by providing ready access to needed resources to interested professionals in different disciplines who are working in a variety of settings (http://integratedcareforkids.org).

Table 7-5. Guidelines for management of psychiatric medications by the pediatrician.

<table>
<thead>
<tr>
<th>Drug or Class</th>
<th>Comfort Initiating</th>
<th>Comfort Managing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulants</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>α-Agonists</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Atypical antipsychotics</td>
<td>Recommend psychiatric involvement</td>
<td>++</td>
</tr>
<tr>
<td>Typical antipsychotics</td>
<td>Requires psychiatrist involvement</td>
<td>+/-</td>
</tr>
<tr>
<td>Clozapine (Clozaril)</td>
<td>Requires psychiatrist involvement</td>
<td>Requires psychiatrist involvement</td>
</tr>
<tr>
<td>Mood stabilizers</td>
<td>Recommend psychiatric involvement</td>
<td>+</td>
</tr>
<tr>
<td>Lamotrigine (Lamictal)</td>
<td>Requires psychiatric involvement</td>
<td>+</td>
</tr>
<tr>
<td>Sleep medicines</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Tricyclic antidepresants</td>
<td>+</td>
<td>++</td>
</tr>
</tbody>
</table>

+++ high comfort; ++ comfort; + mild caution; +/- caution required.

prescribed psychotropic medications and the expected level of comfort of a primary care provider for initiating and managing them. More complete information regarding medication is detailed throughout the chapter. In addition, a list of FDA-approved medication for various psychiatric disorders is included in Table 7-6. For a current alphabetic listing of FDA-approved psychotropic medications, refer to the NIMH website at http://www.nimh.nih.gov/health/publications/mental-health-medications/nimh-mental-health-medications.pdf.


Table 7-6. Psychotropic medications for use in children and adolescents

<table>
<thead>
<tr>
<th>Drug</th>
<th>FDA for use in children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed amphetamine salts (Adderall)</td>
<td></td>
</tr>
<tr>
<td>Dextroamphetamine (Dexedrine, Dextrostat)</td>
<td></td>
</tr>
<tr>
<td>Methylphenidate (Concerta, Ritalin, Quillivant XR and others)</td>
<td></td>
</tr>
<tr>
<td>Atomoxetine (Strattera)</td>
<td></td>
</tr>
<tr>
<td>Guanfacine ER (Intuniv)</td>
<td></td>
</tr>
<tr>
<td>Clomipramine (Anafranil)</td>
<td></td>
</tr>
<tr>
<td>Fluoxetine (Luvox)</td>
<td></td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td></td>
</tr>
<tr>
<td>Pimozide (Orap) a</td>
<td></td>
</tr>
<tr>
<td>Lithium (Eskalith, Lithobid, Lithotabs)</td>
<td></td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td></td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td></td>
</tr>
<tr>
<td>Imipramine (Norpramin)</td>
<td></td>
</tr>
<tr>
<td>Aripiprazole (Abilify)</td>
<td></td>
</tr>
<tr>
<td>Risperidone (Risperdal)</td>
<td></td>
</tr>
<tr>
<td>Quetiapine (Seroquel, XR)</td>
<td></td>
</tr>
<tr>
<td>Ziprasidone (Geodon)</td>
<td></td>
</tr>
<tr>
<td>Olanzapine (Zyprexa)</td>
<td></td>
</tr>
<tr>
<td>Aripiprazole (Abilify)</td>
<td></td>
</tr>
<tr>
<td>Asenapine (Saphris)</td>
<td></td>
</tr>
<tr>
<td>Lurasidone (Latuda)</td>
<td></td>
</tr>
<tr>
<td>Paliperidone (Invega)</td>
<td></td>
</tr>
</tbody>
</table>

Food and Drug Administration 2018

aADHD: attention-deficit/hyperactivity disorder
bOCD: obsessive-compulsive disorder
cUse of pimozide is not recommended and is discussed in Chapter 25.
Table 7-6. Psychoactive medications approved by the FDA for use in children and adolescents.5

<table>
<thead>
<tr>
<th>Drug</th>
<th>Indication</th>
<th>Minimum Age For Which Approved (y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed amphetamine salts (Adderall)</td>
<td>ADHD</td>
<td>≥ 3</td>
</tr>
<tr>
<td>Dextroamphetamine (Dexedrine, Dexstat)</td>
<td>ADHD</td>
<td>≥ 3</td>
</tr>
<tr>
<td>Methylphenidate (Concerta, Ritalin, Quillivant XR and others)</td>
<td>ADHD</td>
<td>≥ 6</td>
</tr>
<tr>
<td>Atomoxetine (Strattera)</td>
<td>ADHD</td>
<td>≥ 6</td>
</tr>
<tr>
<td>Guanfacine ER (Intuniv)</td>
<td>ADHD</td>
<td>≥ 6</td>
</tr>
<tr>
<td>Clomipramine (Anafranil)</td>
<td>OCD</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Fluvoxamine (Luvox)</td>
<td>OCD</td>
<td>≥ 8</td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>OCD</td>
<td>≥ 6</td>
</tr>
<tr>
<td>Pimozide (Orap)</td>
<td>Tourette syndrome</td>
<td>≥ 12</td>
</tr>
<tr>
<td>Lithium (Eskalith, Lithobid, Lithotabs)</td>
<td>Bipolar disorder</td>
<td>≥ 12</td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>Depression</td>
<td>≥ 12</td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>Depression</td>
<td>≥ 12</td>
</tr>
<tr>
<td>Imipramine (Norpramin)</td>
<td>Enuresis</td>
<td>≥ 6</td>
</tr>
<tr>
<td>Aripiprazole (Abilify)</td>
<td>Bipolar disorder</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Quetiapine (Seroquel, XR)</td>
<td>Bipolar disorder</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Ziprasidone (Geodon)</td>
<td>Bipolar disorder</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Olanzapine (Zyprexa)</td>
<td>Bipolar disorder</td>
<td>≥ 10</td>
</tr>
<tr>
<td>Aripiprazole (Abilify)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
<tr>
<td>Quetiapine (Seroquel, XR)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
<tr>
<td>Ziprasidone (Geodon)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
<tr>
<td>Olanzapine (Zyprexa)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
<tr>
<td>Aripiprazole (Abilify)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
<tr>
<td>Quetiapine (Seroquel, XR)</td>
<td>Schizophrenia</td>
<td>≥ 13</td>
</tr>
</tbody>
</table>

5Food and Drug Administration FDA
6ADHD, attention-deficit/hyperactivity disorder
7OCD, obsessive-compulsive disorder
8Use of pimozide in the treatment of movement disorders is discussed in Chapter 25


ANXIETY DISORDERS

ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- Fear or anxiety that is excessive or persisting beyond developmentally appropriate period.
- Fear or anxiety is accompanied by behavioral disturbances or physical manifestations.
- Symptoms cause functional impairment or significant distress.

Anxiety is described as the anticipation of future threat and fear is described as the emotional response to real or perceived imminent threat. Both are protective emotions, part of the normal repertoire of children. Distinguishing developmentally appropriate fears and anxiety from those
associated with anxiety disorders can be challenging and requires knowledge of normative development. Generally, fears or anxiety that persists beyond the expected developmental period, or cause significant distress or impairment, suggest an anxiety disorder. Some anxiety disorders are more likely to be precipitated by stress, but many are not. An anxious temperament can be identified as early as infancy, and children with such temperaments are more likely to develop anxiety disorders, especially if they are living with anxious parents. Community-based studies of school-aged children and adolescents suggest that nearly 10% of children have some type of anxiety disorder. Anxiety disorders are important to identify and treat early as untreated disorders often persist or evolve into other anxiety disorders.

### Identification & Diagnosis

Comorbidity is common with anxiety disorders: Children with one anxiety disorder are likely to have another anxiety disorder and have increased risk for other psychiatric disorders such as depression. It is therefore important to carefully screen children with an anxiety disorder to ensure that another disorder is not missed. In addition, children with anxiety, presenting to a pediatrician, are more likely to present with a physical complaint, such as headaches or abdominal pain, than with identified anxiety (Table 7-7). While medical causes of anxiety are rare, it is important not to misdiagnose a physical symptom as anxiety; for example, to ascribe the gastrointestinal (GI) upset of inflammatory bowel disease, to anxiety. Screening should also assess for medications and substances that can cause anxiety. Substances include caffeine, marijuana, amphetamines, cocaine, and alcohol during withdrawal. Medications that have been associated with anxiety include steroids, tacrolimus, angiotensin-converting enzyme inhibitors, anticholinergics, dopamine agonists, β-adrenergic agonists, serotonin selective reuptake inhibitors, thyroid medications, and progesterone derivatives. Medical illnesses that can lead to symptoms suggestive of anxiety include those associated with hyperthyroid states, hypoglycemia, hypoxia, and more rarely, pheochromocytoma.

#### Treatment

Treatment must be tailored to the developmental age of the child. Treatment of younger children focuses on helping parents understand their child's symptoms, developing skills to help their child manage distress, while also helping parents tolerate their child's distress. As soon as children have the developmental capacity to engage in assessing their own anxiety and in learning coping strategies, they are incorporated into therapy.

Cognitive behavioral therapy (CBT) with exposure has the most evidence regarding the successful treatment of anxiety. Exposure refers to planned progressive presentation of low- to mid-level anxiety-provoking stimuli. The goal is to desensitize the child to the stimulus. CBT can be delivered in group settings, or with an individual child and parent. The basic goals include helping children identify and quantify anxiety symptoms, identify maladaptive cognitions, learn cognitive, and behavioral coping strategies to begin exposures to situations or items associated with moderate to low-level anxieties. Parents or caregivers also learn these skills in order to help children or youth practice in settings outside the therapy office. The ultimate goal is to enable the child to face the particular anxiety or set of anxieties that are causing distress or dysfunction, experience a decrease in anxiety, and resume normal functioning.

When anxiety symptoms do not remit with cognitive, behavioral, and environmental interventions, and continue to significantly affect life functioning, psychopharmacologic agents may be helpful. There is evidence that SSRIs are effective in treating anxiety disorders in children as young as 6 years of age, but these medications do not have FDA approval for this indication. The anxiolytic effect of SSRIs can be as rapid as a few days, whereas the effects of benzodiazepines are immediate. Pediatricians are aware of this immediate effect, but the use of benzodiazepines while waiting for the anxiolytic effects of SSRIs is discouraged with youth because the developing brain is at increased risk for dependency and iatrogenic substance abuse. Alpha agonists are an alternative that can be used on a scheduled or as-needed basis, and usually are better tolerated without concern for physiologic dependence. Please refer to medication

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**Table 7-7. Signs and symptoms of anxiety in children.**

<table>
<thead>
<tr>
<th>Psychological</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fears and worries</td>
</tr>
<tr>
<td>Increased dependence on home and parents</td>
</tr>
<tr>
<td>Avoidance of anxiety-producing stimuli</td>
</tr>
<tr>
<td>Decreased school performance</td>
</tr>
<tr>
<td>Increased self-doubt and irritability</td>
</tr>
<tr>
<td>Frightening themes in play and fantasy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychomotor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motoric restlessness and hyperactivity</td>
</tr>
<tr>
<td>Sleep disturbances</td>
</tr>
<tr>
<td>Decreased concentration</td>
</tr>
<tr>
<td>Ritualistic behaviors (eg, washing, counting)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychophysiologic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomic hyperarousal</td>
</tr>
<tr>
<td>Dizziness and lightheadedness</td>
</tr>
<tr>
<td>Palpitations</td>
</tr>
<tr>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Flushing, sweating, dry mouth</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
</tr>
<tr>
<td>Panic</td>
</tr>
<tr>
<td>Headaches and stomach aches</td>
</tr>
</tbody>
</table>

---

**Table 7-8. Common medications used for anxiety.**

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>10, 20, 40 mg/day</td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>25, 50, 100 mg/day</td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>5, 10, 20 mg/day</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td>10, 20, 40 mg/day</td>
</tr>
<tr>
<td>Bupropion (Wellbutrin)</td>
<td>75, 100 mg/day</td>
</tr>
<tr>
<td>Mirtazapine (Remeron)</td>
<td>15, 30, 45 mg/day</td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td>25, 37.5, 50, 75 mg/day</td>
</tr>
</tbody>
</table>

Starting doses in children less than 12 years old and successful medication trials show that these medications may be effective. *Recommend decrease maximum dose.* **Refer to the lowest dose first.** Reproduced with permission from Ref. 8.

—

**Prognosis**

Early treatment of anxiety disorders decreases the risk for negative trajectories or the development of comorbid disorders. The standard of care is CBT, followed by consideration of CBT/medications for children that do not respond to CBT. The life course of anxiety disorders that present in childhood is often lifelong, even if treated during childhood, but partial remission or a decrease in severity is common.
### Table 7-8. Common medications used for the treatment of depression in children and adolescents.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosage Form</th>
<th>Usual Starting Dose For Adolescent</th>
<th>Increase Increment (After ~4 Weeks)</th>
<th>RCT Evidence in Kids</th>
<th>FDA Depression Approved for Children?</th>
<th>Editorial Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>10, 20, 40 mg 20 mg/5 mL</td>
<td>10 mg/day (60 mg max)*</td>
<td>10–20 mg**</td>
<td>Yes</td>
<td>Yes (over age 8)</td>
<td>Long 1/2 life, no side effect from a missed dose</td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>25, 50, 100 mg 20 mg/mL</td>
<td>25 mg/day (200 mg max)*</td>
<td>25–50 mg**</td>
<td>Yes</td>
<td>No</td>
<td>May be prone to side effects when stopping</td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>5, 10, 20 mg 5 mg/5 mL</td>
<td>5 mg/day (20 mg max)*</td>
<td>10–20 mg**</td>
<td>Yes</td>
<td>Yes (for adolescents)</td>
<td>The active isomer of citalopram.</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td>10, 20, 40 mg 10 mg/5 mL</td>
<td>10 mg/day (40 mg max)*</td>
<td>10–20 mg**</td>
<td>Yes</td>
<td>No</td>
<td>Few drug interactions</td>
</tr>
<tr>
<td>Buproprion (Wellbutrin)</td>
<td>75, 100 mg 100, 150, 200 mg SR forms 150, 300 mg XL forms</td>
<td>75 mg/day (later dose this SID) (400 mg max)*</td>
<td>75–100 mg**</td>
<td>No</td>
<td>No</td>
<td>Can have more agitation risk. Avoid if eat d/o. Also has use for ADHD treatment.</td>
</tr>
<tr>
<td>Mirtazapine (Remeron)</td>
<td>15, 30, 45 mg</td>
<td>15 mg/day (45 mg max)*</td>
<td>15 mg**</td>
<td>No</td>
<td>No</td>
<td>Sedating, increases appetite</td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td>25, 37.5, 50, 75, 100 mg 37.5, 75, 150 mg ER forms</td>
<td>37.5 mg/day (225 mg max)*</td>
<td>37.5–75 mg**</td>
<td>No</td>
<td>No</td>
<td>Only recommended for older adolescents. Withdrawal symptoms can be severe.</td>
</tr>
</tbody>
</table>

Starting doses in children less than 13 may need to be lowered using liquid forms.
Successful medication trials should continue for 6 to 12 months.
*Recommend decrease maximum dosage by around 1/3 for pre-pubertal children
**Recommend using the lower dose increase increments for younger children
Reproduced with permission from Hill R: Primary Care Principles for Child Mental Health, spring 2018, version 7.1. Seattle Children’s Hospital.

used for treatment of depressive disorders (Table 7-8) as they are commonly used in the treatment for anxiety as well.

## Prognosis

Early treatment of anxiety disorders can be very effective and decreases the risk for negative impact on developmental trajectories or the development of other psychiatric disorders.

The standard of care is CBT for milder cases and a combination of CBT/antidepressant for more severe cases or cases that do not respond to CBT alone.

The life course of anxiety disorders is as follows. Anxiety disorders that present in childhood tend to wax and wane during childhood, but patients who present with more severe symptoms often develop several anxiety disorders during adolescence and are at risk for depression, substance abuse and other negative developmental outcomes. Parenting style may contribute to anxiety; specifically, autonomy granting is more likely to result in less anxious children, whereas harsh or rejecting parenting results in more anxious children. Treatment of parental anxiety disorders when present improves the outcome of the child’s anxiety disorder.

As mentioned earlier, the PAL Washington is a great resource for primary care providers. The site includes treatment algorithms and related information for the diagnosis and treatment of commonly encountered mental health disorders. To illustrate this point, the treatment algorithm for anxiety disorders is included in Figure 7-1.
1. Separation Anxiety

- Persistent excessive worry that separation is imminent, and that this separation will be harmful or frightening.
- Difficulty being away from home.
- Reluctance or refusal to go to camp, school, or sleep away from the home.
- Fear of being alone with or away from parents or caregivers.
- Physical complaints such as headaches or stomachaches, not anticipated.

**General Considerations**

Younger children may manifest separation anxiety in many ways. Separation is imminent, and they may experience specific fears such as getting lost, getting into car accidents, or facing disasters, etc. Behaviors may also vary by age; young children may experience separation anxiety with difficulties around the age of 18 months, whereas other separation anxiety may only be seen as children approach the age of starting school. Separation anxiety may also be more prevalent in younger children, with an estimated prevalence of 1.1% in children compared with 1.6% in middle school-age children.

**Identification & Evaluation**

Anxiety about separation can overlap with healthy, normative development and must be distinguished from other anxiety disorders. Anxiety disorders may occur for more than 4 weeks and cause significant distress or impairment.

**Treatment**

Parents often try to alleviate their child's anxiety, but this can interfere with the treatment of separation anxiety. If anxiety is severely impairing, it is important to address the developmental stage of the child. Children who do not respond to therapy may benefit from an SSRI. Children younger than 6 years old may not be treated with medication.

**Other Considerations**

The differential for separation anxiety includes other anxiety disorders, with anxiety disorders such as post-traumatic stress disorder (PTSD), social anxiety disorder, specific phobia, and obsessive-compulsive disorder.
1. Separation Anxiety

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Persistent excessive worry about losing or being separated from attachment figures, due to harm, illness, or death befalling either the attachment figure or the patient.
- Reluctance or refusal to leave the attachment figure or sleep away from the attachment figure.
- Fear of being home without attachment figure.
- Physical complaints when separation occurs or is anticipated.

**General Considerations**

Younger children may not be symptomatic until the separation is imminent, and may not experience explicit fears related to separation. As children get older, they may experience specific fears such as fears of abandonment, parents getting into car accidents, being separated due to natural disasters, etc. Behaviors associated with separation anxiety also vary by age; young children are more likely to present with difficulties around the separation of sleep and for older children other separations, such as school, sleepovers, and camp, may be the focus of anxiety. In addition to appearing anxious, children with separation anxiety can appear sad, aggressive, or experience physical symptoms when facing the anxiety-provoking separation. Separation anxiety disorder is more prevalent in younger children (4% 6-month prevalence compared with 1.6% 6-month prevalence in adolescence).

**Identification & Diagnosis**

Anxiety about separation from attachment figures is part of early normative development. Separation anxiety disorder must be distinguished from normal development, must occur for more than 4 weeks for children, and lead to impairment or significant distress.

**Treatment**

Parents often try to alleviate symptoms caused by separation anxiety and are important to include in treatment. Treatment of separation anxiety includes CBT that is modified to address the developmental level of the child. Children who do not respond to therapy may require medication such as an SSRI. Children younger than school age are generally not treated with medication.

**Other Considerations**

The differential for separation anxiety is broad and includes other anxiety disorders, mood disorders, oppositional defiant disorder, conduct disorder, psychotic disorder, and personality disorders. Pediatricians are likely to encounter children with school refusal, a common behavioral manifestation of separation anxiety. It is important to recognize and intervene early with school refusal as the longer a child is out of school, the more difficult it is to help the child return to school. Symptoms of school refusal often include physical symptoms and behavioral outbursts as school time approaches. Parents often notice symptoms abate on the weekend, vacations, or if the child is no longer expected to attend school. Mild cases may be handled with the help of the pediatrician's office, but more severe cases may need the help of a mental health specialist.

School refusal can also be related to other anxiety disorders, learning disorders, mood disorders, psychotic disorders, oppositional defiant disorder, conduct disorder, and environmental stressors such as bullying or poor student teacher fit. Identifying the etiology of school refusal helps providers appropriately target the level and type of intervention.

**Prognosis**

Separation anxiety often abates by adolescence, but adolescents who experienced separation anxiety disorder in childhood are at increased risk to develop other disorders.

2. Selective Mutism Disorder

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Consistent failure to speak in social settings (such as school) where this is expected, despite speaking in other settings.

**General Considerations**

Selective mutism is more frequent in younger children. Symptoms may be present before 5, but usually do not lead to problems until the child enters school. Immigrant children or other children who initially learned one language and are expected to function in the school setting in a second language may present with selective mutism.

**Identification & Diagnosis**

Children with selective mutism usually speak with close family members and may also speak with a "best" friend. They may be quite outgoing within this comfortable setting, but are often shy outside of this setting, and can be comfortable with social roles that do not require verbal communication. Children with selective mutism can become angry and aggressive.
when facing a demand to speak. Screening for selective mutism is useful as families may not be aware of the problem, or may not appreciate that it is interfering with function at school. To meet criteria for selective mutism, symptoms must interfere with function in school, work, or social communication, and must last longer than 1 month, not including the first month of school. Symptoms cannot be due to autism, a communication disorder or psychotic disorders.

### Treatment

This disorder can be perplexing for parents and teachers as the child’s engagement in speaking can vary significantly across settings. Treatment therefore usually begins with psychoeducation. Children with selective mutism can be difficult to engage due to their shyness, so clinicians must be adept at using both verbal and nonverbal methods to form an alliance with the child. CBT with exposure aimed at increasing verbal interactions can be very successful. Patients with more severe symptoms, or symptoms that do not respond to therapy, may benefit from an SSRI.

### Other Considerations

The differential diagnosis includes other disorders that can interfere with speech, such as autism, communication disorders, and psychotic disorders. Children with selective mutism can have other comorbid anxiety disorders, such as social anxiety disorder, separation anxiety, and specific phobia.

Recognition and treatment of selective mutism is critical as the longer a child avoids verbal communication in settings outside of the family, the more entrenched this behavior becomes. Children with untreated selective mutism are at risk for depression, social anxiety disorder, and substance abuse as adolescents.

### Specific Phobias

#### ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- Excessive fear or worry about a certain thing, experience, or situation.
- The thought about or exposure to this trigger causes excessive anxiety.

#### General Considerations

Specific phobias are common, impacting 5% of children and 16% of adolescents. Simple phobias often lessen over time, but more severe, persistent forms can be debilitating.

### Identification & Diagnosis

Specific phobia is an intense fear of a particular thing, experience, or situation that lasts for at least 6 months. This object or situation is a cause of great distress nearly every time the individual anticipates or is exposed to the stimulus. The perceived harm or threat is well out of proportion to the actual stimulus. To handle the distress, the child avoids the object or situation, therefore reinforcing the anxiety. The distress caused by the stimulus can also present as a panic attack, fainting, or irritability. Young children may present with increased clinginess.

#### Treatment

The mainstay of treatment for specific phobias is CBT aimed at reducing anxiety or fear of the phobic stimulus.

#### Other Considerations

Children commonly experience more than one specific phobia and as the number of phobias increases, so does the degree of impairment. The differential diagnosis includes other anxiety disorders, trauma, and stress-related disorders, eating disorders, schizophrenia, and other psychotic disorders.

Significant childhood separation events are associated with later onset of phobia. Addressing specific phobia is important as untreated specific phobia have one of the higher rates of stability over time among childhood anxiety disorders.

### 4. Panic Disorder

#### ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- Recurrent, unexpected panic attacks, described as an abrupt onset of intense fear, that crescendos over the course of minutes and is accompanied by physical symptoms.

#### General Considerations

Panic disorder is more likely to present after the onset of puberty with a prevalence rate of 2%–3% during adolescence. Unlike many other anxiety disorders, there is more likely to be a stressor preceding the onset of panic disorder. Children who experience separation anxiety disorder are at increased risk to develop panic disorder.

#### Identification & Diagnosis

The physical symptoms of panic disorder are symptoms of a surge in the adrenergic system and include palpitations, sweating, shortness of breath, choking, chest pain or tightness, GI distress, dizziness or associated feelings, alleli.

#### Prognosis

Panic symptoms and panic disorder do not resolve on their own, and therefore need to be recognized and treated. Untrated
or heat, numbness, or tingling. Cognitive symptoms can include feelings of unreality, fear of going crazy, or of dying. To meet criteria for a panic attack, at least four of the above symptoms must be present, and individuals with panic disorder experience a fear of or related to future attacks that leads to maladaptive behavior. Youth with panic disorder are most likely to present to the pediatrician with fears related to physical symptoms of autonomic arousal, such as a fear that there is something wrong with their heart. Adolescents are less likely than adults to report panic attacks and thus specific questions on questionnaires should be used when adolescents present with anxiety.

Although over time, individuals with panic disorder can come to expect panic attacks tied to certain cues, they must experience at least some unexpected panic attacks that seem to come out of the blue.

**Treatment**

CBT for youth with panic disorder focuses on the cognitions associated with the panic attack as well as the physiologic distressing symptoms. Exposure targets may include situations that trigger panic attacks, or some of the physiologic symptoms experienced during an attack. The frequency of treatment can vary depending on the acuity of the patient, with lower levels of care provided during weekly outpatient therapy and higher levels provided several times a week through intensive outpatient treatment programs or daily in day treatment programs. Patients who do not respond to therapy alone may benefit from an SSRI. Benzodiazepines have been used with adults but are discouraged for use with youth in the primary care setting.

**Other Considerations**

The differential diagnosis of panic attacks includes a physical cause of panic symptoms. This must be ruled out when appropriate. Panic disorder can be debilitating as youth can go to extensive lengths to avoid cues. Youth who avoid going out in public by themselves, should be diagnosed with agoraphobia in addition to panic disorder. Although panic disorder increases the risk of developing a substance abuse disorder, withdrawal of some substances can also lead to panic symptoms. For adolescents who are actively using, this can be difficult to distinguish. Panic attacks can present as part of other anxiety disorders, but the panic attacks in other disorders are cued by the underlying fear or anxiety, such as public performance in social anxiety disorder, or anticipation of an event in generalized anxiety disorder. Panic disorder is higher among individuals with other anxiety disorders, depression, and bipolar disorder.

**Prognosis**

Panic symptoms and panic disorder are both important to recognize and treat. Untreated panic disorder has the highest rate of stability over time among childhood anxiety disorders. Individuals with panic symptoms that occur in the context of another disorder are at increased risk to develop depression.

5. Agoraphobia

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- An excessive fear of being in a situation where panic-like symptoms might occur.
- Avoidance of situations that can cause panic attacks.

**General Considerations**

Agoraphobia can be debilitating. In children and adolescents, it is more likely to present as school refusal than fear of the other situations listed below. Children and adolescents may be reluctant to report symptoms, so a careful screening is warranted for anxious children, or children who are refusing to attend school. In community samples, agoraphobia is more likely to occur in later adolescence; 1.7% of adolescents suffer from agoraphobia, but this may be an underestimate because of the difficulty of assessing youth. Similar to panic disorder, initial symptoms often are triggered by a stressful event.

**Identification & Diagnosis**

The most well-known fear associated with agoraphobia is fear of open spaces, including the market place. For individuals with agoraphobia, other situations can also trigger intense fear, such as using public transportation, standing in line or being in a crowd, being in an enclosed space, or outside the home alone. Individuals with agoraphobia experience two or more of these fears that last for over 6 months and lead to distress or impairment. Full panic disorder symptoms do not have to be present to meet criteria for agoraphobia.

**Treatment**

Treatment of individuals with agoraphobia can be very challenging, as treatment typically requires leaving home. Online treatments are available with limited data on efficacy. The current standard remains CBT with exposure, and SSRI for individuals who do not respond to treatment or are severely impacted by agoraphobia.

**Other Considerations**

The differential diagnosis includes other anxiety disorders, PTSD, depression, and medical conditions. For example,
adolescents with postural orthostatic tachycardia syndrome (POTS) may fear leaving the house, due to a fear of fainting, or individuals with inflammatory bowel disease may fear diarrhea.

> Prognosis

Individuals with agoraphobia are at risk for comorbid disorders including other anxiety disorders and depression, and males have a high incidence of substance abuse.

6. Generalized Anxiety Disorder (GAD)

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Multiple, intense, disproportionate, or irrational worries, often about future events.
- Worry is accompanied by other symptoms.
- The worry is difficult to control.

> General Considerations

Individuals with generalized anxiety disorder often recall a lifetime of anxiety, but community samples find GAD rarely presents before adolescence; the prevalence of GAD in adolescence is 0.9%. Potential reasons for this discrepancy include that the symptoms of anxiety may not meet full criteria for GAD at an earlier age, or symptoms may be underestimated by parents or guardians. Individuals who develop GAD at an early age are more likely to have greater impairment.

GAD is highly heritable, overlapping with the risk for depression and neuroticism. In addition, anxious overprotective parenting increases the risk of GAD, but is not necessary for the development of the disorder.

The differential diagnosis of symptoms of anxiety is presented in Table 7-9.

> Identification & Diagnosis

Young children with generalized anxiety often worry about their competence or performance, while older youth may worry about additional issues such as family finances or being on time. Worry and anxiety that is not pathological must be distinguished from the worries or anxieties of GAD. In addition, children with GAD experience at least one symptom of fatigue, restlessness or poor concentration, irritability, feeling on edge, or sleep disturbance. GAD can also be accompanied by other somatic symptoms and the pediatrician is more likely to encounter children with GAD who present with symptoms of GI difficulties or headaches. To meet criteria for GAD, the symptoms must cause significant distress or disturbance of function and be present for at least 6 months.

> Treatment

As with other anxiety disorders psychotherapy is the first-line treatment, with the possible addition of an SSRI if the response is insufficient.

> Other Considerations

It can be challenging to distinguish GAD from other anxiety disorders. Substance-induced anxiety should be considered with adolescents who experience a sudden onset of anxiety. Individuals with GAD are at increased risk to experience depression.

> Prognosis

The combination of medication and therapy can be very effective for treating youth with GAD. Individuals with GAD are at increased risk for depression.

Table 7-9. Differential diagnosis of symptoms of anxiety.

- **Normal developmental anxiety**
  - Stranger anxiety (5 mo–2½ y, with a peak at 6–12 mo)
  - Separation anxiety (7 mo–4 y, with a peak at 18–36 mo)
  - The child is fearful or even phobic of the dark and monsters (3–6 y)

- **"Appropriate" anxiety**
  - Anticipating a painful or frightening experience
  - Avoidance of a reminder of a painful or frightening experience
  - Child abuse
  - Anxiety disorder (see Table 7-11), with or without other comorbid psychiatric disorders

> Substance abuse

> Medications and recreational drugs

A. Caffeine (including cola and chocolate)
B. Sympathomimetic agents
C. Iodysynchratic drug reactions
D. Hypermetabolic or hyperarousal states
A. Hyperthyroidism
B. Pheochromocytoma
C. Anemia
D. Hypoglycemia
E. Hypoxemia
F. Cardiac abnormality
A. Dysrhythmia
B. High-output state
C. Mitral valve prolapsed

7. Social Anxiety Disorder

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Excessive worrying in social situations
- Inability to perform in front of others
- Avoidance of events or social situations that involve large groups.

> General Considerations

Social anxiety disorder is characterized by at least a 6-month duration of fear and avoidance of social situations. The fear is excessive and results in a significant impairment in social, occupational, or academic function when exposed to unfamiliar people in these settings. This is usually a problem of childhood and adolescence.

> Identification & Diagnosis

Anxiety symptoms in children and adolescents are related specifically to their environment and often explained by another anxiety disorder. The symptoms of this disorder include extreme anxiety, fear of social situations, and persistent social inhibition. The symptoms significantly impair the child's social functioning, causing them to avoid or limit their participation in social activities or friendships. The symptoms interfere with the child's ability to perform at school or in social situations.

> Treatment

Similar to the other anxiety disorders, treatment for social anxiety disorder is often focused on modifying behavior and providing skills to control the anxious cognitions through the use of specific cognitive-behavioral techniques. As with other anxiety disorders, CBT therapy is not effective alone, and medication is often needed. CBT is usually the only class of medication to be prescribed for children with social anxiety disorder.

> Other Considerations

Children with social anxiety disorder may have symptoms of depression and school avoidance, as well as panic attacks, and there is high risk of substance disorders and anxiety disorders.
7. Social Anxiety Disorder

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Excessive worrying in social settings.
- Inability to perform in front of others as expected for age.
- Avoidance of events or settings that are social in nature or involve large groups.

**General Considerations**

Social anxiety disorder is characterized by significant, persistent fear in social settings, or performance situations. The disorder results in overwhelming anxiety and inability to function when exposed to unfamiliar people and/or scrutiny. This is usually a problem of older children and adolescents.

**Identification & Diagnosis**

Anxiety symptoms in children with social anxiety disorder are related specifically to the social setting and not better explained by another anxiety disorder. Common manifestations of this disorder include consistent avoidance of social functions, and persistent somatic complaints that occur in a social setting and resolve in the absence of social exposure. The symptoms significantly disrupt the child's—and frequently the family's—life, and parents often describe a pattern of overly accommodating their child's avoidance and/or incentivizing their child to attend routine social, extracurricular, or family functions.

**Treatment**

Similar to the other anxiety categories, the mainstay of treatment for social anxiety disorder is CBT therapy. The goal is to modify behavior and diminish the anxiety in social settings through the use of specific cognitive and behavioral techniques. As with other anxiety disorders, if ongoing CBT therapy is not effective at mitigating the anxiety, then psychopharmacologic agents may be helpful. SSRIs are the only class of medication to have demonstrated efficacy for children with social anxiety disorder.

**Other Considerations**

Children with social anxiety disorder are at increased risk for depression and school avoidance. They can also experience panic attacks, and there is high comorbidity between substance use disorders and anxiety disorders, especially social anxiety disorder.

**Prognosis**

Early age of onset, more severe avoidance and the presence of panic symptoms are all predictors of persistence over time. Treatment with CBT or a combination of CBT and medication can be very effective for the majority of youth with social anxiety disorder.


**OBSESSIVE-COMPULSIVE & RELATED DISORDERS**

1. Obsessive-Compulsive Disorder

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Recurrent obsessive thoughts, impulses, or images that are experienced as intrusive at times.
- Repetitive compulsive behaviors or mental acts are performed to prevent or reduce distress stemming from obsessive thoughts.
- Obsessions and compulsions cause marked distress, are time-consuming, and interfere with normal routines.

**General Considerations**

Obsessive-compulsive disorder (OCD) is related to anxiety disorders, but tends to cluster genetically with other...
compulsive disorders such as compulsive skin picking, trichotillomania (hair pulling) and hoarding. Onset often occurs during childhood, and untreated OCD can have a lifelong course. Males have an earlier age of onset, with childhood cases usually occurring before the age of 10 years. OCD often leads to avoidance of situations that trigger obsessions, and for children and adolescents, this can interfere with development.

**Identification & Diagnosis**

The obsessions that lead to OCD are defined as recurrent, persistent, intrusive thoughts, urges, or images that cause significant distress. The individual tries to avoid, suppress, or ignore the obsessions or to mitigate them through action or thought. The obsessions and compulsions of OCD consume more than an hour per day. Obsessions vary by individuals, but tend to cluster into the following groups: intrusive “forbidden” images such as sexual, aggressive or religiously taboo images, thoughts of contamination, fear of symmetry, fears of harming others, fears of harm to oneself or loved ones. Individuals often experience more than one cluster and types of obsessions can change over time. In addition to compulsive symptoms, youth who are experiencing obsessions may also experience panic, depressive, irritable, and suicidal symptoms. Sudden onset of symptoms should alert pediatricians to screen for Group A streptococcal infections, as pediatric autoimmune disorders associated with these infections have been implicated in the development of OCD for some children.

Caretakers can often identify children who have compulsions, but obsessions can be difficult to recognize because they are experienced internally. Youths who recognize that obsessions and compulsions are strange may not spontaneously reveal symptoms unless specifically asked.

**Treatment**

Many individuals with OCD feel that their symptoms are “crazy” or alternatively, they do not want to consider giving up their compulsions as they feel these will lead to intense distress. Psychoeducation is an important first step in treatment of OCD to help put symptoms in perspective and outline treatment progression. OCD is best treated with a combination of CBT specific to OCD and with medications in more severe cases. SSRIs are effective in diminishing OCD symptoms, but higher doses may be needed than those used to treat anxiety disorders or depression. Fluvoxamine and sertraline have FDA approval for the treatment of pediatric OCD. The tricyclic antidepressant clomipramine has FDA approval for the treatment of OCD in adults. Severe cases have been treated with gamma knife brain surgery interrupting the circuit involved in OCD.

**Other Considerations**

OCD often occurs with other compulsive disorders such as trichotillomania (the recurrent pulling out of hair), compulsive skin picking, body dysmorphic disorder, or hoarding. Youth with OCD are at increased risk to have comorbid anxiety, ADHD, depression, and tics. The differential diagnosis includes all of the above as well as eating disorders, psychotic disorders and obsessive compulsive personality disorder. The perseveration of children with autism spectrum disorders can also be confused with OCD.

**Prognosis**

The combination of CBT plus medication is most effective for patients who do not respond to either treatment alone. It is important to recognize and treat OCD early, as early age of onset and greater impairment are predictors of poor prognosis. Hoarding is particularly difficult to treat.


**2. Excoration Disorder**

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Recurrent skin picking resulting in lesions despite efforts to stop.
- The skin picking causes significant distress or impairment in school, social or other areas of function.

**General Considerations**

Excoration disorder (ED) or dermatillomania, is a DSM-5. This disorder is related to eating disorders, and related disorders. As with this disorder has been a long time, it was not included in previous editions of the DSM, and many believe it is a subtype of OCD. It is more commonly seen among girls and women.

**Prognosis**

The disorder is characterized by a preoccupation with multiple lesions on certain body sites to reduce or stop this behavior. These lesions can be located on the face, hands, or other areas. In the past, it was often associated with anxiety and depression, but the current evidence suggests that it may also be associated with other disorders such as ADHD, anxiety, and depression. The current evidence suggests that treatment may include medication, psychotherapy, and behavioral therapy.
General Considerations

Excoriation disorder (ED), also known as skin picking disorder, or dermatillomania, is one of the newer diagnoses in the DSM-V. This disorder is a subset of obsessive-compulsive and related disorders. As with other additions to the DSM-V, this disorder has been around for over a century, however, it was not included in previous DSMs. There are some that believe that ED is closest to OCD in etiology, however, others believe it is better categorized as an “addiction disorder,” like alcohol and drug use disorders.

Identification & Diagnosis

The disorder is characterized by repeated skin picking leading to multiple lesions on the skin, despite ongoing efforts to reduce or stop this behavior. ED, similar to trichotillomania (TTM), is not associated with obsessions or preoccupations, as in OCD. Diagnosis of this disorder is characterized by clinically significant distress affecting social, occupational or other areas of functioning. Distress includes, but is not limited to experiencing a loss of control, embarrassment, or shame. Symptoms are likely affected by increased stress, anxiety and boredom. In addition, various substances, namely dopamine agonists, for example, methamphetamine and cocaine can lead to skin picking.

Treatment

Psychotherapy can be beneficial and should be the first line of treatment in most cases. For severe cases, or cases not responding to the therapy, there is mixed evidence supporting the use of SSRIs and evidence and evidence for N-acetylcysteine in adults. Comorbid conditions should be identified and treated. Currently, there are clinical trials looking at treating this disorder by targeting other receptors, such as opioid antagonists and glutaminergic agonists, however, these are still in preliminary phases.

Other Considerations

The differential diagnosis includes trichotillomania, substance use disorder, major depressive disorders, anxiety disorder, OCD, Tourette’s or tic disorder, body dysmorphic disorder, substance-induced skin picking, psychosis and neurodevelopmental disorders, such as Prader-Willi. There is a high comorbidity with OCD and TTM, in addition to major depressive disorder.

Prognosis

The disorder is much more common in females than males, with about a 3:1 ratio. Typical age of onset is teen years, likely associated with picking of acne. The lifetime prevalence for excoriation disorder in adults is at or above 1.4%. The course is chronic, yet symptoms can wax and wane for months to years at a time.


Posttraumatic Stress Disorder

ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- Signs and symptoms of hyperarousal and reactivity.
- Avoidant behaviors and numbing of responsiveness.
- Flashbacks to a traumatic event such as nightmares, intrusive thoughts, or repetitive play.
- Follows traumatic events such as exposure to violence, physical or sexual abuse, natural disasters, car accidents, dog bites, and unexpected personal tragedies.

General Considerations

Factors that predispose individuals to the development of PTSD include proximity to the traumatic event or loss, a history of exposure to trauma, preexisting depression or anxiety disorder, being abused by a caregiver, or witnessing a threat to a caregiver. PTSD can develop in response to natural disasters, terrorism, motor vehicle crashes, and significant personal injury, in addition to physical, sexual, and emotional abuse. Natural disasters such as hurricanes, fires, flooding, and earthquakes, create situations in which large numbers of affected individuals are at heightened risk for PTSD. Individuals who have a previous history of trauma, or an unstable social situation are at greatest risk of PTSD.

Long overdue, attention is now being paid to the substantial effects of family and community violence on the psychological development of children and adolescents. Abused children are especially likely to develop PTSD and to suffer wide-ranging symptoms and impaired functioning. As many as 25% of young people exposed to violence develop symptoms of PTSD and children with some symptoms of PTSD can suffer significant distress and functional impairment, even when not meeting full criteria for PTSD.

Identification & Diagnosis

Children and adolescents with PTSD show persistent fear, anxiety, and hypervigilance. They may regress developmentally and experience fears of strangers, the dark, and being alone, and avoid reminders of the traumatic event.
For young children with magical thinking, this can involve avoiding objects or events that may not be obviously linked to the traumatic event. Children with PTSD re-experience elements of the event in the form of nightmares and flashbacks. In their symbolic play, one can often notice repetition of some aspect of the traumatic event. Children with a history of traumatic experiences or neglect in infancy and early childhood are likely to show signs of reactive attachment disorder and have difficulty forming relationships with caregivers.

**Treatment**

Before considering treatment, it is critical to ensure that the child is living in a safe environment. If there is concern regarding current or past abuse, this must be reported to social services. The cornerstone of treatment for PTSD is education of the child and family regarding the nature of the disorder so that the child’s emotional reactions and regressive behavior are not mistakenly viewed as volitional. The child needs support, reassurance, and empathy. Treatment also includes building a developmentally appropriate narrative of the event to help the child understand their experience. Efforts should be made to establish or maintain daily routines as much as possible, especially after a trauma or disaster that interrupts the family’s environment. In the case of media coverage of a disaster or event, children’s viewing should be avoided or limited. Individual and family psychotherapy are central features of treatment interventions. Specific fears usually wane with time, and behavioral desensitization may help. Trauma-focused CBT is considered first-line treatment for PTSD. There is preliminary evidence that eye movement desensitization and reprocessing (EMDR) may also be useful.

For children with more severe and persistent symptoms, assessment for treatment with medication is indicated. Children who have lived for an extended time in abusive environments or who have been exposed to multiple traumas are more likely to require treatment with medications. Currently, there is no medication that has FDA approval for treating PTSD for children. Child psychiatrists may choose medications to target specific symptoms (e.g., anxiety, depression, nightmares, and aggression). Some of the medications used to treat children with PTSD include clonidine or guanfacine (Tenex), mood stabilizers, antidepressants, and neuroleptics.

**Other Considerations**

Evidence is growing to support a connection between victimization in childhood and problems in adulthood, including health problems, substance abuse, unstable personality, and mood disorders. It is important to treat PTSD not only to relieve the suffering of youth with PTSD, but also to mitigate long-term negative sequelae.

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**Prognosis**

The best prognostic indicator for children exposed to trauma is a supportive relationship with a caregiving adult. Frequently caregivers exposed to trauma also have PTSD and need referral for treatment so that they can also assist in their child’s recovery. Timely access to therapy enhances prognosis. Children with more severe PTSD may require intermittent therapy to identify and treat symptoms that emerge during different stages of development.


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**ATTENTION-DEFICIT/HYPERACTIVITY DISORDER**

**Inattentive, Hyperactive, & Combined Type**

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Significant impairment in attention or concentration.
- And/or significant hyperactivity and impulsivity in excess of that expected for age.
- Must be present in two or more settings.

**General Considerations**

Attention-deficit/hyperactivity disorder (ADHD) is one of the most commonly seen and treated psychiatric conditions in children, with no definitive cause or gender, screening and monitoring reactivity treated.

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**Identification**

Symptoms of ADHD include inattentive, hyperactive, or impulsive or a number of symptoms. The combination of ADHD, combined type, is required across at least 6 on the ADHD symptoms to be considered a diagnosis. Functioning impairments in children, school, and teachers. Standardized scales, such as the ADHD rating scales, are helpful in this regard. It is important without further study to ensure a complete diagnosis of ADHD.

Not all hyperactive behaviors are attributed to ADHD. Some comorbid conditions that have similar symptoms include mood disorders, oppositional defiant disorder, and PTSD. Learning and developmental disorders cannot be diagnosed as ADHD. There are also conditions with presenting problems such as injury, hypothyroidism, and toxicity. Inadequate nutrition and a poor quality of sleep should not have to be present to set the stage for treatment for ADHD.

**Treatment**

Medication is a primary treatment for children and adolescents with ADHD. Medications used for ADHD under the age of 12 years are limited. Stimulants are commonly prescribed medications, approximately 75% of children show improvement when given stimulants. Children with ADHD who do not respond to stimulants may respond to other medications or treatment interventions (such as medication-free treatment (methylphenidate) and nonstimulant medications. Medications are effective, nonstimulant, and selective, nonstimulant, and selective norepinephrine reuptake inhibitors (SSNRIs), a central a1 adrenergic receptor antagonist, and approval for the treatment.
conditions in children and adolescents. Although there is no definitive cause or cure for this disorder, with adequate screening and monitoring, it can be identified and effectively treated.

**Identification & Diagnosis**

Symptoms of ADHD fall into two categories: hyperactive and impulsive or inattentive. If a child has a significant number of symptoms in both categories, a diagnosis of ADHD, combined type is given. Functional impairment is required across at least two settings. Accurate diagnosis includes obtaining information regarding symptoms and functional impairment from two sources, typically parents and teachers. Standardized forms in the public domain such as Vanderbilt parent and teacher evaluation and follow up forms are helpful in the process. It is important to keep in mind that intermittent symptoms of hyperactivity and/or inattention without functional impairment do not warrant a diagnosis of ADHD.

Not all hyperactivity and/or inattention can be attributed to ADHD. Some of the most common psychiatric conditions that have similar presenting problems to ADHD include mood disorder (ie, bipolar and depression), anxiety disorders, oppositional defiant disorder, adjustment disorder and PTSD. Learning disorders and other neurodevelopmental disorders can present with symptoms suggestive of ADHD. There are also a number of medical diagnoses with presenting problems similar to ADHD, including head injury, hyperthyroidism, fetal alcohol syndrome, and lead toxicity. Inadequate nutrition and sleep deprivation, including poor quality of sleep, can also cause inattention. It is important to have the correct diagnosis prior to initiating treatment for ADHD.

**Treatment**

Medication is a primary treatment for school age children and adolescents with ADHD. For children diagnosed with ADHD under the age of 6, behavioral therapy is the first line of treatment. Stimulants are the most effective and most commonly prescribed medications for ADHD. Approximately 75% of children with ADHD experience symptom improvement when given stimulant medications. Children with ADHD who do not respond favorably to one stimulant may respond to another. Children and adolescents with ADHD without prominent hyperactivity (ADHD, predominantly inattentive type) are also likely to be responsive to stimulant medications. When stimulants are not well tolerated or effective, nonstimulants may be used as an alternative. Among nonstimulant medications, atomoxetine, a selective noradrenergic reuptake inhibitor and guanfacine ER, a central α2a adrenergic receptor agonist, both have FDA approval for the treatment of ADHD in children. Please refer to tables of stimulants and nonstimulants when considering which medication to use (Tables 7–10 and 7–11).

**Other Considerations**

ADHD comorbidities are common and include anxiety disorders, mood disorders, oppositional defiant disorder, and conduct disorder. While stimulant medication, the first-line treatment for ADHD, has the potential for abuse, individuals who are treated for ADHD are significantly less likely to abuse substances compared to those who have not been treated. Also, a large majority of children and adolescents with ADHD are not formally diagnosed, and of those who are diagnosed, only 55% actually receive ongoing treatment.

**Special Considerations Regarding the Use of Stimulant Medication**

Common adverse events include anorexia, weight loss, abdominal distress, headache, insomnia, dysphoria and tearfulness, irritability, lethargy, mild tachycardia, and mild elevation in blood pressure. Less common side effects include interdose rebound of ADHD symptoms, behavioral stereotypy, tachycardia, hypertension, depression, mania, and psychotic symptoms. Reduced growth velocity can occur, however, for individual patient’s ultimate height is not usually compromised. Treatment with stimulant medications does not predispose to future substance abuse. Young children are at increased risk for side effects from stimulant medications. Additive stimulant effects are seen with sympathomimetic amines (ephedrine and pseudoephedrine).

Reports of sudden death and serious cardiovascular adverse events among children taking stimulant medication raised concerns about their safety. The labels for methylphenidate and amphetamine medications were changed in 2006 to note reports of stimulant-related deaths in patients with heart problems and advised against using these products in individuals with known serious structural abnormalities of the heart, cardiomyopathy, or serious heart rhythm abnormalities. There continues to be insufficient data to confirm whether taking stimulant medication causes cardiac problems or sudden death. The FDA advises providers to conduct a thorough physical examination, paying close attention to the cardiovascular system, and to collect information about the patient’s history and family history of cardiac problems. If this scrutiny suggests a problem, providers should consider a screening electrocardiogram or an echocardiogram. Caution should also be taken if there is a personal or family history of substance abuse or addictive disorders, as these medications can be abused. Students attending college/university may be at increased risk to divert their stimulants to peers. Stimulants should be used with caution in individuals with psychiatric disorders, as they can significantly worsen psychotic symptoms. Likewise stimulants should be used with caution in individuals with bipolar affective disorder as they can worsen mood dysregulation.
### Table 7-10. Stimulant medication used for treatment of ADHD

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Duration</th>
<th>Dosages</th>
<th>Stimulant Class</th>
<th>Usual Starting Dose</th>
<th>FDA Max Daily Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylphenidate (Ritalin, Methylin)</td>
<td>4-6 hours</td>
<td>5, 10, 20 mg</td>
<td>Methyl.</td>
<td>5 mg BID 1/2 dose if 3-5 y</td>
<td>60 mg</td>
</tr>
<tr>
<td>Dextemethylphenidate (Focalin)</td>
<td>4-6 hours</td>
<td>2.5, 5, 10 mg</td>
<td>Methyl.</td>
<td>2.5 mg BID</td>
<td>20 mg</td>
</tr>
<tr>
<td>Dextroamphetamine (Dexedrine, Dextro-Stat, Dextedrine SA, Pro Centra, Zenzedil)</td>
<td>4-6 hours</td>
<td>5, 10 mg tabs</td>
<td>Dextro.</td>
<td>5 mg QD-BID 1/2 dose if 3-5 y</td>
<td>40 mg</td>
</tr>
<tr>
<td>Amphetamine Salt Combo (Adderall)</td>
<td>4-6 hours</td>
<td>5, 7.5, 10, 12.5, 15, 20, 30 mg</td>
<td>Dextro.</td>
<td>5 mg QD-BID 1/2 dose if 3-5 y</td>
<td>40 mg</td>
</tr>
</tbody>
</table>

### Extended Release Stimulants

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Duration</th>
<th>Dosages</th>
<th>Stimulant Class</th>
<th>Usual Starting Dose</th>
<th>FDA Max Daily Dose</th>
<th>Editorial Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylphenidate SR Concerta</td>
<td>10-12 hours</td>
<td>18, 27, 36, 54 mg</td>
<td>Methyl.</td>
<td>10 mg QAM</td>
<td>60 mg</td>
<td>Generic available. Uses wax matrix. Variable duration of action</td>
</tr>
<tr>
<td>Adderall XR</td>
<td>8-12 hours</td>
<td>5, 10, 15, 20, 25, 30 mg</td>
<td>Dextro.</td>
<td>5 mg QD</td>
<td>30 mg</td>
<td>Generic available. Beads in capsule can be sprinkled</td>
</tr>
<tr>
<td>Metadate CD (30% IR)</td>
<td>~8 hours</td>
<td>10, 20, 40, 50, 60 mg capsules</td>
<td>Methyl.</td>
<td>10 mg QAM</td>
<td>60 mg</td>
<td>Generic available. Beads in capsule can be sprinkled</td>
</tr>
<tr>
<td>Ritalin LA (50% IR)</td>
<td>~8 hours</td>
<td>10, 20, 30 mg</td>
<td>Methyl.</td>
<td>10 mg QAM</td>
<td>60 mg</td>
<td>Generic available. Beads in capsule can be sprinkled</td>
</tr>
<tr>
<td>Focalin XR</td>
<td>10-12 hours</td>
<td>5 to 40 mg in 5 mg steps</td>
<td>Methyl.</td>
<td>5 mg QAM</td>
<td>30 mg</td>
<td>Beads in capsule can be sprinkled</td>
</tr>
<tr>
<td>Daytrana Patch</td>
<td>Until 3-5 hours after patch removal</td>
<td>10, 15, 20, 30 mg Max 30 mg/3 hr</td>
<td>Methyl.</td>
<td>10 mg QAM</td>
<td>30 mg</td>
<td>Rash can be a problem, slow AM startup, has an allergy risk, peeling off patch a problem in young kids</td>
</tr>
<tr>
<td>Lisdexamfetamine (Vyvanse)</td>
<td>~10 hours</td>
<td>20, 30, 40, 50, 60, 70 mg</td>
<td>Dextro.</td>
<td>30 mg QD</td>
<td>70 mg</td>
<td>Conversion ratio from dextroamphetamine is not established</td>
</tr>
<tr>
<td>Dexedrine Sprints</td>
<td>8-10 hours</td>
<td>5, 10, 15 mg</td>
<td>Dextro.</td>
<td>5 mg QAM</td>
<td>40 mg</td>
<td>Beads in capsule can be sprinkled</td>
</tr>
<tr>
<td>Quillivant XR</td>
<td>10-12 hours</td>
<td>25 mg/5 ml 1 bottle = 300 mg or 60 ml</td>
<td>Methyl.</td>
<td>10 mg QAM</td>
<td>60 mg</td>
<td>Liquid banana flavor</td>
</tr>
<tr>
<td>Quillichew ER</td>
<td>6-8 hours</td>
<td>20, 30, 40 mg</td>
<td>Methyl.</td>
<td>20 mg QAM</td>
<td>60 mg</td>
<td>Chewable cherry-flavored tablets</td>
</tr>
</tbody>
</table>

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### Table 7-11. Nonstimulant medication used for treatment of ADHD.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Duration</th>
<th>Dosages</th>
<th>Usual Starting Dose</th>
<th>FDA Max Daily Dose</th>
<th>Editorial Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomoxetine</td>
<td>All day</td>
<td>10, 18, 25, 40, 60, 80, 100 mg</td>
<td>0.5 mg/kg/day (1 to</td>
<td>Lesser of 1.4 mg/kg/day or 100 mg</td>
<td></td>
</tr>
<tr>
<td>(Strattera)</td>
<td></td>
<td></td>
<td>1.2 mg/kg/day (usual</td>
<td>(HCA limit is 120 mg/day)</td>
<td>Usually lower effectiveness has</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>full dosage)</td>
<td></td>
<td>GI side effects, takes weeks to see full benefit</td>
</tr>
<tr>
<td>Clonidine</td>
<td>12 h</td>
<td>0.1, 0.2, 0.3 mg</td>
<td>0.05 mg QHS if</td>
<td>(Not per FDA) 27–40 kg 0.2 mg</td>
<td>Often given to help sleep, also</td>
</tr>
<tr>
<td>(Catapres)</td>
<td>1/2 life</td>
<td></td>
<td>&lt; 45 kg, otherwise</td>
<td>40–45 kg 0.3 mg &gt; 45 kg 0.4 mg</td>
<td>treats tics, can have rebound</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.1 mg QHS</td>
<td></td>
<td>BP effects</td>
</tr>
<tr>
<td>Clonidine XR</td>
<td>12–16 h</td>
<td>0.1, 0.2 mg</td>
<td>0.1 mg QHS</td>
<td>0.4 mg daily</td>
<td>Lower peak blood level, then</td>
</tr>
<tr>
<td>(Kapvay)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>acts like regular clonidine (similar 1/2 life), still</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is sedating, Approved for combo with</td>
</tr>
<tr>
<td>Guanfacine</td>
<td>14 h</td>
<td>1, 2 mg</td>
<td>0.5 mg QHS if</td>
<td>(Not per FDA) 27–40 kg 2 mg</td>
<td>Often given to help sleep, also</td>
</tr>
<tr>
<td>(Tenex)</td>
<td>1/2 life</td>
<td></td>
<td>&lt; 45 kg, otherwise</td>
<td>40–45 kg 3 mg &gt; 45 kg 4 mg</td>
<td>treats tics, can have rebound</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 mg QHS</td>
<td></td>
<td>BP effects</td>
</tr>
<tr>
<td>Guanfacine XR</td>
<td>16 h</td>
<td>1, 2, 3, 4 mg</td>
<td>1 mg OD if over</td>
<td>4 mg daily</td>
<td>Lower peak blood level, then</td>
</tr>
<tr>
<td>(Intuniv)</td>
<td>1/2 life</td>
<td></td>
<td>6 years old (full</td>
<td></td>
<td>acts like regular Tenex (similar 1/2 life), still is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dosage 0.05 to</td>
<td></td>
<td>sedating, Approved for combo with</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.12 mg/kg)</td>
<td></td>
<td>stimulants</td>
</tr>
</tbody>
</table>


Relative Effect Size of ADHD Medication Choices
- Effect size of all stimulants ~1.0
- Effect size of atomoxetine ~0.7
- Effect size of guanfacine ~0.65 (using Cohen's d-statistic)

Stimulant Relative Potencies:
- Methylphenidate 10 mg = dexamethaspirinate 5 mg
- Methylphenidate 10 mg = dextroamphetamine 5 mg

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Initial medical screening should include observation for involuntary movements and measurement of height, weight, pulse, and blood pressure. (See also Chapter 3.) Pulse, blood pressure, height, and weight should be recorded every 3–4 months and at times of dosage increases and abnormal movements such as motor tics should be assessed at each visit.

### Prognosis

Research indicates that 60%–85% of those diagnosed with ADHD in childhood continue to carry the diagnosis into adolescence. The literature varies greatly about progression of ADHD into adulthood. Most studies show that a majority of adolescents diagnosed with ADHD in adolescence continue to have functional impairment in adulthood, whether or not they meet full criteria for the disorder. While many have devised ways to cope with their symptoms in a manner that does not require medication, about one-third of adults previously diagnosed with ADHD in childhood require ongoing medication management.

Table 7-12. Clinical manifestations of depression in children and adolescents.

<table>
<thead>
<tr>
<th>Depressive Symptom</th>
<th>Clinical Manifestations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anhedonia</td>
<td>Loss of interest and enthusiasm in play, socializing, school, and usual activities; boredom; loss of pleasure</td>
</tr>
<tr>
<td>Dysphoric mood</td>
<td>Tearfulness; sad, downturned expression; unhappiness; slumped posture; quick temper; irritability; anger</td>
</tr>
<tr>
<td>Fatigability</td>
<td>Lethargy and tiredness; no play after school</td>
</tr>
<tr>
<td>Morbid ideation</td>
<td>Self-deprecating thoughts, statements; thoughts of disaster, abandonment, death, suicide, or hopelessness</td>
</tr>
<tr>
<td>Somatic symptoms</td>
<td>Changes in sleep or appetite patterns; difficulty in concentrating; bodily complaints, particularly headache and stomach ache</td>
</tr>
</tbody>
</table>

Mild to moderate depression, accompanied by tantrums or verbal outbursts as it is to be a sad mood. Typically, a child or adolescent with depression begins to look unhappy and may make comments such as "I have no friends," "life is boring," "there is nothing I can do to make things better," or "I wish I were dead." Behavior patterns change from baseline and can include social isolation, deterioration in schoolwork, loss of interest in usual activities, anger, and irritability. Sleep and appetite patterns commonly change, and the child may complain of tiredness and nonspecific pain such as headaches or stomachaches (Table 7-12).

Clinical depression is typically identified by asking about the symptoms. Children are often more accurate than their caregivers in describing their own mood state. When several depressive symptoms cluster together over time, are persistent (2 weeks or more), and cause impairment, a major depressive disorder may be present. When depressive symptoms are of lesser severity but have persisted for 1 year or more, a diagnosis of dysthymic disorder should be considered. Milder symptoms of short duration in response to some stressor may even be consistent with a diagnosis of adjustment disorder with depressed mood.

The American Academy of Pediatrics recommends annual screening for depression in children age 12 and older using a standardized measure. The Center for Epidemiologic Study of Depression–Child Version (CES-D–C), Child Depression Inventory (CDI), Beck Depression Rating Scale, and Reynolds Adolescent Depression Scale and Patient Health Questionnaire-9 modified for teens (PHQ-9) are self-report rating scales that are easily used in primary care to assist in assessment and monitoring response to treatment. Several are available in the public domain.

**MOOD DISORDERS**

1. Depression

**General Considerations**

The incidence of depression in children increases with age, from 1% to 3% before puberty to around 8% for adolescents. The rate of depression in females approaches adult levels by age 15. The lifetime risk of depression ranges from 10% to 25% for women and 5% to 12% for men. The incidence of depression in children is higher when other family members have been affected by depressive disorders. The sex incidence is equal in childhood, but with the onset of puberty the rates of depression for females begin to exceed those for males by 5:1.

**Identification & Diagnosis**

Clinical depression can be defined as a persistent state of unhappiness or misery that interferes with pleasure or productivity. Depression in children and adolescents is as likely to be characterized by an irritable mood state accompanied by tantrums or verbal outbursts as it is to be a sad mood. Typically, a child or adolescent with depression begins to look unhappy and may make comments such as "I have no friends," "life is boring," "there is nothing I can do to make things better," or "I wish I were dead." Behavior patterns change from baseline and can include social isolation, deterioration in schoolwork, loss of interest in usual activities, anger, and irritability. Sleep and appetite patterns commonly change, and the child may complain of tiredness and nonspecific pain such as headaches or stomachaches (Table 7-12).

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**Treatment**

Treatment includes developmentally appropriate psychotherapy and, in severely affected patients, the selection of an antidepressant. Cognitive behavior therapy (CBT) is an evidence-based treatment method specifically designed for children and adolescents. CBT improves depression symptoms in children and adolescents. This includes teaching skills to change negative thinking patterns and help them verbalize feelings and misperceptions and also to resolve conflicts and improve communication skills.

Mild to moderate depression, with psychotherapy alone, may be sufficient. Prescriptions are moderate and persistent. Antidepressant medications may be indicated in the presence of a history of depression in a first-degree relative. In addition, a positive response to antidepressant treatment is often observed in toddlers and young children. Antidepressants have been approved by the FDA for use in children and adolescents with depression. The use of antidepressants, however, is controversial, and there are concerns regarding the potential for increased risk of suicidal ideation in children and adolescents. This issue is complex and involves the need to balance the potential benefits of antidepressant treatment with the potential risks. The use of antidepressants in children and adolescents with depression is a complex issue that requires careful consideration.

**Special Considerations**

Use of Antidepressants in Children and Adolescents

There are several points to consider when prescribing antidepressants for children and adolescents. These include the potential for increased risk of suicidal ideation, the need for close monitoring, and the potential for adverse effects. Antidepressants are generally prescribed for children and adolescents with depression who have not responded adequately to psychotherapy or who require additional treatment.

**A. Selective Serotonin Reuptake Inhibitors (SSRIs)**

Each SSRI has different side-effect profiles, and it is important to be aware of the potential for adverse effects. Adverse effects may include nausea, vomiting, diarrhea, constipation, insomnia, agitation, and drowsiness. It is important to carefully monitor for adverse effects and adjust the dosage as necessary.

**B. Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)**

SNRIs are a class of antidepressants that target both serotonin and norepinephrine. They are generally prescribed for children and adolescents with depression who have not responded adequately to psychotherapy or who require additional treatment. Adverse effects may include nausea, vomiting, diarrhea, constipation, insomnia, agitation, and drowsiness. It is important to carefully monitor for adverse effects and adjust the dosage as necessary.
Treatment

Treatment includes developing a comprehensive plan to treat the depressive episode and help the family to respond more effectively to the patient's emotional needs. Referrals should be considered for individual and possibly adjunctive family therapy. CBT improves depressive symptoms in children and adolescents. This includes a focus on building coping skills to change negative thought patterns that predominate in depressive conditions. It also helps identify, label, and verbalize feelings and misperceptions. In therapy, efforts are also made to resolve conflicts between family members and improve communication skills within the family.

Mild to moderate depressive symptoms often improve with psychotherapy alone. When the symptoms of depression are moderate and persistent, or severe, antidepressant medications may be indicated (see Table 7-8). A positive family history of depression increases the risk of early-onset depression in children and adolescents and the chances of a positive response to antidepressant medication. Depression in children less than 12 years of age and in preadolescent children is best approached with parent-child relational therapies.

The carefully conducted treatment of adolescent depression study (TADS) is a major source of evidence for clinic guidelines regarding the treatment of depression in children and adolescents. This study found that CBT combined with fluoxetine led to the best outcomes in the treatment of pediatric depression during the first 12 weeks of treatment. Although our knowledge is still evolving, these findings suggest that when recommending or prescribing an antidepressant, the provider should consider concurrently recommending cognitive-behavioral or interpersonal therapy. Providers should discuss the options for medication treatment, including which medications have FDA approval for pediatric indications (see Table 7-6). Target symptoms should be carefully monitored for improvement or worsening. It is important to ask and document the responses about any suicidal thinking and self-injurious behaviors.

Special Considerations Regarding the Use of Antidepressant Medication

There are some special considerations when prescribing the various classes of antidepressant medication. Table 7-8 outlines the distinct differences between some of the most commonly used antidepressant medications.

A. Selective Serotonin Reuptake Inhibitors (SSRI)

Each SSRI has different FDA indications. Providers can choose to treat with an SSRI that has not received FDA approval for a specific indication or age group. Typical considerations for using a medication without FDA approval include the side-effect profile and/or whether another family member has responded to a specific medication. In these instances, providers should inform the patient and family that they are using a medication off-label.

The therapeutic response for SSRIs should be expected 4-6 weeks after a therapeutic dose has been reached. The starting dose for a child younger than 12 years is generally half the starting dose for an adolescent. SSRIs are usually given once a day, in the morning with breakfast. One in ten individuals may experience sedation and prefer to take the medication at bedtime. Caution should be used in cases of known liver disease or chronic or severe illness where multiple medications may be prescribed, because all SSRIs are metabolized in the liver. In addition, caution should be used when prescribing for an individual with a family history of bipolar disorder, or when the differential diagnosis includes bipolar disorder, because antidepressants can induce manic or hypomanic symptoms.

Adverse effects of SSRIs are often dose-related and time-limited; GI distress and nausea (can be minimized by taking medication with food), headache, tremulousness, decreased appetite, weight loss, insomnia, sedation (10%), and sexual dysfunction (25%). Irritability, social disinhibition, restlessness, and emotional excitability can occur in approximately 20% of children taking SSRIs. It is important to systematically monitor for side effects. SSRIs other than fluoxetine should be discontinued slowly to minimize withdrawal symptoms including flu-like symptoms, dizziness, headaches, paresthesias, and emotional lability.

All SSRIs inhibit the hepatic microsomal enzyme system. The order of inhibition is: fluoxetine > fluvoxamine > paroxetine > sertraline > citalopram > escitalopram. This can lead to higher-than-expected blood levels of concomitant medications. Taking tryptophan while on an SSRI may result in a serotoninergic syndrome of psychomotor agitation and GI distress. A potentially fatal interaction that clinically resembles neuroleptic malignant syndrome may occur when SSRIs are administered concomitantly with monoamine oxidase inhibitors (MAOIs). Fluoxetine has the longest half-life of the SSRIs and should not be initiated within 14 days of the discontinuation of a monoamine oxidase inhibitor, or a monoamine oxidase inhibitor initiated within at least 5 weeks of the discontinuation of fluoxetine. One should be cautious of prescribing SSRIs in conjunction with ibuprofen and other NSAIDs for concerns of GI bleeding.

B. Serotonin Norepinephrine Reuptake Inhibitors (SNRI)

Serotonin norepinephrine reuptake inhibitors (SNRIs), which include venlafaxine, duloxetine, desvenlafaxine, and milnacipran, are antidepressants that primarily inhibit reuptake of serotonin and norepinephrine. Desvenlafaxine is the major active metabolite of the antidepressant venlafaxine. It is approved for the treatment of major depression in adults. Contraindications for this class of medication include
hypertension, which is typically dose related. The most common adverse effects are nausea, nervousness, and sweating. SNRIs should be discontinued slowly to minimize withdrawal symptoms: including flu-like symptoms, dizziness, headaches, paresthesias, and emotional lability.

C. Other Antidepressants

Bupropion is an antidepressant that inhibits uptake of norepinephrine and dopamine. It is approved for treatment of major depression in adults. Like the SSRIs, bupropion has very few anticholinergic or cardiotoxic effects. The medication has three different formulations, and consideration for use is based on tolerability and compliance. Bupropion can interfere with sleep, so dosing earlier in the day is paramount to adherence and decreasing side effects. Contraindications of this medication include history of seizure disorder or bulimia nervosa. The most common adverse effects include psychomotor activation (agitation or restlessness), headache, GI distress, nausea, anorexia with weight loss, insomnia, tremulousness, precipitation of mania, and induction of seizures with doses above 450 mg/day.

Mirtazapine is an α₂-antagonist that enhances central noradrenergic and serotonergic activity. It is approved for the treatment of major depression in adults. Mirtazapine should not be given in combination with MAOIs. Very rare side effects are acute liver failure (1 case per 250,000–300,000), neutropenia, and agranulocytosis. More common adverse effects include dry mouth, increased appetite, constipation, weight gain, and increased sedation.

Tricyclic antidepressants (TCAs) are an older class of antidepressants, which include imipramine, desipramine, clomipramine, nortriptyline, and amitriptyline. With the introduction of the SSRIs and alternative antidepressants, use of the TCAs has become uncommon for the treatment of depression and anxiety disorders. The TCAs have more significant side-effect profiles and require substantial medical monitoring, including the possibility of cardiac arrhythmias. Overdose can be lethal. TCAs are still used to treat medical and psychiatric issues, such as chronic pain syndromes, headache, or enuresis as well as depression, anxiety, bulimia nervosa, OCD, and PTSD. Imipramine and desipramine are FDA approved for the treatment of major depression in adults and enuresis in children age 6 years and older. Contraindications include cardiac disease or arrhythmia, unexplained syncope, seizure disorder, family history of sudden cardiac death or cardiomyopathy, and known electrolyte abnormality (with binging and purging). Initial medical screening includes taking a thorough family history for sudden cardiac death and the patient's history for cardiac disease, arrhythmias, syncope, seizure disorder, or congenital hearing loss (associated with prolonged QT interval). Other screening procedures include serum electrolytes and blood urea nitrogen in patients who have eating disorders, cardiac examination, and a baseline ECG. Ongoing medical follow-up includes monitoring pulse and blood pressure (i.e., screening for tachycardia and orthostatic hypotension) with each dosage increase, and obtaining an ECG to monitor for atrioventricular block with each dosage increase. After reaching steady state, record pulse, blood pressure, and ECG every 3–4 months. TCAs may potentiate the effects of central nervous system depressants and stimulants. Barbital use and cigarette smoking may decrease plasma levels while phenothiazines, mephenytoin, and oral contraceptives may increase plasma levels. SSRIs given in combination with TCAs will result in higher TCA blood levels. Please refer to Table 7–13 on upper limits of cardiovascular parameters with tricyclic antidepressants.

Other Considerations

The risk of suicide is the most significant risk associated with depressive episodes. In addition, adolescents are likely to self-medicate their feelings through substance abuse, or indulge in self-injurious behaviors such as cutting or burning themselves (without suicidal intent). School performance usually suffers during a depressive episode, as children are unable to concentrate or motivate themselves to complete homework or projects. The irritability, isolation, and withdrawal that often result from the depressive episode can lead to loss of peer relationships and tense dynamics within the family. Please refer to section on identifying and addressing suicide risk for additional information.

Depression often coexists with other mental illnesses such as ADHD, oppositional defiant disorder, conduct disorder, anxiety disorders, eating disorders, and substance abuse disorders. Medically ill patients also have an increased incidence of depression. Every child and adolescent with a depressed mood state should be asked directly about suicidal ideation and physical and sexual abuse. Depressed adolescents should also be screened for hypothyroidism and substance abuse.

In 2005, the FDA issued a "black box warning" regarding suicidal thinking and behavior for all antidepressants prescribed for children and adolescents. Data from 24 short-term trials show the use of antidepressants increases the risk of suicidal ideation and/or behavior in children and adolescents. The average risk of suicidal ideation and/or behavior in children and adolescents is about 1% in placebo-controlled clinical trials for the use of antidepressants in treatment of depression and related psychiatric disorders. The risk is about 3% in placebo-con-
prescribed for children and adolescents. The FDA compiled data from 24 short-term trials of 4–16 weeks that included the use of antidepressants for major depressive disorder and obsessive compulsive disorder. Across these studies, the average risk of suicidal thinking and behavior during the first few months of treatment was 4% or twice the placebo risk of 2%. No suicides occurred in these trials. Although children face an increased risk of suicidal thinking and behaviors during the first few months of treatment, there is now substantial evidence that antidepressant treatment, over time, is protective against suicide. For example, following the addition of the “black box warning” for all antidepressants in October 2005, a 20% decrease in prescriptions for those younger than age 20 occurred. During the same time period, there was an 18% increase in suicides. Furthermore, the suicide rates in children and adolescents were lowest in areas of the country that had the highest rate of SSRI prescriptions. This suggests best practice is to educate the family regarding both the risks and benefits of antidepressant treatment and monitor carefully for any increase in suicidal ideation or self-injurious urges, as well as improvement in target symptoms of depression, especially in the first 4 weeks and subsequent 3 months after beginning their use.

**Prognosis**

A comprehensive treatment intervention, including psychoeducation for the family, individual and family psychotherapy, medication assessment, and evaluation of school and home environments, often leads to complete remission of depressive symptoms over a 1- to 2-month period. If medications are started and prove effective, they should be continued for 6–12 months after remission of symptoms to prevent relapse. Early-onset depression (before age 15) is associated with increased risk of recurrent episodes and the potential need for longer-term treatment with antidepressants. Education of the family and child/adolescent will help them identify depressive symptoms sooner and decrease the severity of future episodes with earlier interventions. Some studies suggest that up to 30% of preadolescents with major depression manifest bipolar disorder at 2-year follow-up. It is important to reassess the child or adolescent with depressive symptoms regularly for at least 6 months and to maintain awareness of the depressive episode in caring for this child in the future.


2. Bipolar Disorder

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Periods of abnormally and persistently elevated, expansive, or irritable mood, and heightened levels of energy and activity.
- Associated symptoms: grandiosity, diminished need for sleep, pressured speech, racing thoughts, impaired judgment.
- Not caused by prescribed or illicit drugs.
- The symptoms most commonly reported first are depressive symptoms.

**General Considerations**

Bipolar disorder (previously referred to as manic-depressive disorder) is an episodic mood disorder manifested by alternating periods of mania and major depressive episodes or, less commonly, manic episodes alone. Children and adolescents often exhibit a variable course of mood instability combined with aggressive behavior and impulsivity. At least 20% of bipolar adults experience onset of symptoms before age 20 years. Onset of bipolar disorder before puberty is uncommon; however, symptoms often begin to develop and may be initially diagnosed as ADHD or other disruptive
behavior disorders. The lifetime prevalence of bipolar disorder in middle to late adolescence approaches 1%.

**Identification & Diagnosis**

In about 70% of patients, the first symptoms are primarily those of depression. In the remainder, manic, hypomanic, or mixed states dominate the presentation. Patients with mania display a variable pattern of elevated, expansive, or irritable mood along with rapid speech, high energy levels, difficulty in sustaining concentration, and a decreased need for sleep. The child or adolescent may also have hypersexual behavior. It is critical to rule out abuse, or be aware of abuse factors contributing to the clinical presentation. Patients often do not acknowledge any problem with their mood or behavior. The clinical picture can be quite dramatic, with florid psychotic symptoms of delusions and hallucinations accompanying extreme hyperactivity and impulsivity. Other illnesses on the bipolar spectrum are bipolar type II, which is characterized by recurrent major depressive episodes alternating with hypomanic episodes (lower intensity manic episodes that do not cause social impairment and do not typically last as long as manic episodes) and cyclothymic disorder, which is diagnosed when the child or adolescent has had 1 year of hypomanic symptoms alternating with depressive symptoms that do not meet criteria for major depression.

It is also common for individuals diagnosed with bipolar spectrum disorders to have a history of inattention and hyperactivity problems in childhood, with some having a comorbid diagnosis of ADHD. While ADHD and bipolar disorder are highly comorbid, inattention and hyperactivity symptoms accompanied by mood swings can be an early sign of bipolar disorder before full criteria for the disorder have emerged and clustered together in a specific pattern. Differentiating ADHD, bipolar disorder, and major depressive disorder can be a challenge, and confusion about the validity of the disorder in younger children still exists. The situation is further complicated by the potential for the coexistence of ADHD and mood disorders in the same patient.

A history of the temporal course of symptoms can be most helpful. ADHD is typically a chronic disorder of lifelong duration. However, it may not be a problem until the patient enters the classroom setting. Mood disorders are typically characterized by a normal baseline followed by an acute onset of symptoms usually associated with acute sleep, appetite, and behavior changes. If inattentive, hyperactive, or impulsive behavior was not a problem in the previous year, it is unlikely to be ADHD. Typically, all these disorders are often heritable, so a positive family history can be informative in formulating a diagnosis. Successful treatment of relatives can offer guidance for appropriate treatment.

In prepubescent children, mania may be difficult to differentiate from ADHD and other disruptive behavior disorders. In both children and adolescents, preoccupation with violence, decreased need for sleep, impulsivity, poor judgment, intense and prolonged rages or dysphoria, hypersexuality, and some cycling of symptoms suggest bipolar disorder. Table 7-14 further defines points of differentiation between ADHD, conduct disorder, and bipolar disorder.

<table>
<thead>
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<th>Table 7-14. Differentiating behavior disorders.</th>
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<tbody>
<tr>
<td><strong>Symptom</strong></td>
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<td>School problems</td>
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<tr>
<td>Behavior problems</td>
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<tr>
<td>Defiant attitude</td>
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<tr>
<td>Motor restlessness</td>
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<tr>
<td>Impulsivity</td>
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<tr>
<td>Distractibility</td>
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<tr>
<td>Anger expression</td>
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<tr>
<td>Thought content</td>
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<tr>
<td>Sleep disturbance</td>
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<td>Self-deprecation</td>
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<td>Obsessed with ideas</td>
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<tr>
<td>Hallucinations</td>
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<tr>
<td>Family history</td>
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</tbody>
</table>

The Young Mania Rating Scale may be helpful in assessing symptoms and educating families about timely referral to local mental health services. Children and adolescents are also likely to be inappropriate at home and at school, and sometimes criminal, with outbreaks of impulsivity, aggression, and delusional thoughts. After a 30-fold greater incidence of suicide rates, abuse may be a further attempt at self-medication with drugs.

**Treatment**

Most patients with bipolar disorders respond to treatment with either antipsychotics, mood stabilizers, or lithium carbonate. It is important to monitor patients for signs of adverse reactions, such as weight gain, sedation, or inappropriate sexual behavior. The treatment of bipolar disorder is usually divided into acute and maintenance phases. In acute phase, medication is prescribed to reduce symptoms and prevent relapse. When symptoms are under control, maintenance phase begins, where medication is continued to prevent recurrence. In situations of severe impairment, hospitalization may be necessary to ensure safety and initiate treatment. It is important to communicate the nature of the illness and its treatment plan clearly with the patient and family. It is also important to consider the appropriate expression of emotions.

In addition to prescribing medication, it is important to provide support and guidance to the patient and family. It is crucial to monitor early treatment and make adjustments as needed. It is also important to provide maintenance therapy to prevent relapse.

**Other Considerations**

Physical or sexual abuse can also cause children to display aggressive, and PTSD symptoms. It is crucial to take a thorough history for trauma.
The Young Mania Rating Scale and The Child Mania Rating Scale may be helpful in eliciting concerning symptoms and educating families and patients, and in aiding timely referral to local mental health resources.

Children and adolescents with bipolar disorder are more likely to be inappropriate or aggressive toward peers and family members. Their symptoms almost always create significant interference with academic learning and peer relationships. The poor judgment associated with manic episodes predisposes individuals to dangerous, impulsive, and sometimes criminal activity. Legal difficulties can arise from impulsive acts, such as excessive spending, and acts of vandalism, theft, or aggression, that are associated with grandiose thoughts. Affective disorders are associated with a 30-fold greater incidence of successful suicide. Substance abuse may be a further complication, often representing an attempt at self-medication for the mood problem.

**Treatment**

Most patients with bipolar disorder respond to pharmacotherapy with either mood stabilizers, such as lithium, atypical antipsychotics, or antiepileptic drugs. Lithium, risperidone, aripiprazole, quetiapine, asemoline, and olanzapine have been approved by the FDA for the treatment of acute and mixed manic episodes in adolescents. Other mood stabilizers, carbamazepine and valproate, are less effective. In addition, lithium and aripiprazole are approved for preventing recurrence. It is recommended that primary care providers refer all patients with suspected bipolar mood disorder to a mental health provider for diagnostic clarification and treatment. In situations where bipolar mood disorder is evident, a referral to a psychiatrist is recommended. In cases of severe impairment, hospitalization is required to maintain safety and initiate treatment. Supportive psychotherapy for the patient and family and education about the recurrent nature of the illness are critical. Family therapy should also include improving skills for conflict management and appropriate expression of emotion.

In addition to prescribing medications that have FDA approval for use in children with bipolar disorder (lithium and the atypical antipsychotic medications), providers may choose to use other medications off-label after nonresponse to first-line treatment or because of side-effect profiles. In these cases, it is recommended that a psychiatrist initiate and monitor early treatment. Once the goal of stabilization has been attained, it is reasonable for a primary care provider to provide maintenance therapy.

**Other Considerations**

Physical or sexual abuse and exposure to domestic violence can also cause children to be mood labile, hyperactive, and aggressive, and PTSD should be considered by reviewing the history for traumatic life events in children with these symptoms. Diagnostic considerations should also include substance abuse disorders, and an acute organic process, especially if the change in personality has been relatively sudden, or is accompanied by other neurologic changes. Individuals with manic psychosis may resemble those with schizophrenia. Psychotic symptoms associated with bipolar disorder should clear with resolution of the mood symptoms, which should also be prominent. Hyperthyroidism should be ruled out.

**Prognosis**

It is not uncommon for the patient to need lifelong medication. In its adult form, bipolar disorder is an illness with a remitting course of alternating depressive and manic episodes. The time span between episodes can be years or months depending on the severity of illness and ability to comply with medication interventions. In childhood, the symptoms may be more pervasive and not fall into the intermittent episodic pattern until after puberty.

**3. Disruptive Mood Dysregulation Disorder (DMDD)**

**ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES**

- Persistent irritability and severe behavioral outbursts at least three times a week for 1 year or more.
- The mood is out of step with these symptoms is persistently negative (ie, irritable, angry or sad), which is observable by others.
- The tantrums and negative moods are present in at least two settings.
- Onset of illness prior to 10 years old.
- Chronological or developmental age of at least 6 years old.
- A disruption in functioning in more than one setting (eg, home, school and/or socially).

**General Considerations**

DMDD is a new diagnosis in the DSM-5. Historically, many of these chronically irritable children would have been diagnosed with some variation of bipolar mood disorder. Studies of the family history, functional brain studies and developmental progression suggest that these children are different from individuals with bipolar disorder. The prevalence is estimated to be 2%-5% and may decrease from childhood to adolescence. Early studies suggest males are at increased risk for this disorder.
Identification & Diagnosis

Children with DMDD experience severe tantrums in addition to chronic irritability. The tantrums must be inconsistent with the developmental age of the child. Currently, this diagnosis cannot be given to individuals over the age of 18. In cases where symptoms overlap between DMDD and ODD, DMDD supersedes ODD. Children who have experienced a manic or hypomanic episode cannot be given this diagnosis. Tantrums that occur only in relation to anxiety-provoking situations, or when routines are interrupted suggest anxiety, ASD or OCD and do not meet criteria for DMDD.

Treatment

Medication trials are in early stages for this relatively new diagnosis; however, identifying and treating comorbid conditions such as anxiety or ADHD may be helpful. Therapy is important for children and their families.

Other Considerations

The differential diagnosis for DMDD is similar to other mood disorders. In addition, special attention and consideration should include screening for ADHD, anxiety, trauma, and significant interpersonal and relational deficits. Those with DMDD are at a higher risk than the general population to develop major depressive disorder and anxiety disorders as adults.

Children with DMDD have low frustration tolerance and may misread neutral social cues as threatening. They often function poorly in school and have impaired relations with peers and family. The parents or caregivers of these children are often very distressed and these children are likely to present to mental health clinics. Many parents will decrease the demands and limits placed on these children in an attempt to avoid tantrums. This can include withdrawing their children from developmentally appropriate health-promoting activities. Children with DMDD often have dangerous behaviors that lead to psychiatric hospitalization.

With the addition of this diagnosis, researchers are now able to gather data to aid with the diagnosis, treatment, and outcome measures.

SUCIDE IN CHILDREN & ADOLESCENTS

The suicide rate in young people has remained high for several decades. In 2014, suicide became the second leading cause of death among children and adolescents aged 10–24 years in the United States. The suicide rate among adolescents aged 15–19 years quadrupled from approximately 2.7 to 12.5 per 100,000 since the 1960s. It estimates that each year, approximately 2 million US adolescents attempt suicide, yet only 70,000 receive medical attention for their attempt. Suicide and homicide rates for children in the United States are two to five times higher than those for the other 25 industrialized countries combined, primarily due to the prevalence of firearms in the United States. Children younger than 10 years, the rate of completed suicide is low, but has increased. Adolescent girls make three to four times as many suicide attempts as boys of the same age, but the number of completed suicides is three to four times greater in boys. Firearms are the most commonly used method in successful suicides, accounting for 40–60% of cases; hanging, carbon monoxide poisoning, and drug overdose each account for approximately 10–15% of cases.

Suicide is almost always associated with a psychiatric disorder and should not be viewed as a philosophic choice about life or death nor as a predictable response to overwhelming stress. Most commonly it is associated with a mood disorder and the hopelessness that accompanies a severe depressive episode. Suicide rates are higher for Native American and Native Alaskan populations than for white, black, and Latino Hispanic populations. Although suicide attempts are more common in individuals with a history of experiencing trauma, behavior problems, and academic difficulties, other suicide victims are high achievers who are temperamentally anxious and perfectionistic and feel the constant pressure of a failure or rejection, either from themselves or others (in both sexes, but especially in boys). Suicide attempters (especially in males) are commonly associated with adolescent suicide victims who have an underlying psychological disorder, usually committing suicide by overdose or by cutting or psychotic delusions.

The vast majority of adolescents who make suicide attempts will not go on to actually commit suicide. Most adolescents with irritability, anxiety, or depression, there is only a history of suicide risk. A screening instrument could be “If I was in your shoes, I would have a wish I were dead” or “I have hurt myself within the last 24 hours.” A subject of a mental health professional may benefit from screening by a mental health professional to determine the risk of suicide. Finally, the risk of suicide is not only an issue when conducting risk assessment but also a question about relationships, support, and protective factors.

Assessment of Suicide Risk

Routine screening for suicide risk questions regarding suicide ideation, planning, and recent suicide thoughts. The adolescent has an active plan, intentions, and has made previous attempts. Risk assessment of any plan warrants a suicide crisis assessment. This should be done in a quiet, safe, and nonthreatening environment.

Assessment of suicide risk involves both asking and a direct interview with the adolescent and any known guardians. The highest risk factors are the presence of recent plans for suicide with the available means at hand, previous exposure to suicide, and social isolation. High-risk factors also include recent thoughts of self-injurious behavior, recent thoughts of suicide, and with the availability of means. Social factors include support at home and school, and family. Suicide of parents and family is a risk factor. The history of death as a result from the past is also a risk factor.

Intervention

Suicide ideation and attempts are a serious matter. The primary care provider should assess and treat the adolescent with suicide risk. If a behavioral risk factor is identified, the adolescent should be referred to a mental health professional for further evaluation and treatment.
Assessment of Suicide Risk

Routine screening for children 12 and older now includes questions regarding suicide. If a child or adolescent expresses suicidal thinking, the treating provider must ask if he or she has an active plan, intends to complete that plan, and has made previous attempts. **Suicidal ideation accompanied by any plan warrants immediate referral for a psychiatric crisis assessment.** This can usually be accomplished at the nearest emergency room (ER).

Assessment of suicide risk calls for a high index of suspicion and a direct interview with the patient and his or her parents or guardians. The highest risk of suicide is among white, adolescent boys. High-risk factors include previous suicide attempts, self-injurious behavior, a suicide note, and a viable plan for suicide with the availability of lethal means, close personal exposure to suicide, conduct disorder, and substance abuse. Other risk factors are signs and symptoms of major depression or dysthymia, a family history of suicide, a recent death in the family, suicide of a student at the patient’s school, or a view of death as a relief from the pain in the patient’s life.

Intervention

Suicidal ideation and any suicide attempt must be considered a serious matter. The patient should not be left alone, and the treating provider should express concern and convey a desire to help. If a behavioral health clinician (BHC) is embedded in the practice, the BHC can aid in assessing the patient. Either the provider or the BHC should meet with the patient and the family, both alone and together, and listen carefully to their problems and perceptions. It is useful to explicitly state that with the assistance of mental health professionals, solutions can be found. The practice should err on the side of caution, in deciding whether further referral or an emergency evaluation is indicated. Similar to reporting suspicion of child abuse, although the practice may not have the expertise or time to determine full suicide risk, primary care providers can determine that further evaluation is indicated. A thorough suicide assessment requires some level of expertise, a considerable amount of time and contact with multiple sources of information. The majority of patients who express suicidal ideation and all who have made a suicide attempt should be referred for psychiatric evaluation and possible hospitalization. Referral for further assessment is always appropriate when there is concern about suicidal thinking and behavior.

Regardless of whether a practice has an embedded behavioral health clinician, it is useful to have a practicespecific algorithm for suicidal youth. The algorithm should include the steps to be taken for youth who need to be sent to an emergency room, youth who need an urgent or less urgent referral, or youth that will be followed in the practice. The algorithm should specify who in the practice is responsible for each step. This should include who will call for emergency transport, if indicated, and who will flag a patient’s record to ensure the patient follows up with care recommendations. Additionally, the primary care practice will need to follow-up and document the outcome of the emergency assessment (eg, hospitalization, community referrals) in the patient’s record and schedule a follow-up visit in the primary care setting as soon as is feasible given the disposition.

Suicide prevention efforts include heightened awareness in the community and schools to identify at-risk individuals and increase access to services, including hotlines and counseling services. Restricting young people’s access to firearms is a critical factor, as firearms are responsible for 85% of deaths due to suicide or homicide in youth in the United States. Other means restriction methods include instructing families to lock up all medications. Many families are not aware that overdoses of the counter medications such as acetaminophen can be lethal. In addition to increasing public awareness of the issue, media depictions of death by suicide, including news reporting and fictionalized accounts, could serve as a conversation starter for discussion of how an adolescent is understanding and thinking about this social issue. It is important to minimize sensationalism of deaths by suicide and have an open dialogue about what happened. This is particularly critical in communities that have recently experienced a death by suicide where there is increased vulnerability to the occurrence of additional incidents.

Finally, the treating provider should be aware of his or her own emotional reactions to dealing with suicidal
DISRUPTIVE, IMPULSE-CONTROL & CONDUCT DISORDERS

1. Oppositional Defiant Disorder

- A pattern of negativistic, hostile, and defiant behavior lasting at least 6 months.
- Loses temper, argues with adults, defies rules.
- Blames others for own mistakes and misbehavior.
- Angry, easily annoyed, vindictive.
- Does not meet criteria for conduct disorder.

**General Considerations**

Oppositional defiant disorder is more common in families where caregiver dysfunction (e.g., substance abuse, parental psychopathology, significant psychosocial stress) is present. It is also more prevalent in children with a history of multiple changes in caregivers, inconsistent, harsh, or neglectful parenting, or serious marital discord.

**Identification & Diagnosis**

Oppositional defiant disorder usually is evident before 8 years of age and may be an antecedent to the development of conduct disorder. The symptoms usually first emerge at home, then extend to school and peer relationships. The disruptive behaviors of oppositional defiant disorder are generally less severe than those associated with conduct disorder and do not include hurting other individuals or animals, destruction of property, or theft.

**Treatment**

Interventions include careful assessment of the psychosocial situation and recommendations to support parenting skills and optimal caregiver functioning. Assessment for comorbid psychiatric diagnoses such as learning disabilities, depression, and ADHD should be pursued and appropriate interventions recommended.

2. Conduct Disorder

- A persistent pattern of behavior that includes the following:
  - Defiance of authority.
General Considerations

Disorders of conduct affect approximately 9% of males and 2% of females younger than 18 years. This is a very heterogeneous population, and overlap occurs with ADHD, substance abuse, learning disabilities, neuropsychiatric disorders, mood disorders, and family dysfunction. Many of these individuals come from homes where domestic violence, child abuse, drug abuse, shifting parental figures, and poverty are environmental risk factors. Although social learning partly explains this correlation, the genetic heritability of aggressive conduct and antisocial behaviors is currently under investigation.

Identification & Diagnosis

The typical child with conduct disorder is a boy with a turbulent home life and academic difficulties. Defiance of authority, fighting, tantrums, running away, school failure, and destruction of property are common symptoms. With increasing age, fire-setting and theft may occur, followed in adolescence by truancy, vandalism, and substance abuse. Sexual promiscuity, sexual perpetration, and other criminal behaviors may develop. Hyperactive, aggressive, and uncooperative behavior patterns in the preschool and early school years tend to predict conduct disorder in adolescence with a high degree of accuracy, especially when ADHD goes untreated. A history of reactive attachment disorder is an additional childhood risk factor. The risk for conduct disorder increases with inconsistent and severe parental disciplinary techniques, parental alcoholism, and parental antisocial behavior.

Treatment

Effective treatment can be complicated by the psychosocial problems often found in the lives of children and adolescents with conduct disorders. These problems may also interfere with achieving compliance with treatment recommendations. Efforts should be made to stabilize the environment and improve functioning within the home, particularly as it relates to parental functioning and disciplinary techniques. Identification of learning disabilities and placement in an optimal school environment is critical. Any associated neurologic and psychiatric disorders should be addressed.

Residential treatment may be necessary for individuals whose symptoms do not respond to lower level interventions, or whose environment is not able to meet their needs for supervision and structure. Juvenile justice system involvement is common in cases where conduct disorder behaviors lead to illegal activities, theft, or assault.

Medications such as mood stabilizers, neuroleptics, stimulants, and antidepressants have all been studied in youth with conduct disorders, yet none has been found to be consistently effective. Each patient suspected of conduct disorder should be screened for other common psychiatric disorders and a history of trauma prior to the initiation of medication. Providers should use caution when prescribing various medications off-label for disruptive behavior. Early involvement in programs, such as Big Brothers, Big Sisters, scouts, and team sports, in which consistent adult mentors and role models interact with youth, decreases the chances that the youth will develop antisocial personality disorder. Multisystemic therapy (MST) is being used increasingly as an intervention for youth with conduct disorders and involvement with the legal system. MST is an intensive home-based model of care that seeks to stabilize and improve the home environment and to strengthen the support system and coping skills of the individual and family.

Other Considerations

Young people with conduct disorders, especially those with more violent histories, have an increased incidence of neurologic signs and symptoms, psychomotor seizures, psychotic symptoms, mood disorders, ADHD, and learning disabilities. Efforts should be made to identify these associated disorders because they may require specific therapeutic interventions. Conduct disorder is best conceptualized as a final common pathway emerging from a variety of underlying psychosocial, genetic, environmental, and neuropsychiatric conditions.

Prognosis

The prognosis is based on the ability of the child's support system to mount an effective treatment intervention consistently over time. The prognosis is generally worse for children in whom the disorder presents before age 10 years; those who display a diversity of antisocial behaviors across multiple settings; and those who are raised in an environment characterized by parental antisocial behavior, alcoholism or other substance abuse, and conflict. Nearly half of individuals with a childhood diagnosis of conduct disorder develop antisocial personality disorder as adults.

HIGH-RISK PATIENTS & HOMICIDE

Aggression & Violent Behavior in Youth

The tragic increase in teenage violence, including school shootings, is of particular concern to health professionals, as well as to society at large. There is strong evidence that screening and initiation of interventions by primary care providers can make a significant difference in violent behavior in youth. Although the prediction of violent behavior
remains a difficult and imprecise endeavor, providers can support and encourage several important prevention efforts.

The vast majority of the increase in youth violence, including suicides and homicides, involves the use of firearms. Thus, the presence of firearms in the home, the method of storage and safety measures taken when present, and access to firearms outside the home should be explored regularly with all adolescents as part of their routine medical care.

It is important to note that violent behavior is often associated with suicidal impulses. In the process of screening for violent behavior, suicidal ideation should not be overlooked. Any comment about wishes to be dead, or hopelessness, should be taken seriously and assessed immediately.

Interventions for parents include encouraging parents and guardians to be aware of their child’s school attendance and performance. Parents should be encouraged to take an active role and learn about their children’s friends, be aware of who they are going out with, where they will be, what they will be doing, and when they will be home. Most students involved in school violence might have been identified earlier and potentially may have benefited from interventions to address problems in social and educational functioning in the school environment. Communities and school districts nationwide have increased their efforts to identify and intervene with students whom teachers, peers, or parents recognize as having difficulty.

### Threats & Warning Signs Requiring Immediate Consultation

Any and all threats that children make can be alarming. However, it is important to respond to the more serious and potentially lethal threats. These threats should be taken with the utmost seriousness and parents/guardians should see a mental health provider immediately. Such threats include threats/warnings about hurting or killing someone or oneself, threats to run away from home and/or threats to damage or destroy property.

### Factors Associated With Increased Risk of Violent and/or Dangerous Behavior

Not all threats signify imminent danger. There are several potential predictors to consider when assessing the dangers of a child or adolescent, such as past history of violence or aggressive behavior, including uncontrollable angry outbursts; access to guns or other weapons; history of getting caught with a weapon in school; and family history of violent behaviors. These are likely predictors of future violent behavior. In addition, children who witness abuse and violence at home and/or have a preoccupation with themes and acts of violence (e.g., TV shows, movies, music, violent video games, etc.) are also at high risk of such behavior. Victims of abuse (i.e., physical, sexual, and/or emotional) are more susceptible to feeling shame, loss, and rejection. The difficulty of dealing with abuse can further exacerbate an underlying mood, anxiety, or conduct disorder. Children who have been abused are more likely to be perpetrators of bullying and engage in verbal and physical intimidation toward peers. They also may be much more prone to blame others and are unwilling to accept responsibility for their own actions. Substance use is another major factor frequently associated with violent, aggressive, and/or dangerous behavior, particularly because it impacts judgment and is often associated with decreased inhibition and increased impulsivity. Socially isolated children also carry a high risk for violent and dangerous behavior. These include children with little to no adult supervision, poor connection with peers, and little to no involvement in extracurricular activities. These individuals may be more likely to seek out deviant peer groups for a sense of belonging.

### How Providers & Parents Can Respond to Concerns of Violence and/or Dangerous Behavior

If a provider or parent suspects that a child is at risk for violent and/or dangerous behavior, the most important intervention is to talk with the child immediately about alleged threat and/or behavior. One should consider the child’s past behavior, personality, and current stressors when evaluating the seriousness and likelihood of them engaging in a destructive or dangerous behavior. If the child already has a mental health provider, he/she should be contacted immediately. If they are not reachable, the parent(s)/guardian(s) should take the child to the closest ED for a crisis evaluation. It is always acceptable to contact local police for assistance, especially if harm to others is suspected. Another indication that warrants a crisis evaluation is if a child refuses to talk, is argumentative, responds defensively, or continues to express violent or dangerous thoughts/plans. Continuous, face-to-face adult supervision is essential while awaiting professional intervention. After evaluation, it is imperative to follow up with recommendations from mental health provider(s) to ensure safety and ongoing management.


more susceptibility to their peers and associated behaviors. To date, no studies have been performed to determine causal associations for, among other things, oppositional behavior. Socially, and with respect to development, little to no research has been performed on this subject.

**SOMATIC SYMPTOM & RELATED DISORDERS**

<table>
<thead>
<tr>
<th>ESSENTIALS OF DIAGNOSIS &amp; TYPICAL FEATURES</th>
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</thead>
<tbody>
<tr>
<td>Medically unexplained symptoms are no longer required for these disorders other than conversion disorder. Most disorders in this category are characterized by focus on symptoms within a medical setting.</td>
</tr>
<tr>
<td>Distress and/or functional impairment are present in somatic symptom disorder while functional impairment is more common in conversion disorder.</td>
</tr>
</tbody>
</table>

**General Considerations**

The category of somatic symptoms and related disorders includes somatic symptom disorder, illness anxiety disorder, conversion disorder (functional neurological symptom disorder), psychological factors affecting other medical conditions, factitious disorder, and factitious disorder imposed on another (Table 7-15).

Patients with these disorders are commonly encountered in primary care and can be conceptualized as suffering, differences in presentation are likely related to cultural, contextual factors, individual experiences (such as trauma) and individual differences such as pain sensitivity. Families and cultures that value physical suffering while devaluing or ignoring psychological distress, reinforce the development of these disorders. Family members who are ill, physically disabled, or suffer from any of these disorders, can serve as models for children. More extreme parental dysfunction can manifest as factitious disorder imposed on another with the child as the victim.

**Identification & Diagnosis**

Somatic symptom disorder often presents in school age children and adolescents with the somatic symptom of headaches or gastrointestinal distress. Conversion symptoms by definition involve alterations in voluntary motor or sensory function, and are often more transient in pediatric patients than adults. Common symptoms include unusual sensory phenomena, paralysis, and movement or seizure-like disorders. A conversion symptom is thought to be an expression of underlying psychological conflict. The specific symptom may be symbolically determined by the underlying conflict and may resolve the dilemma created by the underlying wish or fear (eg, a seemingly paralyzed child need not fear expressing his or her underlying rage or aggressive retaliatory impulses).

Children with conversion disorder may be surprisingly unconcerned about the substantial disability deriving from their symptoms. Symptoms include unusual sensory...
phenomena, paralysis, vomiting, abdominal pain, intractable headaches, and movement or seizure-like disorders. For both somatic symptom disorder and conversion disorder, the physical symptoms often begin with a stressful event at school, with peers or within the context of a family experiencing stress, such as serious illness, a death, or family discord.

**Treatment**

Medical providers are often the first to see the patient and identify these disorders. Many of these patients can be treated within the pediatric primary care setting, utilizing the relationship between the pediatric provider and the family to maximize outcomes. For those who need referral to other settings, ongoing care by the pediatrician can help insured families engage in other indicated treatments.

In most cases, conversion symptoms resolve quickly when the child and family are reassured that the symptom is a way of reacting to stress. The child is encouraged to continue with normal daily activities, knowing that the symptom will abate when the stress is resolved. Treatment of conversion disorders includes acknowledging the symptom rather than telling the child that the symptom is not medically justified and responding with noninvasive interventions such as physical therapy while continuing to encourage normalization of the symptoms. If the symptom does not resolve with reassurance, further investigation by a mental health professional is indicated. Comorbid diagnoses such as depression and anxiety disorders should be addressed, and treatment with psychopharmacologic agents may be helpful.

Somatic symptom disorder patients may respond to the same treatment. If the family structure or the patient cannot tolerate psychological approaches, somatic symptom patients may respond to regular, short, scheduled medical appointments to address the complaints at hand. In this way they do not need to precipitate emergencies to elicit medical attention. The medical provider should avoid invasive procedures unless clearly indicated and offer sincere concern and reassurance. The provider should also avoid telling the patient "it's all in your head" and should not abandon or avoid the patient, as somatic symptom disorder patients are at great risk of seeking multiple alternative treatment providers and potentially unnecessary treatments. Although not a DSM disorder, many parents worry about their child developing or having a serious illness. These families may also benefit from the above approach, in conjunction with encouragement for the pediatric patient to engage in health-promoting activities such as involvement in sports. Parents who do not feel supported are also at risk to seek alternative opinions and procedures for their child.

Treatment for patients who are suffering from psychological factors impacting illness should be targeted to the underlying problem, such as treatment of anxiety avoidance, motivational interviewing to target substance abuse or adherence problems.

Health care providers who suspect factitious disorder imposed on another may need to involve a specialist to confirm the diagnosis. Communication between providers is critical to helping these patients. Child protective services and legal counsel may also need to be alerted. Although parents who are perpetrating factitious disorder imposed on another can appear concerned about the wellbeing of their child, studies have found child victims' mental health and well-being improved when they were removed from more extreme perpetrating caregivers.

**Other Considerations**

Somatic symptoms are often associated with anxiety and depressive disorders (see Tables 7–7 and 7–13). Occasionally, psychiatric children have somatic preoccupations and even somatic delusions.

Children with conversion disorder may have some secondary gain associated with their symptoms. Several reports have pointed to the increased association of conversion disorder with sexual overstimulation or sexual abuse. As with other emotional and behavioral problems, health care providers should always screen for physical and sexual abuse.

**Prognosis**

Prognosis is dependent on family factors, age, and disorder. Parents who support the view that symptoms can be related to stress can help patients engage in appropriate treatments. Younger patients with conversion symptom disorders have better prognosis than older patients with somatic symptom disorder. Patients who have had the disorder for a longer period of time may be less responsive to treatment. Psychiatric consultation can be helpful and for severely incapacitated patients, is indicated.

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ADJUSTMENT DISORDERS

ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- The precipitating event or circumstance is identifiable.
- The symptoms have appeared within 3 months after the occurrence of the stressful event.
- Although the child experiences distress or some functional impairment, the reaction is not severe or disabling.
- The reaction does not persist more than 6 months after the stressor has terminated.

General Considerations

The most common and most disturbing stressors in the lives of children and adolescents are the death of a loved one, marital discord, separation and divorce, family illness, a change of residence or school setting, experiencing a traumatic event, and, for adolescents, peer-relationship problems. These stressors naturally have a significant impact on children and adolescents.

Identification & Diagnosis

When faced with stress, children can experience many different symptoms, including changes in mood, changes in behavior, anxiety symptoms, and physical complaints. When the reaction is significantly out of proportion to the stressor and a decline in functioning is noted, a diagnosis of adjustment disorder is highly suspected. The two main categories of adjustment disorders include disturbance in emotions (ie, depression and anxiety) and/or conduct.

Treatment

The mainstay of treatment involves genuine empathy and assurance to the parents and the patient that the emotional or behavioral change is a predictable consequence of the stressful event. This validates the child's reaction and encourages the child to talk about the stressful occurrence and its aftermath. Parents are encouraged to help the child with appropriate expression of feelings, while defining boundaries for behavior that prevent the child from feeling out of control and ensure safety of self and others. Maintaining or reestablishing routines can also alleviate distress and help children and adolescents adjust to changing circumstances by increasing predictability and decreasing distress about the unknown.

Other Considerations

When symptoms emerge in reaction to an identifiable stressor but are severe, persistent, or disabling, depressive disorder, anxiety disorder, and conduct disorders must be considered.

Prognosis

The duration of symptoms in adjustment reactions depends on the severity of the stress; the child's personal sensitivity to stress and vulnerability to anxiety, depression, and other psychiatric disorders; and the available support system.

PSYCHOTIC DISORDERS

ESSENTIALS OF DIAGNOSIS & TYPICAL FEATURES

- Delusional thoughts
- Disorganized speech (rambling or illogical speech patterns)
- Disorganized or bizarre behavior
- Hallucinations (auditory, visual, tactile, olfactory)
- Paranoid, ideas of reference
- Negative symptoms (ie, flat affect, avolition, alogia)

General Considerations

The incidence of schizophrenia is about 1 per 10,000 per year. The onset of schizophrenia is typically between the
middle to late teenage and early 30s. Symptoms usually begin after puberty, although a full "psychotic break" may not occur until the young adult years. Childhood onset (before puberty) of psychotic symptoms due to schizophrenia is uncommon and usually indicates a more severe form of the spectrum of schizophrenic disorders. Childhood-onset schizophrenia is more likely to be found in boys.

Schizophrenia has a strong genetic component. Other psychotic disorders that may be encountered in childhood or adolescence include schizoaffective disorder and psychosis not otherwise specified (psychosis NOS). Psychosis NOS may be used as a differential diagnosis when psychotic symptoms are present, but the cluster of symptoms is not consistent with a schizophrenia diagnosis.

Identification & Diagnosis

Children and adolescents display many of the symptoms of adult schizophrenia. Hallucinations or delusions, bizarre and morbid thought content, and rambling and illogical speech are typical. Affected individuals tend to withdraw into an internal world of fantasy and may then equate fantasy with external reality. They generally have difficulty with schoolwork and with family and peer relationships. Adolescents may have a prodromal period of depression prior to the onset of psychotic symptoms. The majority of patients with childhood-onset schizophrenia have had nonspecific psychiatric symptoms or symptoms of delayed development for months or years prior to the onset of their overtly psychotic symptoms.

Obtaining a family history of mental illness is critical when assessing children and adolescents with psychotic symptoms. Psychological testing, particularly the use of projective measures, is often helpful in identifying or ruling out psychotic thought processes. Psychotic symptoms in children younger than age 8 years must be differentiated from manifestations of normal vivid fantasy life or abuse-related symptoms. Children with psychotic disorders often have learning and attention disabilities in addition to disorganized thoughts, delusions, and hallucinations. In psychotic adolescents, mania is differentiated by high levels of energy, excitement, and irritability. Any child or adolescent exhibiting new psychotic symptoms requires a medical evaluation that includes physical and neurologic examinations (including consideration of magnetic resonance imaging and electroencephalogram), drug screening, and metabolic screening for endocrinopathies, Wilson disease, and delirium.

Special Considerations Regarding the Use of Antipsychotic Medication

While it is expected that a psychiatrist initiate treatment, primary care providers undoubtedly treat children on antipsychotics and should become familiar with management and potential common and severe side effects of this class of medication. The "atypical antipsychotics" differ from conventional antipsychotics in their receptor specificity and effect on serotonin receptors. Conventional antipsychotics are associated with a higher incidence of movement disorders and extrapyramidal symptoms due to their wider effect on dopamine receptors. The atypical antipsychotics have a better side-effect profile for most individuals and comparable efficacy for the treatment of psychotic symptoms and aggression. Because of their increased use over conventional antipsychotics, the information that follows primarily focuses on safe use of atypical antipsychotics.

Common adverse effects of the atypical antipsychotics are cognitive slowing, sedation, orthostasis, and weight gain. Most side effects tend to be dose related. Less frequent, but important side effects are development of type 2 diabetes and change in lipid and cholesterol profile. The risk-benefit ratio of the medication for the identified target symptom should be considered and reviewed with the parent or guardian. Providers should obtain baseline height, weight, and waist circumference, observe and examine for tremors and other abnormal involuntary movements, and establish baseline values for CBC and LFTs, lipid profile, and cholesterol. Antipsychotics can cause QT prolongation leading to ventricular arrhythmias. Therefore, it is important to obtain an ECG if there is a history of cardiac disease or arrhythmia. Medications that affect the cytochrome P-450 isoenzyme pathway (including SSRIs) may increase the neuroleptic plasma concentration and increase risk of QTc prolongation.

In addition to the above concerns, postmarketing clinical use has demonstrated significant reports of hyperglycemia, and diabetes mellitus. Table 7-16 presents the currently recommended monitoring calendar. Baseline and ongoing evaluations of significant effects are an integral part of clinical practice. It is important to monitor for effects, which include intolerance, galactorrhea due to increased prolactin levels, photosensitivity, rashes, loss of sexual function, and blood dyscrasias.

Other troublesome side effects include dystonia, akathisia (characterized by restlessness and difficulty sitting), and tardive dyskinesia (TD). TD is a serious problem that can develop slowly and slowly and may persist for months to years. The atypical antipsychotics, although associated with a higher incidence of TD than the conventional antipsychotics, are less effective than the conventional antipsychotics in treatment of schizophrenia. The risk of tardive dyskinesia with the atypical antipsychotics is less than the risk of tardive dyskinesia with the conventional antipsychotics. The use of the atypical antipsychotics in patients taking antipsychotics who have received atypical antipsychotics who have received antipsychotics who have received atypical antipsychotics who have received atypical antipsychotics who have received atypical antipsychotics. Mortality studies have not evaluated the safety of atypical antipsychotics in patients with cardiovascular disease.
Table 7-16. Health monitoring and antipsychotics.

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<th>8 wk</th>
<th>12 wk</th>
<th>Quarterly</th>
<th>Annually</th>
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<tbody>
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<td>Personal/family history</td>
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<td>Weight (BMI)</td>
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<td>Waist circumference</td>
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<tr>
<td>Fasting blood sugar</td>
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<tr>
<td>Fasting lipid profile</td>
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</table>

More frequent assessments may be warranted based on clinical status.

Other Considerations

Antipsychotics are also used for acute mania and as adjuncts to antidepressants in the treatment of psychotic depression (with delusions or hallucinations). Antipsychotics may also be used cautiously in refractory PTSD, in refractory OCD, and in individuals with markedly aggressive behavioral problems unresponsive to other interventions. In some instances, they may be useful for the body image distortion and irrational fears about food and weight gain associated with anorexia nervosa.

Prognosis

Schizophrenia is a chronic disorder with exacerbations and remissions of psychotic symptoms. Generally, earlier onset (prior to age 13 years), poor premorbid functioning (oddness or eccentricity), and predominance of negative symptoms (withdrawal, apathy, or flat affect) over positive symptoms (hallucinations or paranoia) predict more severe disability, while later age of onset, normal social and school functioning prior to onset, and predominance of positive symptoms are associated with better outcomes and life adjustment to the illness.

The American Academy has a practice parameter regarding the use of atypical antipsychotics in youth available at https://www.aacap.org/App_Themes/AACAP/docs/practice_parameters/Atypical_Antipsychotic_Medications_Web.pdf.

OTHER PSYCHIATRIC CONDITIONS

Several psychiatric conditions are covered elsewhere in this book. Refer to the following chapters for detailed discussion:

- Attention-deficit/hyperactivity disorder (ADHD): see Chapter 3.
- Autism and pervasive developmental disorders: see Chapter 3.
- Enuresis and encopresis: see Chapter 3.
- Eating disorders: see Chapter 6.
- Intellectual disability/mental retardation: see Chapter 3.
- Substance abuse: see Chapter 5.
- Sleep disorders: see Chapter 3.
- Tourette syndrome and tic disorders: see Chapter 25.

INTRODUCTION

- **Forms of maltreatment**
  - Physical abuse
  - Sexual abuse
  - Emotional abuse and neglect
  - Physical neglect
  - Medical care neglect
  - Medical child abuse

- **Common historical features**
  - Implausible mechanisms of injury
  - Discrepant, evolving history
  - Delay in seeking care
  - Event or behavior associated with control by the caregiver
  - History of abuse in the family
  - Inappropriate affect
  - Pattern of increasing severity without intervention
  - Social or physical isolation
  - Stress or crisis in the child
  - Unrealistic expectations of caregivers
  - Behavior changes of caregivers

In 2015, an estimated 4 million maltreating families were served by protective service agencies, representing approximately 7.5 million children.