



## PEDIATRIC ANXIETY & DEPRESSION

By **Carissa Gunderson, MD**,  
Clinical Assistant Professor,  
Psychiatry, and  
**Brandon Greenfield, MD, MA**,  
Fellow, Child and Adolescent  
Psychiatry, University of Iowa  
Stead Family Children's Hospital

**P**ediatric anxiety disorders are the most common psychiatric disorders in childhood and adolescence. The median prevalence rate of all anxiety disorders is about 8% with an extremely wide range of estimates (2% to 24%). Generalized Anxiety Disorder (GAD) and Social Anxiety Disorder (SAD) are the two most prevalent disorders in youth.<sup>1</sup> Anxiety disorders include separation anxiety, selective mutism, specific phobias, social anxiety disorder, panic disorder, and agoraphobia.

Anxiety is the emotional, cognitive, and physiological reaction related to a real or imagined threat. Adaptive anxiety can help people prepare for possible challenges. However, anxiety becomes a disorder when the intensity is out of proportion to the actual threat, causing significant

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## Pediatric Anxiety & Depression

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personal distress and affecting the individual's relationships or ability to function. It can be useful to think of anxiety disorders as having three components: (1) behavioral: typically including avoiding or controlling behaviors, (2) cognitive: thinking patterns such as assuming worst-case scenarios (i.e., catastrophizing), and (3) physiological: autonomic arousal and somatic symptoms (e.g., headache, muscle tension, stomachache).<sup>2</sup>

### Diagnosis

The GAD-7 screening tool can be used for kids ages eight and up, looking at basic symptoms of anxiety. It can be completed in one to two minutes by the patient, with scores of 10 and above correlated with higher levels of anxiety. When interviewing families, it can be helpful to start with asking about worrying and putting this in plain language such as, thinking about bad or scary things happening in the future and assessing the content and frequency of the worrying. If present, providers can ask if the worrying occurs in all settings (e.g., generalized anxiety) or specific situations. To further assess for GAD, providers can ask about kids engaging in behaviors that reduce the uncertainty of unfamiliar situations such as excessive preparation, behaving in a controlling manner, or avoiding circumstances altogether. These kids often avoid downtime and have difficulty with transitions, becoming upset when plans change abruptly. Asking about avoidance of social settings and worrying about judgment from peers, is one way to assess for social anxiety. Regardless of the anxiety symptoms, it is important to ask about the level of distress and overall functioning.

Anxiety disorders may be masked by disruptive behaviors. Disruptive behaviors can take many forms including rule breaking, arguing, tantrums, irritability directed towards caregivers, and aggression. Frequently, after treatment of an underlying disorder (e.g. anxiety, depression) the disruptive behaviors decrease.

The Spence Children's Anxiety Scale can be used to assess for anxiety in preschool and school-aged children ages 2.5 to 12 years. Subscales include panic/agoraphobia, social anxiety, separation anxiety, generalized anxiety, obsessions/compulsions, and fear of physical injury. SCARED (Screen for Childhood Anxiety Related Emotional Disorders) assesses anxiety in children more than 8 years old, but not specifically OCD or PTSD.

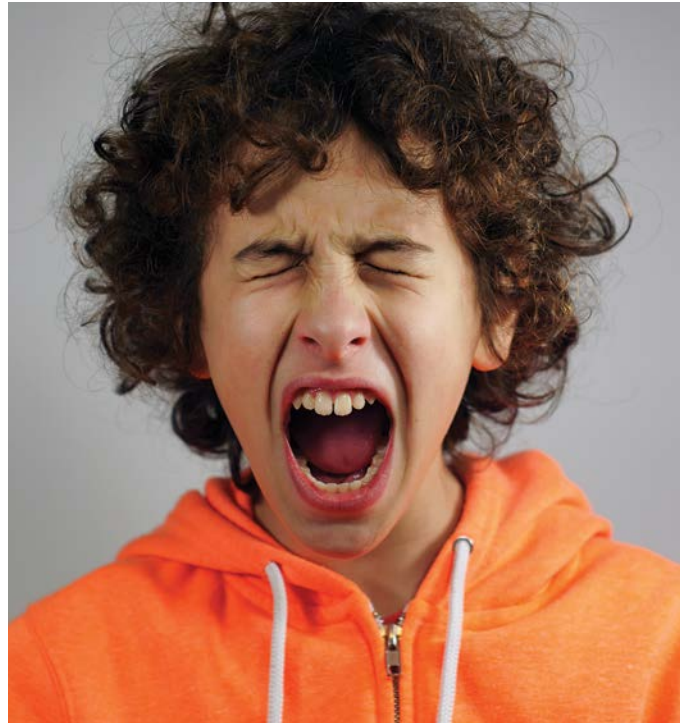


### Pediatric Depression

Depression in children dramatically increases with puberty, increasing from 1 to 2% in prepubertal children, and up to 11 to 13% in adolescents. There is a 3-1 ratio of female predominance in adolescent depression, while prepubertal depression does not show a sex preference. Even early-onset puberty in girls is associated with increased risk of depression compared to males. Prepubertal depression is associated more with risk factors common to conduct disorder, such as family discord, parental criminality, and parental substance use. More often prepubertal depression is associated with antisocial behavior in adulthood rather than depression. Prepubertal children exhibiting behavior issues should be screened for depression. Aside from sad affect, adults often notice that these children are less engaged in play, there is a low quality to their play, and/or they are showing decreased school performance. Adolescent depression presents with the common depressive symptoms of low mood, decreased interest in pleasurable activities, along with potential irritability. Other symptoms include alterations in sleep, appetite, concentration, energy, as well as feelings of guilt and/or worthlessness, psychomotor slowing (observed by others), suicidal thoughts or thoughts of death. Depression screening has improved significantly over the years. The PHQ-9 modified for teens ages 13-17 can be a helpful screening tool. Positive questions with a score of 2 or 3 should be followed up with interview questions. A score of 10 or above is highly concerning for Major Depressive Disorder.



**SOCIAL MEDIA**  
**PANDEMICS**  
**DRUGS**  
**TERRORISM**  
**GRADES**  
**GLOBAL WARMING**  
**GUNS**  
**PEER PRESSURE**



Warning bells have been rung about the rising rate of depression in adolescents over the past decade.<sup>3</sup> There are many hypotheses offered about the contributing factors including, higher academic competition, social media use, gun violence, as well as the influence of inadequate sleep.<sup>4</sup> Others question the assumption that rates are rising.<sup>5</sup> What is clear is the majority of psychiatric illnesses present during childhood, adolescence, and young adulthood, and that there is a great public health need for more access to mental health services.<sup>6</sup>

### **Nonsuicidal self-injury**

Clinicians are increasingly curious about how to assess and refer adolescents who present with nonsuicidal self-injury (NSSI), the intentional, self-inflicted damage to the body without suicidal intent, most commonly cutting. Adolescents engage in NSSI for different reasons. While etiology is multifactorial, studies have shown that most are trying to diminish negative feelings or thoughts, while some find the experience pleasurable. NSSI can co-occur without or with psychiatric disorders (e.g., depression/anxiety, borderline personality disorder, ADHD). NSSI is most often performed in the absence of suicidal ideation but has also been found to be an especially important risk factor for suicidal behavior.<sup>7</sup> Psychotherapies which have shown some evidence include dialectical behavior therapy for adolescents (DBT-A), cognitive behavioral therapy (CBT), and mentalization-based treatment for adolescents (MBT-A).<sup>8</sup>

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## **COVID-19 RESOURCES FOR CHILDREN WITH ANXIETY/DEPRESSION**

### **Reassuring Children During the COVID-19 Pandemic**

<https://www.psychologytoday.com/ie/blog/parenting-new-generation/202003/reassuring-children-during-the-covid-19-pandemic>

### **Tips for Families: Talking About the Coronavirus from Zero to Three**

<https://www.zerotothree.org/resources/3210-tips-for-families-coronavirus>

### **National Child Traumatic Stress Network's Parent/Caregiver Guide to Helping Families Cope with the Coronavirus Disease 2019 (COVID-19)**

[https://www.nctsn.org/sites/default/files/resources/fact-sheet/outbreak\\_factsheet\\_1.pdf](https://www.nctsn.org/sites/default/files/resources/fact-sheet/outbreak_factsheet_1.pdf)

### **Talking to Kids about COVID-19**

<https://www.iowaepsdt.org/whats-new/>

## Pediatric Anxiety & Depression

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### Suicidality

A clinic visit with suicidal patients often requires more time and discussion. Clinicians often need time to speak with the child/teen and parent separately and together. Asking about suicidal ideation does not increase suicidal ideation or make it more likely someone will self-harm or attempt suicide. If a child does report suicidal ideation, it is pertinent to find out if the child/teen is thinking about ending their life and has a plan. Depending on family stability, their ability to provide close observation, limiting access to means of harm, and availability of close follow-up, a child may be monitored at home. In other situations, where there is an active plan or high family discord, evaluation in an ER for potential psychiatric admission is warranted. Physicians can access consultation with a child psychiatrist through the University of Iowa Hospitals and Clinics Integrated Call Center (800-777-8442).

## IOWA PEDIATRIC MENTAL HEALTH PROJECT



The Iowa Pediatric Mental Health Collaborative project offers consultations between primary care providers and University of Iowa child and adolescent

psychiatrists. Visit their website at: [chsciowa.org/programs/iowa-pediatric-mental-health-collaborative](https://chsciowa.org/programs/iowa-pediatric-mental-health-collaborative), for additional information through webinar recordings; referral sources and quick guides for providers and families; instructions for requesting a consultation; family referrals to Regional Centers and Regional Pediatric Mental Health Teams; and information about scheduling and technical assistance.

The project plans to offer three regional conferences and six webinars per year for providers, including opportunities for Continuing Medical Education (CME) and Continuing Education Unit (CEU) credits.

## Treatment for Anxiety Disorders and Depression

First-line treatment for mild to moderate cases is CBT. Common features of CBT include psychoeducation, self-monitoring of emotions, thoughts, and behaviors, behavioral activation, relaxation techniques, gradual exposure to feared stimuli, identification and modification of troublesome thought patterns, problem-solving skills, reward systems, and relapse prevention.

For anxiety disorders, it also is important to educate families about accommodating behavior, in which parents with the best of intentions inadvertently enable avoiding cycles. Regular exercise (aerobic and strength training), healthy sleep habits, and balanced nutrition have been found to be an important part of treatment. There has been emerging evidence over the past several years of the benefits of mindfulness practices.<sup>9,10</sup> Although there are courses offered in mindfulness-based-stress-reduction, there are phone apps that offer guided meditation for patients at their convenience. Some include: Headspace, Calm, Insight Timer, and Stop, Breathe & Think, although there are many others. To help a patient find a therapist, [www.psychologytoday.com](http://www.psychologytoday.com) is a good resource.

For moderate to severe depression and anxiety disorders, medication is warranted. Selective Serotonin Reuptake Inhibitors (SSRIs), such as, fluoxetine, escitalopram, and sertraline, have shown the most evidence for depression and anxiety. Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs), such as, venlafaxine and duloxetine, can be used as a second-line treatment after failure of at least two SSRIs. Mirtazapine is another option, which can also aide with sleep problems at low doses, but caution is warranted for weight gain.<sup>11</sup> For depression, bupropion can be effective especially for children with co-occurring ADHD. For anxiety disorders, buspirone, is a reasonable adjunct to an SSRI or SNRI. It is important to offer an adequate trial of at least four-to-eight weeks at a therapeutic dose before trying another medication. Once a child is functionally stable on medication, that dosage should be continued for nine-to-12 months. It can then be tapered slowly, every two-to-three months, with close follow-up for re-emergence of symptoms. Some children may choose to continue medication as anxiety symptoms may re-emerge with discontinuation.

GAD-7, PHQ-9 Modified for Teens, SCARED, and Spence Children's Anxiety Scale can be billed with 96127, in addition to the visit E/M code when scoring, interpretation, and documentation are done appropriately in the note.

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# Anxiety and Depression Medication Table

Medication	Dosage Forms	Initial Dosing	Treatment Dosing Range	Side Effects	Additional Considerations
Fluoxetine	Liquid, tablets, capsules	10mg daily for 10 days then increase to 20mg daily	10-80mg	Insomnia, nausea, headache	Long half-life reduces withdrawal, and helpful where noncompliance can be a concern.
Escitalopram	Liquid, tablets, capsules	5mg daily for 10 days	10-20mg	Headache, nausea, somnolence, insomnia	
Sertraline	Liquid, tablets, capsules	12.5-25mg daily, can be increased weekly	50-200mg	Diarrhea, nausea, headache, insomnia, dizziness	Some kids may need BID dosing.
Mirtazapine	Tablets, disintegrating tablets	7.5mg qhs for one week	15-45mg	Somnolence, weight gain, constipation	Off-label for use in kids. Helpful in patients with low appetite and sleep difficulties.
Bupropion Bupropion SR, XL	Tablets	150mg daily for both SR and XL formulation for one week	SR 150mg-200mg BID XL 150-450mg	Headache, dry mouth, nausea, weight loss, insomnia, agitation, dizziness	Off-label in children. Helpful for ADHD, monitor anxiety closely in patients with comorbid anxiety disorder. Avoid in patients with bulimia.
Buspirone	Tablets	Younger kids- 2.5mg BID Adolescents- 5mg BID	10-60mg divided BID-TID	Dizziness, drowsiness, nausea, headache	Off-label in children. Compliance decrease often with twice daily dosing medication.
Venlafaxine ER	Tablets and capsules	37.5mg daily for 10-14 days	75-150mg/day in younger kids 150-225mg in adolescents	Headache, nausea, insomnia, dizziness, dry mouth, sweating, nervousness, hypertension	Off-label. Issues with name brand and generic efficacy. Significant withdrawal symptoms with missed doses.
Duloxetine	Capsules	30mg daily for 10-14 days	30-120mg	Nausea, dry mouth, headache, somnolence, fatigue, constipation	Helpful in pain syndromes.

## Additional resource

Friedman RA. Antidepressants' black-box warning—10 years later. *N Engl J Med*. 2014.Oct 30;371(18):1666-8. doi: 10.1056/NEJMp1408480. PubMed PMID: 25354101. <https://www.nejm.org/doi/full/10.1056/NEJMp1408480>.





# Mental Health Resources for Patients in Iowa



The root of most stigmas is generally fear. The stigma surrounding mental illness in the U.S. is no different: fear of not understanding the problem, fear of doing or saying the “wrong” thing, and fear of not knowing what to do when someone needs help.

Mental illness affects many Iowans. Mental illness does not discriminate and can affect anyone. Your Life Iowa is here to help.

The Iowa Department of Public Health’s web site: [YourLifeIowa.org](https://yourlifeiowa.org), provides a way for Iowans to chat, text, or call for assistance, as well as get reliable information, treatment options, and access organizations to find help.

## Resources

Learn more about mental illness and local resources for children: <https://yourlifeiowa.org/mental-health/children>

Information and referral, counseling, crisis service coordination, and links to crisis screening and mental health services. Available 24-hours a day for adults and children: <https://yourlifeiowa.org/mental-health/crisis-services>

**CALL:** Your Life Iowa toll-free Statewide Crisis Line: 855-581-8111.

**TEXT OR CHAT:** Support and assistance is available, click on: **Live Chat**, or text: 855-895-8398.

## Taking Care of Yourself – the Self-Care Checklist

Taking care of yourself is an important part of being emotionally and mentally healthy. Here are some ideas you can try for self-care: <https://yourlifeiowa.org/suicide/self-care-checklist>

## References

1. Merkiangas KR, Nakamura EF, Kessler RC. Epidemiology of mental disorders in children and adolescents. *Dialogues Clin Neurosci*. 2009.11(1):7-20.
2. Martin A, Bloch M, Volkmar F. *Lewis's Child and Adolescent Psychiatry: A Comprehensive Textbook*. 5<sup>th</sup> edition. 2018.(pp. 509-515). Philadelphia, PA. Lippincott Williams & Wilkins.
3. Twenge JM, Cooper AB, Joiner TE, Duffy ME, Binau SG. Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology*, 2019.128(3) 185-199.
4. Lohmann R. What's Driving the Rise in Teen Depression? Retrieved from: <https://health.usnews.com/wellness/for-parents/articles/2019-04-22/teen-depression-is-on-the-rise>. 2019.
5. Swick S, Jellinek M. Is there an epidemic of anxiety and depression among today's adolescents? Retrieved from: <https://www.mdedge.com/pediatrics/article/200895/mental-health/there-epidemic-anxiety-and-depression-among-todays/page/0/1>. 2019.
6. Office of Adolescent Health. Access to Adolescent Mental Health Care. Retrieved from: <https://www.hhs.gov/ash/oah/adolescent-development/mental-health/access-adolescent-mental-health-care/index.html>. 2019.
7. Klonsky D, Victor S, Saffer B. Nonsuicidal Self-Injury: What We Know, and What We Need to Know. *Can J Psychiatry*. 2014.Nov; 59(11): 565–568.
8. Ougrin D, Tranah T, Stahl D, Moran P, Asarnow JR. Therapeutic Interventions for Suicide Attempts and Self-Harm in Adolescents: Systematic Review and Meta-Analysis. *J Am Acad Child Adolesc Psychiatry*. 2015.Feb;54(2):97-107.e2. doi: 10.1016/j.jaac.2014.10.009. Epub 2014 Oct 25.
9. Hoge EA, Bui E, et al. Randomized Controlled Trial of Mindfulness Meditation for Generalized Anxiety Disorder: Effects on Anxiety and Stress Reactivity. *J Clin Psychiatry*. 2013.Aug;74(8):786-92. doi: 10.4088/JCP.12m08083.
10. Davidson RJ, Kabat-Zinn J, Schumacher J, Rosenkranz M, Muller D, Santorelli SF, Sheridan JF, Alterations in Brain and Immune Function Produced by Mindfulness Meditation. *Psychosomatic Medicine*. 2003.65 no.4: 564–570.
11. Dwyer J, Bloch M. Antidepressants for Pediatric Patients. *Curr Psychiatr*. 2019.September 18(9):26-42F.





University of Iowa Stead Family Children's Hospital  
 Center for Disabilities and Development  
 University Center for Excellence in Developmental Disabilities  
 100 Hawkins Drive  
 Iowa City, IA 52242-1011

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If you have questions about **billing** related to EPSDT Care for Kids services, please call Provider Services: **1- 800-338-7909**. If you have questions about **clinical issues** and EPSDT Care for Kids services, please call **1- 800-383-3826**. Please note: Due to budget restraints, the *EPSDT Care for Kids Newsletter* is sent to offices and organizations, rather than to individuals. **The newsletter is also available online at [www.iowaepsdt.org](http://www.iowaepsdt.org).** Readers are welcome to photocopy or download material from the newsletter to share with others. If you wish to reproduce material from the newsletter in another publication, whether print or electronic, please obtain permission prior to publication by contacting the editor. Please include the following acknowledgment with reprinted material:  
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**NEWSLETTER STAFF**

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Please send correspondence concerning **content** to:

**Temitope Awelewa, MD**  
 UI Stead Family Children's Hospital  
 Department of Pediatrics  
 200 Hawkins Drive – BT 1300-2  
 Iowa City, IA 52242  
[temitope-awelewa@uiowa.edu](mailto:temitope-awelewa@uiowa.edu)

Please send **change of address** information to:

**Meredith Field**  
 University of Iowa Stead Family Children's Hospital  
 Center for Disabilities and Development  
 100 Hawkins Drive, Iowa City, IA 52242-1011  
[meredith-field@uiowa.edu](mailto:meredith-field@uiowa.edu)