

How to lower suicide risk in depressed children and adolescents

To determine if hospitalization is necessary, assess patients' risk factors, attitude toward treatment

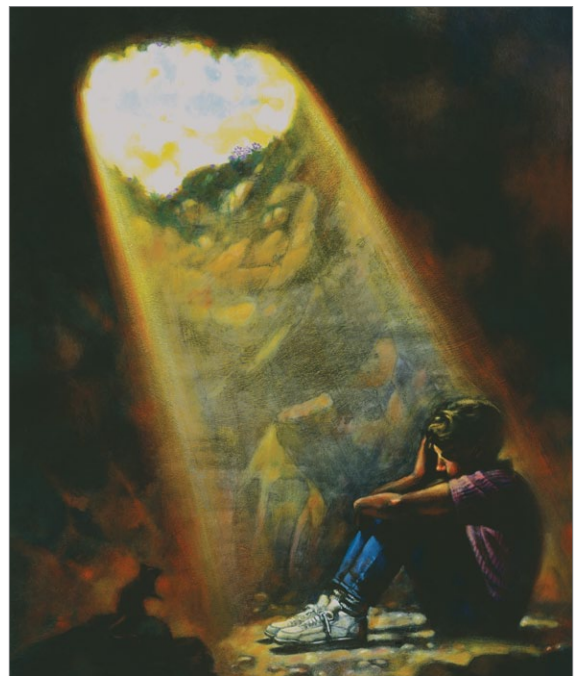
Although depression affects nearly 2% of children (age ≤ 12) and up to 10% of adolescents (age 13 to 18),¹ the disorder often is underdiagnosed and undertreated in pediatric patients.² Treating depression in young patients is challenging. Only 30% to 40% of depressed children and adolescents who receive evidence-based treatment achieve remission.³ In addition, 50% to 70% of those who initially achieve remission will experience recurrence within 5 years.⁴ Suicide is the third leading cause of death among children and adolescents, and depression greatly increases the likelihood of suicide.^{5,6}

This article reviews assessing and treating depression in children and adolescents, and how to lower suicide risk in pediatric patients.

Symptoms vary with age

Depressive symptoms vary as a function of the child's cognitive development and social functioning. Hopelessness and vegetative and motivational symptoms may be more frequent in adolescents than in children.⁷

In preschool-age children, depression manifests indirectly through somatic symptoms and behavioral disturbances. In this age group, sadness or irritability are sensitive and predominant symptoms of depression.⁸ In older children, sadness and loss of interest in social activities may indicate depression. In adolescents, feelings of mental and physical weariness, aloneness, disconnectedness, uncertainty, vulnerability, anger, irritability, and ambivalence toward friends suggest a depressive disorder.⁹



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continued



Pediatric depression

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In children and adolescents, subsyndromal depressive symptoms, relapse, and recurrence are common

Table 1

What affects depression outcomes in children and adolescents?

Factor	Outcomes
Age	Pharmacotherapy and CBT are equally effective in younger and older adolescents. ^a Although age does not affect long-term treatment outcomes, older adolescents (age 18 to 19) with treatment-resistant depression may respond better to a combination of CBT and medication ^b
Sex	Females are more likely to experience relapse. ^c However, sex does not influence response to initial treatment ^c
Socioeconomic status	Adolescents with high socioeconomic status are more likely to respond to CBT
Illness characteristics	Severity of depression is the strongest predictor of poor outcome. ^{d-f} Patients with moderate depression are more likely to benefit from CBT added to medication. ^g However, adding CBT to medication did not affect outcomes in adolescents with self-injurious behavior. ^{b,f} Suicidal behaviors during treatment are less frequent when CBT is combined with medication ^{h,i}
Substance abuse	Patients with substance use disorders are less likely to respond to depression treatment ^f and those who continued to abuse substances during treatment are less likely to achieve remission than those who abstain ^b
Cognitive measures	Higher levels of hopelessness are associated with poor outcomes. For adolescents with treatment-resistant depression who experience hopelessness, adding CBT to pharmacotherapy did not provide additional benefit. Some studies have noted that adolescents with cognitive distortions are more likely to benefit from CBT plus pharmacotherapy ^b
Family characteristics/environment	High family stress is associated with poor treatment outcomes. ^f Experiencing loss and physically dangerous events does not affect depression outcomes. Trauma and history of abuse adversely affect depression treatment outcomes

CBT: cognitive-behavioral therapy

Source: For reference citations, see this article at CurrentPsychiatry.com

Genetic predisposition to depression, poor family support, dysfunctional parenting, and individual vulnerabilities such as poor self-esteem or emotional dysregulation may increase young patients' risk for depression.¹⁰ Peer and family support may protect against depression. Personal competence stemming from social acceptance and body image satisfaction also may be protective factors. A sense of religious and existential well-being (finding meaning and purpose in life) are significantly associated with lower rates of depression among adolescents.¹¹

A persistent illness

The mean duration of a depressive episode in children and adolescents is 7 to 8 months.¹² However, subsyndromal depressive symptoms—as well as relapse and recurrence—are common. Long-term studies indicate that many depressed adolescents experience depressive episodes into adult-

hood.¹² Factors that may predict recurrence in adulthood include:

- severity of depressive episodes
- concurrent psychotic symptoms
- suicidal thoughts
- history of recurrent depressive episodes
- threshold residual symptoms
- recent stressful life events
- adverse family environment
- family history of depression.¹²

Early symptom onset, greater depression severity, suicidality, presence of comorbid anxiety, disruptive disorders, and an adverse family environment also predict longer recovery time.¹² A study of depressed adolescents found that a history of recurrent depression, family history of recurrent depression, personality disorder traits, and (for girls only) conflict with parents predicted recurrence of depression in young adulthood.⁴ **Table 1** summarizes factors that affect depression outcomes in children and adolescents.



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Table 2

Assessing children and adolescents: 3 semi-structured interviews

Interview	Features
Child and Adolescent Psychiatric Assessment ¹³	For patients age 9 to 17. Assesses symptoms from the past 3 months. Administration time: 1 to 2 hours. Requires minimal interviewer experience. Assesses impairment in multiple areas (family, peers, school, leisure activities)
Diagnostic Interview for Children and Adolescents ¹⁴	Separate versions for children (age 6 to 12) and adolescents (age 13 to 17). Assesses lifetime psychopathology. Administration time: 1 to 2 hours. Interrater reliability varies (poor to good)
Kiddie Schedule for Affective Disorders and Schizophrenia ¹⁵	Assesses lifetime and current psychopathology. Administration time: 35 minutes to 2.5 hours. Interrater reliability: fair to excellent ¹⁶

Assessment strategies

Semi-structured interviews such as the Child and Adolescent Psychiatric Assessment, the Diagnostic Interview for Children and Adolescents, and the Kiddie Schedule for Affective Disorder and Schizophrenia are useful for assessing depression in pediatric patients (Table 2).¹³⁻¹⁶ These tools can be used to assess depression criteria based on information gathered from several sources. Many instruments can be used to assess and monitor pediatric depression, including the Children's Depression Inventory, the Reynolds Child Depression Scales and Adolescent Depression Scales, and the Child Depression Rating Scale.

To assess suicide risk in depressed younger patients:

- ask about emotional difficulties
- identify lack of developmental progress
- estimate their level of distress
- detect impairment in functioning
- estimate the level of danger to themselves and others.¹⁷

The best way to assess for suicidal ideation is to ask about it directly while interviewing the patient and his or her parents. Simple questions such as "Have you ever thought about killing yourself or wish you were dead?" and "Have you ever done anything on purpose to hurt or kill yourself?" can be effective.¹⁰ These questions are best placed in the middle or toward the end of a list of questions about depressive symptoms.

Adolescents may be more likely than adults to disclose information about suicidality on self-reports.⁶ However, self-assessment suicide scales are not a substitute for

clinical assessment because they tend to be oversensitive and non-specific and lack predictive value. A positive response to either of these questions should prompt a more detailed clinical investigation. There is no evidence that asking about suicide risk increases suicidal behavior, even in high-risk youths.

Treatment options

Psychotherapy. Several controlled studies and meta-analyses support the efficacy of cognitive-behavioral therapy (CBT) for mild depression in pediatric patients.¹⁸⁻²⁰ Two recent meta-analyses of CBT studies in depressed adolescents found the mean effect size of CBT was 0.34 to 0.35.^{19,21} However, a separate analysis found CBT did not have long-term benefits for depressed adolescents, particularly patients with a history of abuse.²²

Interpersonal therapy also can be effective in adolescent outpatients with mild to moderate depression. One study found the effect size of psychotherapy was modest (0.36).¹⁹

Pharmacotherapy. Two meta-analyses support selective serotonin reuptake inhibitors (SSRIs) for treating mild to moderate depression in children and adolescents. One found 61% of depressed patients age <19 who received an SSRI were "much improved" or "very much improved."²³ Another meta-analysis that compared SSRIs and placebo found fluoxetine was more effective than sertraline or citalopram for depressed adolescents.²⁴ Other studies have shown that for

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There is no evidence that asking about suicide increases suicidal behavior, even in high-risk youths



Pediatric depression

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Combining psychotherapy with pharmacotherapy results in greater symptom improvement and reduced suicidality

Table 3 Protecting against antidepressant-induced suicidality

Before initiating antidepressant treatment	
	Review the patient's psychiatric history
	Assess for past suicidal behavior
	Assess for a family history of mental illness or mood disorders and suicide attempts
	Screen for unrecognized bipolar spectrum disorders
	Educate patients and their families to watch for signs of worsening depression or suicidality, and to report such symptoms immediately
During antidepressant treatment	
	Pay attention to abrupt changes in symptoms, particularly symptoms that were not part of the patient's initial presentation
	Watch for deterioration of symptoms
	Monitor for emergence of 'activating' symptoms (ie, irritability, impulsivity, anxiety, insomnia, agitation, hostility, akathisia, hypomania, or mania)
	Evaluate the patient's suicide risk factors, including having a specific plan and/or access to lethal means
	Consider hospitalization if the patient is at high risk for suicide
Source: Reference 17	

severe depression, the effect size of antidepressants (0.69) is higher than that of placebo (0.39).²⁵ Antidepressants are more effective in adolescents than in children.²⁵

Fluoxetine is the only FDA-approved medication for treating depression in children age ≥ 8 . In 2007 the FDA extended to all antidepressants its "black-box" warning about increased risk of suicidality in patients up to age 24. The results of studies that analyzed data about the safety of antidepressants in children and adolescents have been mixed—some found evidence of increased suicidality with antidepressant use,^{26,27} whereas others showed no increased risk.^{28,29} *Table 3* summarizes steps to minimize the risk of antidepressant-induced suicidality.¹⁷

Psychotherapy plus pharmacotherapy.

Researchers who compared fluoxetine to CBT and to a combination of the 2 in adolescents with moderate to severe de-

pression found that fluoxetine was most effective in the first 12 weeks of treatment.³⁰ Surprisingly, CBT's effectiveness was not different from placebo.³⁰ However, studies have shown that combining psychotherapy and medication results in greater symptom improvement,³⁰ faster clinical response,³¹ improvement of global functioning and quality of life,³² and reduced suicidality.³³ At 6 months, the difference in response between medication and psychotherapy was small.²⁵ The Treatment of Resistant Depression in Adolescents study found that for chronic adolescent depression, pharmacotherapy (fluoxetine and venlafaxine) combined with CBT produced a higher response rate than pharmacotherapy alone (54% vs 41%).³⁴

Lowering suicide risk

Up to 60% of adolescents who commit suicide had a depressive disorder. Risk factors for child and adolescent suicide attempts include:

- self-harm behaviors
- psychiatric disorders
- family disturbances
- substance abuse
- physical/sexual abuse.¹⁷

How to best manage suicidal youths depends on an adequate assessment of the severity of the patient's current problems and conflicts and the degree of suicidal intent. Assessment of coping resources, access to support systems, and the attitude of the patient and family toward intervention and follow-up also is important.

Children and adolescents at high risk for suicide—those with a plan or recent suicide attempt with high probability of lethality, stated current intent to kill themselves, or recent suicidal ideation or behavior—may need inpatient psychiatric admission. Although no studies have shown that admitting high-risk suicidal patients prevents suicide, hospitalization often is the safest course of action. Developing a comprehensive outpatient treatment plan before discharge is essential. Patients with fewer risk factors, especially those who want help and have social support, hope for the future, and a desire

continued on page 30



Pediatric depression

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Suicidal youths who want help and have social support may not require hospitalization

Related Resources

- National Suicide Prevention Lifeline. 800-273-TALK (8255). www.suicidepreventionlifeline.org.
- Suicide Prevention Resource Center. www.sprc.org.

Drug Brand Names

Citalopram • Celexa Sertraline • Zoloft
Fluoxetine • Prozac Venlafaxine • Effexor

Disclosures

Drs. Shailesh Jain and Islam report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

Dr. Rakesh Jain is a consultant to or has received research/grant support from Eli Lilly and Company, Merck, Pfizer Inc., Shionogi Pharmaceuticals, and Shire.

to resolve conflicts, may require only a brief crisis-oriented intervention.

The following recommendations for managing suicidality in children and adolescents are based on clinical experience and have not been empirically validated.

Develop a safety plan to direct the patient's behavior under various situations. For example, the patient would agree in writing that "If I feel depressed, I will do X, Y, and Z to address it," or "If I find myself having suicidal thoughts, I will contact ABC." Having a safety plan lowers the risk of a suicide attempt more than having a suicide contract, which does not give the patient any tools.³⁵

Create a 'hope box.' This is a box in which the patient collects mementos and other objects that remind him or her of hope and reasons to live. The patient should be able to access it at all times, so he or she can tap into it during crisis periods to avert suicidal acts.³⁵

Counteract alienation. A sense of social isolation and burdensomeness may be "tipping factors" for suicidal acts when adolescents feel depressed.³⁵ Clinicians should try to help connect patients to meaningful social activities, even in small doses.

Manage overarousal. Overarousal in depressed children and adolescents is manifested as agitation. Insomnia is a clinically modifiable risk factor. Insomnia initially

responds well to behavioral interventions such as sleep hygiene, sleep restriction, and stimulus control techniques.³⁵

References

1. Birmaher B, Brent D, AACAP Work Group on Quality Issues, et al. Practice parameter for the assessment and treatment of children and adolescents with depressive disorders. *J Am Acad Child Adolesc Psychiatry*. 2007; 46(11):1503-1526.
2. Lewinsohn PM, Clarke GN, Seeley JR, et al. Major depression in community adolescents: age at onset, episode duration, and time to recurrence. *J Am Acad Child Adolesc Psychiatry*. 1994;33(6):809-818.
3. Emslie GJ, Kennard BD, Mayes TL. Predictors of treatment response in adolescent depression. *Pediatr Ann*. 2011; 40(6):300-306.
4. Lewinsohn PM, Rohde P, Seeley JR, et al. Natural course of adolescent major depressive disorder in a community sample: predictors of recurrence in young adults. *Am J Psychiatry*. 2000;157(10):1584-1591.
5. Foley DL, Goldston DB, Costello EJ, et al. Proximal psychiatric risk factors for suicidality in youth: the Great Smoky Mountains Study. *Arch Gen Psychiatry*. 2006; 63(9):1017-1024.
6. Gould MS, Greenberg T, Velting DM, et al. Youth suicide risk and preventive interventions: a review of the past 10 years. *J Am Acad Child Adolesc Psychiatry*. 2003; 42(4):386-405.
7. Weiss B, Garber J. Developmental differences in the phenomenology of depression. *Dev Psychopathol*. 2003; 15(2):403-430.
8. Calles JL Jr. Depression in children and adolescents. *Prim Care*. 2007;34(2):243-258; abstract vi.
9. Farmer TJ. The experience of major depression: adolescents' perspectives. *Issues Ment Health Nurs*. 2002;23(6): 567-585.
10. Zalsman G, Brent DA, Weersing VR. Depressive disorders in childhood and adolescence: an overview: epidemiology, clinical manifestation and risk factors. *Child Adolesc Psychiatr Clin N Am*. 2006;15(4):827-841, vii.
11. Cotton S, Larkin E, Hoopes A, et al. The impact of adolescent spirituality on depressive symptoms and health risk behaviors. *J Adolesc Health*. 2005;36(6):529.
12. Birmaher B, Arbelaez C, Brent D. Course and outcome of child and adolescent major depressive disorder. *Child Adolesc Psychiatr Clin N Am*. 2002; 11(3):619-637, x.
13. Angold A, Costello EJ. A test-retest reliability study of child-reported psychiatric symptoms and diagnoses using the Child and Adolescent Psychiatric Assessment (CAPA-C). *Psychol Med*. 1995;25(4):755-762.
14. Reich W. Diagnostic interview for children and adolescents (DICA). *J Am Acad Child Adolesc Psychiatry*. 2000;39(1): 59-66.
15. Puig-Antich J, Lukens E, Brent D. Psychosocial schedule for school age children - revised. Pittsburgh, PA: Western Psychiatric Institute and Clinic; 1986.
16. Ambrosini PJ. Historical development and present status of the schedule for affective disorders and schizophrenia for school-age children (K-SADS). *J Am Acad Child Adolesc Psychiatry*. 2000;39(1):49-58.
17. Dodig-Curković K, Curković M, Radić J, et al. Suicidal behavior and suicide among children and adolescents-risk factors and epidemiological characteristics. *Coll Antropol*. 2010;34(2):771-777.
18. Harrington R, Whittaker J, Shoebridge P, et al. Systematic review of efficacy of cognitive behaviour therapies in childhood and adolescent depressive disorder. *BMJ*. 1998; 316(7144):1559-1563.
19. Weisz JR, McCarty CA, Valeri SM. Effects of psychotherapy for depression in children and adolescents: a meta-analysis. *Psychol Bull*. 2006;132(1):132-149.
20. Mufson L, Dorta KP, Wickramaratne P, et al. A randomized effectiveness trial of interpersonal psychotherapy for depressed adolescents. *Arch Gen Psychiatry*. 2004;61(6): 577-584.

21. Klein JB, Jacobs RH, Reinecke MA. Cognitive-behavioral therapy for adolescent depression: a meta-analytic investigation of changes in effect-size estimates. *J Am Acad Child Adolesc Psychiatry.* 2007;46(11):1403-1413.
22. Vitiello B, Emslie G, Clarke G, et al. Long-term outcome of adolescent depression initially resistant to selective serotonin reuptake inhibitor treatment: a follow-up study of the TORDIA sample. *J Clin Psychiatry.* 2011;72(3):388-396.
23. Bridge JA, Iyengar S, Salary CB, et al. Clinical response and risk for reported suicidal ideation and suicide attempts in pediatric antidepressant treatment: a meta-analysis of randomized controlled trials. *JAMA.* 2007;297(15):1683-1696.
24. Usala T, Clavenna A, Zuddas A, et al. Randomised controlled trials of selective serotonin reuptake inhibitors in treating depression in children and adolescents: a systematic review and meta-analysis. *Eur Neuropsychopharmacol.* 2008;18(1):62-73.
25. March JS, Silva S, Petrycki S, et al. The Treatment for Adolescents With Depression Study (TADS): long-term effectiveness and safety outcomes. *Arch Gen Psychiatry.* 2007;64(10):1132-1143.
26. Bridge JA, Iyengar S, Salary CB, et al. Clinical response and risk for reported suicidal ideation and suicide attempts in pediatric antidepressant treatment: a meta-analysis of randomized controlled trials. *JAMA.* 2007;297(15):1683-1696.
27. Stone M, Laughren T, Jones ML, et al. Risk of suicidality in clinical trials of antidepressants in adults: analysis of proprietary data submitted to US Food and Drug Administration. *BMJ.* 2009;339:b2880.
28. Khan A, Khan S, Kolts R, et al. Suicide rates in clinical trials of SSRIs, other antidepressants, and placebo: analysis of FDA reports. *Am J Psychiatry.* 2003;160(4):790-792.
29. Simon GE, Savarino J. Suicide attempts among patients starting depression treatment with medications or psychotherapy. *Am J Psychiatry.* 2007;164(7):1029-1034.
30. March J, Silva S, Petrycki S, et al. Fluoxetine, cognitive-behavioral therapy, and their combination for adolescents with depression: Treatment for Adolescents With Depression Study (TADS) randomized controlled trial. *JAMA.* 2004;292(7):807-820.
31. Kratochvil C, Emslie G, Silva S, et al. Acute time to response in the Treatment for Adolescents with Depression Study (TADS). *J Am Acad Child Adolesc Psychiatry.* 2006;45(12):1412-1418.
32. Vitiello B, Rohde P, Silva S, et al. Functioning and quality of life in the Treatment for Adolescents with Depression Study (TADS). *J Am Acad Child Adolesc Psychiatry.* 2006;45(12):1419-1426.
33. Emslie G, Kratochvil C, Vitiello B, et al. Treatment for Adolescents with Depression Study (TADS): safety results. *J Am Acad Child Adolesc Psychiatry.* 2006;45(12):1440-1455.
34. Brent D, Emslie G, Clarke G, et al. Switching to another SSRI or to venlafaxine with or without cognitive behavioral therapy for adolescents with SSRI-resistant depression: the TORDIA randomized controlled trial. *JAMA.* 2008;299(8):901-913.
35. Joiner TE, Ribeiro JD. Assessment and management of suicidal behavior in teens. *Psychiatr Ann.* 2011;41(4):220-225.

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Having a safety plan lowers a patient's risk of suicide more than having a suicide contract

Bottom Line

Depression often is underdiagnosed and undertreated in children and adolescents. Psychotherapy is effective for patients with mild depression; antidepressants or a combination of psychotherapy and antidepressants may be effective for moderate to severe depression. Children and adolescents at high risk of suicide may require hospitalization, whereas patients at lower risk may benefit from less intensive interventions.

References

- a. Birmaher B, Brent D; AACAP Work Group on Quality Issues, et al. Practice parameter for the assessment and treatment of children and adolescents with depressive disorders. *J Am Acad Child Adolesc Psychiatry*. 2007;46(11):1503-1526.
- b. Emslie GJ, Mayes T, Porta G, et al. Treatment of Resistant Depression in Adolescents (TORDIA): week 24 outcomes. *Am J Psychiatry*. 2010;167(7):782-791.
- c. Curry J, Silva S, Rohde P, et al. Recovery and recurrence following treatment for adolescent major depression. *Arch Gen Psychiatry*. 2011;68(3):263-269.
- d. Wilkinson P, Dubicka B, Kelvin R, et al. Treated depression in adolescents: predictors of outcome at 28 weeks. *Br J Psychiatry*. 2009;194(4):334-341.
- e. Curry J, Rohde P, Simons A, et al. Predictors and moderators of acute outcome in the Treatment for Adolescents with Depression Study (TADS). *J Am Acad Child Adolesc Psychiatry*. 2006;45(12):1427-1439.
- f. Asarnow JR, Emslie G, Clarke G, et al. Treatment of selective serotonin reuptake inhibitor-resistant depression in adolescents: predictors and moderators of treatment response. *J Am Acad Child Adolesc Psychiatry*. 2009;48(3):330-339.
- g. Emslie GJ, Kennard BD, Mayes TL. Predictors of treatment response in adolescent depression. *Pediatr Ann*. 2011;40(6):300-306.
- h. Emslie G, Kratochvil C, Vitiello B, et al. Treatment for Adolescents with Depression Study (TADS): safety results. *J Am Acad Child Adolesc Psychiatry*. 2006;45(12):1440-1455.
- i. Vitiello B. Combined cognitive-behavioural therapy and pharmacotherapy for adolescent depression: does it improve outcomes compared with monotherapy? *CNS Drugs*. 2009;23(4):271-280.