# Reasons to Consider Assessing for Bipolar Disorder in Children and Adolescents and Practical Steps to Take

by Eric Youngstrom*

## A Controversial Diagnosis

Pediatric bipolar disorder is one of the most trendy and controversial diagnoses in child mental health at the moment, and it has received tremendous media attention. Rates of diagnosis have increased dramatically, yet some leading epidemiological studies have found few if any cases of bipolar disorder in youths. There is also disagreement about the extent to which the clinical presentation of youths diagnosed with bipolar disorder matches the common clinical picture in adults with bipolar disorder.

As a result of the controversies, many responsible and informed practitioners are reluctant to consider diagnosing bipolar disorder, especially in pre-pubertal children. There is a growing body of evidence, however, that severe mood dysregulation and behavior problems can occur in childhood and adolescence, including patterns that can meet strict DSM-IV criteria for bipolar disorders.

This article briefly reviews some of the evidence and provides practical and evidence-based recommendations for assessing bipolar disorder in youths. The recommendations strike a balance between being open to the possibility of encountering bipolar disorder in youths and being skeptical of overdiagnosis, and they urge that decisions be informed by reliance on data whenever possible.

## Reasons to Consider the Possibility of Bipolar Disorder in Youths and Adolescents

**Adult Epidemiological Data.** Some of the best arguments for assessing manic and depressive symptoms in youths come from adult data. Recent epidemiological studies are finding that bipolar spectrum illnesses are more common than previously thought and have an earlier age of onset than previously believed. The most current epidemiological study from the United States found that 4% of the general population had a lifetime history of bipolar I or bipolar II illness, with 50% of adults with bipolar disorder having had their mood symptoms begin at age 16 or earlier (Kessler et al., 2005). Even more concerning, this study found that the lifetime risk of developing bipolar illness appears to be increasing across generations, with the youngest age cohort (15 to 20 years at time of participation) showing a 6% lifetime risk, more than four times higher than the risk in the oldest age group. Epidemiological studies are also showing that milder, "spectrum" cases of bipolar illness may be substantially more common in the general population, and these spectrum cases still experience substantial impairment even though the illness is more difficult to recognize (Judd & Akiskal, 2003; Lewinsohn et al., 2000).

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**Adult Clinical Data.** Work with adult clinical populations is also documenting that the symptoms of mood disorder have often begun in childhood and adolescence but have taken a long time to formally diagnose (Lish et al., 1994). Earlier age of onset appears to be associated with more rapid cycling, more comorbidity, less responsiveness to lithium, and a more chronic course (Perlis et al., 2004)—patterns consistent with much of what has been observed in research on youths diagnosed with bipolar illness as children (Findling et al., 2001; Geller et al., 2004).

**Theoretical Models.** Bipolar disorder is arguably the most heritable of the major mental illnesses (McGuffin et al., 2003), with the genes contributing to the illness present from conception. The issue is determining how quickly environmental influences can activate the genes and generate a bipolar phenotype. Early identification holds the promise of more effective treatments, and possibly even preventive treatments, but these benefits need to be weighed against the costs associated with treating a larger number of youths—many of whom might not later have manifested bipolar disorder.

**Child Research Data.** There is a growing amount of data from multiple research groups suggesting a great deal of convergence in terms of the clinical presentation of pediatric bipolar disorder, its associated comorbidities and clinical features, and its naturalistic course (Kowatch et al., in press; Weckerly, 2002). These data clearly indicate familial aggregation (Findling et al., in press; Hodgins et al., 2002), and we are starting to learn about similarities in treatment response for pediatric bipolar disorder as compared to adult bipolar illness (Duffy et al., 2002). There are promising data about efficacious treatments for bipolar disorder in terms of both pharmacotherapy (Kowatch et al., 2005) and psychosocial interventions (Fristad et al., 2003; Miklowitz et al., 2004; Pavuluri et al., 2004).

## Reasons to Be Cautious About Diagnosing Bipolar Disorder in Children and Adolescents

The considerations arguing for assessment of pediatric bipolar disorder need to be weighed against important reasons to be conservative about diagnosing a youth with bipolar disorder. These latter include the fact that the diagnosis describes a recurrent illness that currently has no cure and implies a life-long course of monitoring and possibly active treatment as a result. The label is likely to stick with the youth even as he or

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she grows, and mental health labels are still associated with stigma. Also, bipolar disorder is likely to be rare in most clinical settings relative to other diagnoses that can resemble it (e.g., attention deficit hyperactivity disorder, unipolar depression, oppositional defiant disorder, or conduct disorder), and clinicians most often will not have received formal training about making the differential diagnosis between bipolar disorder and other conditions in youths.

Diagnostic errors are especially worrisome when considering pediatric bipolar disorder. Because practice guidelines recommend that front-line treatment involves the use of mood stabilizers or atypical antipsychotic medications, "false positives" or accidentally treating patients as having bipolar disorder when in fact they do not, will expose youths to medications with serious potential side effects and relatively unknown long-term developmental effects. Failing to recognize bipolar disorder when it is present ("false negatives"), however, most commonly will result in clinicians offering well-intentioned treatments for a different condition, such as stimulants or antidepressants, which at best are ineffective with bipolar disorder and at worst might worsen the mood states or course of illness (Carlson & Mick, 2003).

## Twelve Recommendations to Improve Assessment of Pediatric Bipolar Disorder

**Be Open to Making the Diagnosis**. Families are best served by a perspective that acknowledges that bipolar disorder is uncommon but possible in youths. If a clinician assumes that bipolar disorder cannot occur in youths, then careful evaluation will not occur, and the clinician is guaranteed to misdiagnose all of the instances where it has actually occurred. From a historical point of view, it is instructive to remember that conventional wisdom used to hold that unipolar depression "could not" occur in youths (Kovacs, 1989) and that adults virtually always "grew out" of ADHD (Wender, 1998).

**Adopt an Actuarial Approach to Assessment.** It is difficult to strike the right balance between being open to the diagnosis and also recognizing that it is rare. Actuarial methods such as those advocated in "evidence-based medicine" provide a framework for using assessment data consistently and accurately to arrive at risk estimates for individual cases (Guyatt & Rennie, 2002). These techniques have been developed in detail for use with pediatric bipolar disorder (Youngstrom & Duax, 2005; Youngstrom & Youngstrom, 2005).

**Table 1: Base Rates of Pediatric Bipolar Disorder in Different Clinical Settings**

| Setting | Base Rate | Demography | Diagnostic Method | Reference |
|---|---|---|---|---|
| High school epidemiological | 0.6% | Northwestern high school | KSADS-PL$^{y}$ | Lewinsohn et al. (2000) |
| Community mental health center | 6% | Midwestern urban, 80% non-white | Clinical interview & treatment$^{p,y}$ | Youngstrom et al. (in press) |
| General outpatient clinic | 6% to 8% | Urban academic research centers | WASH-U-KSADS$^{p,y}$ | TEAM Study; Geller et al. (2002) |
| County wards (DCFS) | 11% | State of Illinois | Clinical interview & treatment$^{y}$ | Naylor et al. (2002) |
| Specialty outpatient service | 15% to 17% | New England | KSADS-E$^{p,y}$ (only p young) | Biederman et al. (1996) |
| Incarcerated adolescents | 2% | Midwestern urban | DISC$^{y}$ | Teplin et al. (2002) |
| Incarcerated adolescents | 22% | Texas | DISC$^{y}$ | Pliszka et al. (2000) |
| Inpatient service | 30% manic sx, <2% strict BP I | New York City metro region | DICA; KSADS$^{p,y}$ | Carlson & Youngstrom (2003) |

Note: KSADS = Kiddie Schedule for Affective Disorders and Schizophrenia; KSADS-PL = Present and Lifetime version; KSADS-WASH-U = Washington University version; KSADS-E = Epidemiological version of the KSADS; DISC = Diagnostic Interview Schedule for Children; DICA = Diagnostic Interview for Children and Adolescents; $^{p}$ = parent interviewed as component of diagnostic assessment; $^{y}$ = youth interviewed as part of diagnostic assessment.

Source: Adapted from Youngstrom et al. (2005), table 1.

**Identify a Reasonable Rate of Risk.** Getting a sense of how frequently one will encounter bipolar disorder in her or his clinical practice is a crucial piece of information. Table 1 provides some benchmarks for how often bipolar disorder has been diagnosed in different clinical settings. These benchmarks are intended as "rules of thumb" for practitioners without better data available, or as comparisons for those who have diagnostic information about their caseload at their disposal. Bipolar spectrum disorder (including bipolar II, bipolar not otherwise specified, and cyclothymia) probably has an incidence of 1 in 20 (5%) in many outpatient clinics, as opposed to 1 in 200 in public schools.

**Gather a Detailed Family History.** Because bipolar disorder is highly heritable, family history can help identify youths at increased risk. Mood disorder in first-degree relatives (e.g., biological mother, biological father, or full siblings) is most useful. A bipolar history in a first-degree relative increases risk by a factor of five (Hodgins et al., 2002). This is a significant "red flag" and should trigger more thorough assessment, but at the same time, it should be remembered that the majority of youths with family history of bipolar disorder will not have bipolar illness themselves.

**Always Work to Involve the Parent (or Someone Even More Familiar With the Child) in the Assessment Process.** Contrary to conventional wisdom that self-report is the preferred source of information about mood disorder, it appears crucial to involve a familiar collateral informant whenever there is a question of mania. Part of the problem is that mania, by its nature, involves a lack of insight into one's behavior and its impact on people. Parents have consistently proven to be more valid reporters of manic symptoms than both teenagers and teachers (Youngstrom et al., 2004). Even when parents are reporting much higher levels of concern than youths or teachers, their opinion should not be discounted but, instead, should trigger more evaluation. Parents are not 100% accurate, but the data across a variety of measures indicate that they will often be the most valid source of information about bipolar disorder.

**Be Prepared to Change Checklists.** Extensive research shows that youths with bipolar disorder score high on several scales from the Achenbach Child Behavior Checklist, especially "externalizing" problems (Mick et al., 2003). Low parent CBCL externalizing scores effectively rule out a bipolar diagnosis in most clinical settings (Youngstrom et al., 2004). However, high CBCL scores are ambiguous, because many different clinical concerns could cause them (Youngstrom et al., in press). If a youth has a family history of bipolar disorder, or if the CBCL externalizing score is high, then the best strategy would be to ask the parent to fill out a specialized measure of manic symptoms and use that alternate measure instead of the CBCL to gauge the risk that the youth has a bipolar spectrum illness.

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**Look for Spontaneous Changes in Mood and Energy.** Look for spontaneous changes in mood and energy compared to what is typical for the child. Mania is about change from typical functioning; ADHD and other "look alike" conditions involve more constant, chronic presentations that do not have an episodic quality to them.

**Look for "Handle" Symptoms That Are More Specific to Mania.** Elation, grandiosity, decreased need for sleep (as opposed to difficulty falling asleep), episodic pressured speech (as opposed to usually being talkative), or hypersexuality all appear to be fairly common in cases with pediatric bipolar disorder but are relatively rare in other conditions (Kowatch et al., in press). These symptoms help to get a "handle" on whether bipolar disorder is present even though they might not be the biggest problems in terms of functional impairment. Aggression, although one of the most impairing symptoms of bipolar disorder, is so frequent a concern in child mental health, however, that it does not help differentiate bipolar disorder from other issues.

**Extend the Time Window of Assessment.** The routine of concentrating on assessment of the presenting problem in the first session of treatment, and then focusing on intervention, does not fare well when confronted with possible bipolar disorder. A behavioral snapshot does not provide adequate clues about the developmental context of the behavior or the fluctuations in mood and energy that are the hallmark of bipolar illness. If bipolar disorder is a concern, then a more thorough developmental history is needed, including careful discussion of potential changes in mood and energy (Quinn & Fristad, 2004). Brief mood and energy "checkups" should be built into the ongoing course of treatment to provide information about fluctuation and also treatment response. Prospective life charting provides an inexpensive and often feasible method of gathering daily data over the course of treatment (for an explanation of life charting, see *http://www.bipolarnews.org/Parent%20Life%20Charting.htm*).

**Measure What Matters.** Adequate assessment of bipolar disorder requires more attention to mood and energy measures than is usually contained in a standard battery of behavior problem checklists. At the same time, it is also vital to include quality of life and other positive aspects of functioning in the treatment goals and outcome evaluation. Good treatment "accentuates the positive" as opposed to just trying to "eliminate the negative" of symptom problems.

**Be a Critical Consumer of the Literature.** There are differences in the definitions of bipolar disorder used by different research groups and clinicians (e.g., "broad" vs. "narrow" phenotype; Leibenluft et al., 2003) that have implications in terms of treatment results. Some definitions are so broad that they include many youths unlikely to share the same genetic risk factors or underlying processes, making differences in course and treatment outcome inevitable.

**Keep Reading.** Pediatric bipolar disorder is a rapidly evolving area of clinical practice. Recommendations in terms of assessment and treatment are going to change rapidly in the next several years as multiple grants begin to publish findings about clinical presentation, assessment, treatment, and long-term outcomes. More details about these recommendations are available in a recent review published in the *Journal of Clinical Child and Adolescent Psychology* in a special section devoted to "evidence-based assessment"(Youngstrom et al., 2005). The philosophy of looking to the literature to select the most effective assessment and treatment strategies, and the principles of multi-informant developmental assessment, remain excellent investments for improving the quality of care we offer to families.

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***References***


Biederman, J., Faraone, S., Mick, E., Wozniak, J., Chen, L., Ouellette, C., et al. (1996). Attention-deficit hyperactivity disorder and juvenile mania: An overlooked comorbidity? *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 997–1008.

Carlson, G., & Mick, E. (2003). Drug-induced disinhibition in psychiatrically hospitalized children. *Journal of Child and Adolescent Psychopharmacology, 13(2)*, 153–163.

Carlson, G.A., & Youngstrom, E.A. (2003). Clinical implications of pervasive manic symptoms in children. *Biological Psychiatry, 53*, 1050–1058.

Duffy, A., Alda, M., Kutcher, S., Cavazzoni, P., Robertson, C., Grof, E., et al. (2002). A prospective study of the offspring of bipolar parents responsive and nonresponsive to lithium treatment. *The Journal of Clinical Psychiatry, 63(12)*, 1171–1178.

Findling, R.L., Gracious, B.L., McNamara, N.K., Youngstrom, E.A., Demeter, C., & Calabrese, J.R. (2001). Rapid, continuous cycling and psychiatric co-morbidity in pediatric bipolar I disorder. *Bipolar Disorders, 3*, 202–210.

Findling, R.L., Youngstrom, E.A., McNamara, N.K., Stansbrey, R.J., Demeter, C., Bedoya, D., et al. (in press). Early symptoms of mania and the role of parental risk. *Bipolar Disorders*.

Fristad, M.A., Gavazzi, S.M., & Mackinaw-Koons, B. (2003). Family psychoeducation: An adjunctive intervention for children with bipolar disorder. *Biological Psychiatry, 53(11)*, 1000–1008.

Geller, B., Tillman, R., Craney, J.L., & Bolhofner, K. (2004). Four-year prospective outcome and natural history of mania in children with a prepubertal and early adolescent bipolar disorder phenotype. *Archives of General Psychiatry, 61(5)*, 459–467.

Geller, B., Zimerman, B., Williams, M., Delbello, M.P., Frazier, J., & Beringer, L. (2002). Phenomenology of prepubertal and early adolescent bipolar disorder: Examples of elated mood, grandiose behaviors, decreased need for sleep, racing thoughts and hypersexuality. *Journal of Child and Adolescent Psychopharmacology, 12*, 3–9.

Guyatt, G.H., & Rennie, D. (Eds.). (2002). *Users' Guides to the Medical Literature*. Chicago, IL: AMA Press.

Hodgins, S., Faucher, B., Zarac, A., & Ellenbogen, M. (2002). Children of parents with bipolar disorder. A population at high risk for major affective disorders. *Child & Adolescent Psychiatric Clinics of North America, 11(3)*, 533–553.

Judd, L.L., & Akiskal, H.S. (2003). The prevalence and disability of bipolar spectrum disorders in the US population: Re-analysis of the ECA database taking into account subthreshold cases. *Journal of Affective Disorders, 73(1-2)*, 123–131.

Kessler, R.C., Berglund, P., Demler, O., Jin, R., & Walters, E.E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62(6)*, 593–602.

Kovacs, M. (1989). Affective disorders in children and adolescents. Special issue: Children and their development: Knowledge base, research agenda, and social policy application. *American Psychologist, 44(2)*, 209–215.

Kowatch, R.A., Fristad, M., Birmaher, B., Wagner, K.D., Findling, R.L., & Hellander, M. (2005). Treatment guidelines for children and adolescents with bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 44(3)*, 213–235.

Kowatch, R.A., Youngstrom, E.A., Danielyan, A.K., & Findling, R.L. (in press). Meta-analysis of the phenomenology and clinical characteristics of mania in children and adolescents. *Bipolar Disorders*.


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Leibenluft, E., Charney, D.S., Towbin, K.E., Bhangoo, R.K., & Pine, D.S. (2003). Defining clinical phenotypes of juvenile mania. *The American Journal of Psychiatry, 160*, 430–437.

Lewinsohn, P.M., Klein, D.N., & Seeley, J. (2000). Bipolar disorder during adolescence and young adulthood in a community sample. *Bipolar Disorders, 2(Suppl 2)*, 281–293.

Lish, J.D., Dime-Meenan, S., Whybrow, P.C., Price, R.A., & Hirschfeld, R.M. (1994). The National Depressive and Manic-Depressive Association (DMDA) survey of bipolar members. *Journal of Affective Disorders, 31(4)*, 281–294.

McGuffin, P., Rijsdijk, F., Andrew, M., Sham, P., Katz, R., & Cardno, A. (2003). The heritability of bipolar affective disorder and the genetic relationship to unipolar depression. *Archives of General Psychiatry, 60*, 497–502.

Mick, E., Biederman, J., Pandina, G., & Faraone, S.V. (2003). A preliminary meta-analysis of the child behavior checklist in pediatric bipolar disorder. *Biological Psychiatry, 53(11)*, 1021–1027.

Miklowitz, D.J., George, E.L., Axelson, D.A., Kim, E.Y., Birmaher, B., Schneck, C., et al. (2004). Family-focused treatment for adolescents with bipolar disorder. *Journal of Affective Disorders, 82(Suppl 1)*, S113–128.

Naylor, M.W., Anderson, T.R., Kruesi, M.J., & Stoewe, M. (2002). Pharmacoepidemiology of bipolar disorder in abused and neglected state wards. Paper presented at the Poster presented at the National Meeting of the American Academy of Child and Adolescent Psychiatry, San Francisco, CA, October 2002..

Pavuluri, M.N., Graczyk, P.A., Henry, D.B., Carbray, J.A., Heidenreich, J., & Miklowitz, D.J. (2004). Child- and family-focused cognitive-behavioral therapy for pediatric bipolar disorder: Development and preliminary results. *Journal of the American Academy of Child and Adolescent Psychiatry, 43(5)*, 528–537.

Perlis, R., Miyahara, S., Marangell, L.B., Wisniewski, S.R., Ostacher, M., DelBello, M.P., et al. (2004). Long-term implications of early onset in bipolar disorder: Data from the first 1,000 participants in the systematic treatment enhancement program for bipolar disorder (STEP-BD). *Biological Psychiatry, 55*, 875–881.

Pliszka, S.R., Sherman, J.O., Barrow, M.V., & Irick, S. (2000). Affective disorder in juvenile offenders: A preliminary study. *The American Journal of Psychiatry, 157*, 130–132.

Quinn, C.A., & Fristad, M.A. (2004). Defining and identifying early onset bipolar spectrum disorder. *Current Psychiatry Reports, 6(2)*, 101–107.

Teplin, L.A., Abram, K.M., McClelland, G.M., Dulcan, M.K., & Mericle, A.A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry, 59*, 1133–1143.

Weckerly, J. (2002). Pediatric bipolar mood disorder. *Journal of Developmental & Behavioral Pediatrics, 23(1)*, 42–56.

Wender, P.H. (1998). Attention-deficit hyperactivity disorder in adults. *Psychiatric Clinics of North America, 21(4)*, 761–774.

Youngstrom, E.A., & Duax, J. (2005). Evidence based assessment of pediatric bipolar disorder, part 1: Base rate and family history. *Journal of the American Academy of Child & Adolescent Psychiatry, 44*, 712–717.

Youngstrom, E.A., Findling, R.L., Calabrese, J.R., Gracious, B.L., Demeter, C., DelPorto Bedoya, D., et al. (2004). Comparing the diagnostic accuracy of six potential screening instruments for bipolar disorder in youths aged 5 to 17 years. *Journal of the American Academy of Child & Adolescent Psychiatry, 43*, 847–858.

Youngstrom, E.A., Findling, R.L., Youngstrom, J.K., & Calabrese, J.R. (2005). Toward an evidence-based assessment of pediatric bipolar disorder. *Journal of Clinical Child and Adolescent Psychology, 34(3)*, 433–448.

Youngstrom, E.A., & Youngstrom, J.K. (2005). Evidence-based assessment of pediatric bipolar disorder, part 2: Incorporating information from behavior checklists. *Journal of the American Academy of Child & Adolescent Psychiatry, 44*, 823–828.

Youngstrom, E.A., Youngstrom, J.K., & Starr, M. (in press). Bipolar diagnoses in community mental health: Achenbach CBCL profiles and patterns of comorbidity. *Biological Psychiatry.* ■