

FAST FACTS AND CONCEPTS #465
PEDIATRIC SUBTOPIC #P4.2.1*

ANXIETY IN SERIOUSLY ILL CHILDREN AND ADOLESCENTS: DEFINITIONS & ASSESSMENT
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Background: This *Fast Fact* addresses definitions, etiologies, and initial assessment strategies for acute anxiety in children and adolescents with serious illness; *Fast Fact* #P4.2.2 addresses management.

Definitions:

- Anxiety is a state of worry or unease often related to a feared upcoming or uncertain event. In seriously ill children, anxiety may be under-recognized (1) and can adversely affect quality of life for children and their families, particularly in the initial period after diagnosis of a serious illness, even if it is not *pathologic* (as defined below) (2).
- Acute anxiety is often situational and can be developmentally appropriate and adaptive. It often is not pathologic or considered as a clinical disorder.
- The features of pathologic anxiety, including anxiety disorders that are distinct from acute situational anxiety, include persistence (i.e., typically lasting weeks to months or longer), symptom magnitude out of proportion to the situation, and/or excessive functional consequences which impact quality of life.
- The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) outlines the diagnostic criteria for many types of anxiety disorders. Notably, some anxiety disorders in children may be of shorter duration than in adults (3,4). Consultation with a pediatric behavioral medicine expert can be helpful if presence of an underlying anxiety or other comorbid psychiatric disorder is suspected.

Etiologies: In patients of all ages, acute anxiety is often triggered directly by physical symptoms, such as dyspnea, nausea, and pain (both acute and chronic). Adverse effects of drugs routinely used for seriously ill patients (e.g., corticosteroids) as well as invasive procedures (e.g., intravenous access, chemotherapy, surgery) can trigger anxiety. Additionally, medical conditions and comorbid psychiatric disorders can themselves cause and/or amplify anxiety. Serious illness itself can foster anxiety in children via the fear of being alone, the loss of identity, disruption of established relationships and routines, and uncertainties in disease trajectory and prognosis (5).

Assessment: Anxiety may manifest differently based on age and developmental stage. Children and even some adolescents may not be able to articulate feelings of worry or anxiety, especially to adults in the health care setting with whom they have less familiarity and trust. It is important to consider parental report of perceived changes in anxiety-related symptoms from their child's baseline, particularly for non-verbal children or those with pre-existing anxiety symptoms (related to school, social relationships, etc.).

Developmental approach: Clinicians caring for children and adolescents living with serious illness should take a developmental approach when identifying causes and manifestations of acute anxiety:

- Across ages and developmental stages, acute anxiety often manifests as somatic symptoms (e.g., abdominal pain, headache, nausea, dizziness, etc.) and/or behavioral changes (e.g., avoidance, tantrums, seeking frequent reassurance, etc.) (4).
- Younger children (i.e., infants, toddlers, preschool age children) often have anxiety related to separation from family during treatments and procedures, the presence of strangers or new places as part of their medical care, and loud noises or foreign objects present during medical treatments (e.g., MRI machines) (6). Additionally, magical thinking (e.g., negative events being caused by thoughts/actions as a punishment) emerges at this stage and may contribute to feelings of acute anxiety and unease in younger children.
- Older school-age children (i.e., 6-12 years old) and adolescents can experience anxiety as they become more aware of their mortality as the permanence of death is understood (7).
- Adolescents often experience anxiety from being unable to identify with non-ill peers and previously activities, changes in physical appearance or abilities (8), and uncertainties about the dying process.

- Children and adolescents across ages and developmental stage often worry about how their illness impacts those around them. Worries about separation from their parents after death and the thought of leaving them alone are common in children with life-limiting disease (9).

Pediatric screening tools for anxiety: The following screening tools have shown good reliability and validity in pediatric patients: Screen for Child Anxiety Related Emotional Disorders (SCARED) (10), Patient-Reported Outcomes Measurement Information System (PROMIS) (11), and the relevant portions of the Memorial Symptom Assessment Scale (MSAS) (12), among others.

The role of the interdisciplinary team (IDT): For children living with serious illness, no one clinician can address acute anxiety adequately and sustainably. Evidence demonstrates that physicians often underestimate symptom burden relative to children's self-report (12). Having the perspective and expertise of multiple members of the IDT including social workers, expressive therapists, child life specialists, spiritual care providers, and others is crucial in providing a more comprehensive assessment of the child's illness experience.

References

1. Liben S. Pediatric Palliative Care. In: Emanuel LL, Librach SL, eds. Palliative Care: Core Skills and Clinical Competencies, 2nd edition. St. Louis, MO: Elsevier Saunders, 2011.
2. Myers RM, Balsamo L, Lu X, et al. A prospective study of anxiety, depression, and behavioral changes in the first year after a diagnosis of childhood acute lymphoblastic leukemia: a report from the Children's Oncology Group. *Cancer*. 2014 May 1;120(9):1417-25.
3. American Psychiatric Association. (2013). Anxiety Disorders. In *Diagnostic and statistical manual of mental disorders (5th ed.)*. <https://doi.org/10.1176/appi.books.9780890425596.dsm05>
4. Bagnell AL. Anxiety and separation disorders. *Pediatr Rev*. 2011 Oct;32(10):440-5; quiz 446. doi: 10.1542/pir.32-10-440.
5. Himelstein BP, Hilden JM, Boldt AM, et al. Pediatric palliative care. *N Engl J Med*. 2004; 350:1752- 1762.
6. Lyneham HJ, Rapee RM. Evaluation and Treatment of Anxiety Disorders in the General Pediatric Population: A Clinician's Guide. *Child Adolesc Psychiatr Clin N Am*. 2005 Oct;14(4):845-61.
7. Bluebond-Langner M. *The Private Worlds of Dying Children*. Princeton, NJ: Princeton University Press, 1978.
8. Hedström M, Ljungman G, von Essen L. Perceptions of distress among adolescents recently diagnosed with cancer. *J Pediatr Hematol Oncol*. 2005 Jan;27(1):15-22.
9. Lo C, Hales S, Zimmermann C, et al. Measuring death-related anxiety in advanced cancer: preliminary psychometrics of the Death and Dying Distress Scale. *J Pediatr Hematol Oncol*. 2011 Oct;33 Suppl 2:S140-5.
10. Muris P, Merckelbach H, Ollendick T, et al. Three traditional and three new childhood anxiety questionnaires: their reliability and validity in a normal adolescent sample. *Behav Res Ther*. 2002 Jul;40(7):753-72.
11. Pilkonis PA, Choi SW, Reise SP, et al.; PROMIS Cooperative Group. Item banks for measuring emotional distress from the Patient-Reported Outcomes Measurement Information System (PROMIS®): depression, anxiety, and anger. *Assessment*. 2011 Sep;18(3):263-83.
12. Collins JJ, Devine TD, Dick GS, et al. The measurement of symptoms in young children with cancer: the validation of the Memorial Symptom Assessment Scale in children aged 7-12. *J Pain Symptom Manage*. 2002 Jan;23(1):10-6.

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