Increasing Your Confidence in Treating Pediatric Anxiety

Anchorage, AK
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James Peacey, MD
Child and Adolescent Psychiatrist
Seattle Children’s Hospital
Disclosure of Potential Conflicts

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<tr>
<th>Source</th>
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<tr>
<td>Research Funding</td>
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<td>In-kind Services (example: travel)</td>
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Learning Objectives

• At the end of this presentation, learners will have increased knowledge and confidence to identify and diagnose pediatric anxiety.

• At the end of this presentation, learners will have increased knowledge and confidence to discuss the relative risks and benefits of psychotherapeutic and medication treatments for anxiety with youth and their caregivers.
Partnership Access Line - Care Guide

Anxiety Problem?
Unexplained somatic complaints?

Safety check:
- Neglect/Abuse?
- Drug abuse?
- Medical cause? (i.e. medication effects, asthma)

Think about comorbidity:
- Depression and ADHD are common.
- 50% of kids with anxiety have 2 or more anxiety diagnoses.

Diagnosis:
- DSM-5 diagnostic criteria
- SCARED anxiety scale or the Spence Anxiety Scale for Children (www.scaswebsite.com) for the Spence, is free, has translations
  - If obsessions/compulsions, think of OCD.
  - If nightmares/flashbacks or trauma, think of PTSD.
  - Label as “Anxiety Disorder, NOS” if the type is unclear.

Can problem be managed in primary care?

Mild Problem
(noticeable, but basically functioning OK)

Discuss their concerns.
- Reassure that “many kids feel this way.”
- Correct distorted thoughts (e.g. “if I don’t get an A, I’ll die”).
- Reduce stressors, but still face a fear to conquer it.
- Offer tip sheet on relaxation techniques to help child tolerate exposure to their fears.
- If parent is highly anxious too, encourage them to seek aid as well since anxiety can be modeled.
- Offer parent and child further reading resources on anxiety.
- Explain somatic symptoms as “stress pains” or something similar.

Moderate/Severe Problem
(significant impairment in one setting or moderate impairment in multiple settings)

Recommend individual psychotherapy
(CBT is preferred; key element is a gradual exposure to fears) Also offer the advice on the left pathway as per a “mild problem”.

Consider starting SSRI if therapy not helping or anxiety is severe.
- Low dose Fluoxetine or Sertraline are the first line choices.
- Use therapy alone before medications unless anxiety is quite impairing.
- Wait four weeks between SSRI increases, use full dose range if no SE.
- Check for agitation/suicidal thought side effect by phone or in person in 1-2 weeks, and stop medicine if agitation or increased anxiety.
- Try a second SSRI if first is not helpful.

Come back if not better.

Referral

Primary References:
AACAP: Practice Parameter for the Assessment and Treatment of Children and Adolescents with Anxiety Disorders, JAACAP, 46(2): 267-283

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Anxiety Problem?
Unexplained somatic complaints?
What are Anxiety Disorders?

- Excessive fear (emotional response to imminent threat) and anxiety (anticipation of future threat) and related behavioral disturbances.

- Negative Emotion
- Physiological Arousal
- Avoidance Behavior (can be internal/mental)
Predisposing and Precipitating

- Temperament (high in Behavioral Inhibition)
- Family History
- Neurodevelopmental
- Response to stress (ACES)
- Traumatic stress
- Abnormal arousal states
Brain Structures

**Sensorimotor cortex**
- Function: Coordination of sensory and motor functions
- In PTSD: Symptom provocation results in increased activation

**Thalamus**
- Function: Sensory relay station
- In PTSD: Decreased cerebral blood flow

**Parahippocampal gyrus**
- Function: Important for memory encoding and retrieval
- In PTSD: Show stronger connectivity with medial prefrontal cortex; decreases in volume

**Fear response**
- Function:
  - Evolutionary survival
- In PTSD:
  - Stress sensitivity
  - Generalization of fear response
  - Impaired extinction

**Hippocampus**
- Function:
  - Conditioned fear
  - Associative learning
- In PTSD:
  - Increased responsiveness to traumatic and emotional stimuli

**Anterior cingulate cortex**
- Function: Autonomic functions, cognition
- In PTSD: Reduced volume, higher resting metabolic activity

**Prefrontal cortex**
- Function:
  - Emotional
  - Regulation
- In PTSD:
  - Decreased gray and white matter density
  - Decreased responsiveness to trauma and emotional stimuli

**Orbitofrontal cortex**
- Function: Executive function
- In PTSD: Decreases in volume

**Amygdala**
- Function:
  - Conditioned fear
  - Associative learning
- In PTSD:
  - Increased responsiveness to traumatic and emotional stimuli

TRENDS in Neurosciences
Yerkes–Dodson Law (1908)

Performance

Strong
Weak

Arousal

Low
High

Simple task
Focused attention, flashbulb memory, fear conditioning

Difficult task
Impairment of divided attention, working memory, decision-making and multitasking
Safety Check

- Bullying
- Parental Impairment
- Psychosis

Anxiety Problem?
Unexplained somatic complaints?

Safety check:
- Neglect/Abuse?
- Drug abuse?
- Medical cause?
  (i.e. medication effects, asthma)
Diagnosis:

DSM-5 diagnostic criteria
SCARED anxiety scale or the Spence Anxiety Scale for Children (www.scaswebsite.com for the Spence, is free, has translations)
If obsessions/compulsions, think of OCD.
If nightmares/flashbacks or trauma, think of PTSD.
Label as “Anxiety Disorder, NOS” if the type is unclear.

• Removal of Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence - Separation Anxiety Disorder and Selective Mutism moved to Anxiety Disorders
• OCD in new category together with Body Dysmorphic Disorder, Hoarding and Trichotillomania
• PTSD in new category of Trauma- and Stressor-Related Disorders with attachment disorders and adjustment disorders
• Change in terminology from “Not Otherwise Specified” to Unspecified/Other Specified
Prevalence

- 20% of youth presenting to primary care will screen positive for anxiety on brief screen
- 1 in 8 youth will have an anxiety diagnosis
- Only 20-30% of those with a diagnosis will have had any treatment
- Commonly present with physical or somatic complaints
- Social anxiety, specific phobias and GAD most common

The natural history of anxiety

- Harvard/Brown Anxiety Research Project
  - Adult patients of psychiatric clinics

- Remission at one year
  - Panic disorder - ~40%
  - Panic disorder with agoraphobia - ~15%
  - Social phobia - ~7%
  - GAD - ~10-15%

- Remission at 8 years
  - Panic disorder - ~70-75%
  - Panic disorder with agoraphobia - ~35-40%
  - Social phobia - ~30%
  - GAD - ~45-55%

Yonkers et al; Depression and Anxiety 17:173 (2003)
The Natural History of Anxiety

- Cumulative Probability of Relapse after 8 years
  - Panic disorder - ~20-65% (gender variable)
  - Panic disorder with agoraphobia - ~40-50%
  - Social phobia - ~30%
  - GAD - ~40%

- Important points
  - Anxiety disorders are chronic in majority of men and women
  - Patients who experienced remission were more likely to improve during first 2 years

Yonkers et al; Depression and Anxiety 17:173 (2003)
Separation Anxiety

• Normal
  • between 18 months and three years old when parent leaves
    • usually distractible and “fine 5 minutes after you left”
  • when first starting daycare/pre-school
    • resolves once engaged in new setting over period of days to weeks

• Separation Anxiety Disorder: persistent and excessive anxiety when anticipating or experiencing separation from primary caregiver
  • effects 4 percent of children
  • symptoms: extreme homesickness, refusal of activities away from home (camp, school, sleepovers), worry bad things will happen to loved ones while away, and worry bad things (kidnapping, illness etc.) will take them from caregiver, frequent reassurance seeking, fear of being home alone or sleeping alone

Selective Mutism

- Diagnosis: refusal to speak in situations where talking is expected or necessary, to the extent that it interferes with school and making friends
- Symptoms: standing motionless and expressionless, turning their heads, chewing or twirling hair, avoiding eye contact, or hiding.
- Normal and talkative at home or where comfortable
- Often discovered with start of school
- Tx:
  - Behavioral treatment with means to decrease anxiety, increase exposure to hierarchy of anxiety provoking situations
  - If severe, good evidence for fluoxetine

https://www.selectivemutism.org
Specific Phobia

• Diagnosis: Marked fear or anxiety about a specific object or situation – typically persisting for 6 months or more.

• Common phobias may make sense from an evolutionary perspective (snakes, spiders, heights) but with “clinically significant distress or impairment in social, occupational, or other important areas of functioning.”

• Very treatable with exposure therapy.
Social Anxiety Disorder (Social Phobia)

- Diagnosis: Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others.
- In children, must occur in peer settings – not just with adults
- Fear of showing anxiety symptoms that will be negatively evaluated (i.e. will be humiliating or embarrassing; will lead to rejection or offend others
- Fear of speaking in front of others is common, but also meeting new people, eating, drinking, writing in front of others.
- Increased risk for substance use disorders.
Panic Disorder

• Panic attacks that peak within minutes, usually subside within minutes.
• Not triggered by phobic reaction.
• Four or more of: palpitations, sweating, shaking, SOB, choking, chest pain, nausea, dizzy or lightheaded, hot or cold, paresthesias, derealization, fear of losing control or “going crazy”, fear of dying.
• Persistent concern or worry, for 1 month or more, about additional panic attacks or their consequences or maladaptive change in behavior.
• Not the same as “very very anxious” or impulsive responding to stressful circumstances.
Agoraphobia

- Marked fear or anxiety about two or more: public transportation, open spaces, enclosed spaces, standing in line/being in a crowd, being outside of the home alone
- With or without panic attacks.
- Individuals with PTSD often avoid crowds, enclosed spaces
- A reason to move to Alaska?
Generalized Anxiety Disorder

• Diagnosis: Excessive anxiety and worry more days than not for at least 6 months about a number of events and activities (such as work or school performance).

• Three or more (one or more in children) of: restlessness, being easily fatigued, difficulty concentrating, irritability, muscle tension, sleep disturbance.

• Intergrades with depression and patients may present with both is varying proportions at different times.
Obsessive-Compulsive Disorder

• Now classified under Obsessive-Compulsive and Related Disorders
• Obsessions
• Compulsions
• Commonly a comorbid condition with tic disorders
• Not the same as preoccupations, need for sameness and repetitive, stereotypic behaviors in Autism Spectrum Disorder
Posttraumatic Stress Disorder

- Now classified under Trauma- and Stressor-Related Disorders
- New criteria set for children 6 and under
- High threshold for traumatic experience: exposure to actual or threatened death, serious injury or sexual violence (not counting through media unless work related).
- Symptom overlap with depression and anxiety
- Common
- You have to ask about trauma (or use screening tool)
PTSD: Treating A Unique Anxiety Disorder

Identifying Post-Traumatic Stress Disorder (PTSD)

- Inquire directly about trauma, which could include child abuse, domestic violence, community violence, or serious accidents. Avoid asking the child for specific details of trauma during a brief office visit as this can be very distressing for the child, unless this is necessary to ensure their current safety.
- Consider asking for trauma details from the caregiver instead.
- Or ask the child a general question like, “What’s the worst thing that ever happened to you?” so that the child can be in control of their response.
- Or ask the child about current symptoms of PTSD (outlined below) rather than asking for trauma details.

- If a traumatic experience has occurred, screen for PTSD symptoms: “Sometimes when a child (or even an adult) experiences a frightening event, they can continue to be bothered by it and it can affect them in different ways…”
- Look for symptoms such as: (1) intrusion (dreams/nightmares, flashbacks or psychological/physiological distress at trauma cues), (2) avoidance (of trauma reminders such as people/places or of distressing memories, thoughts, or feelings), (3) changes to cognition or mood (affecting beliefs about oneself or the world, willingness to engage in activities, or resulting in a negative emotional state), or (4) alterations in arousal (irritable outbursts, reckless behavior, hypervigilance, exaggerated startle, poor sleep, or concentration problems).
- In children 6 years and younger, symptoms may emerge through play and the DSM-5 lists separate PTSD diagnostic criteria.
- Symptoms causing distress or impairment for a period of more than 1 month suggest PTSD (versus an acute trauma reaction).
- When addressing trauma reactivity, the number one treatment tenet is: ensure the child is safe. Children cannot recover from a trauma if the trauma is on-going or at risk of occurring again.
- When parents are also affected by a trauma, their child’s recovery can be delayed. Parents need to have their own mental health needs addressed as well to become an effective support for their child.

Treatment

Psychotherapy or counseling is the first-line treatment
- Refer to a licensed mental health professional.
- Trauma-focused therapy is preferred over non-specific therapy.
- Refer for Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) when possible for ages 3-17 years old.
- Younger children may benefit from joint child-parent therapy.

Medications

- There is no “PTSD medication” with compelling evidence for use in children.
- In some cases, medication can be considered for acute symptom reduction, treatment of a comorbid disorder, or if therapy response has been unsatisfactory.
- If other diagnoses are present, such as depression or anxiety, consider medications for those diagnoses. Sertraline is approved for adult PTSD. If ADHD is comorbid, guanfacine could be considered for hyper-reactivity.
- Sometimes medications such as clonidine or prazosin can be considered at bedtime if nightmares have not improved with other treatments.

Rebecca Barclay, MD and Robert Hilt, MD

Reference:

Rating Scale:
The Screen for Child Anxiety Related Disorders (SCARED) Traumatic Stress Disorder Scale (Muris, Merckelbach, Korver, and Meesters, 2000) on the following page is a brief initial screen for the presence of PTSD symptoms. It is validated in youth age 7 to 19 years old with sensitivity of 100% and specificity of 52% for answers of “very true or often true” to all four questions. For children reporting a score ≥ 6, consider a referral for therapy.

In the care guide
Screening Measures for Anxiety—SCARED (child and parent versions)

- Free, ages 9-17
- Broad screen for global anxiety
- Also has subscales for specific anxiety diagnoses
- Brief version for tracking over time
- Available in several languages

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<th>Subscale</th>
<th>Trigger subscale when score ≥</th>
<th>Trigger respondent</th>
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<td>Child; Parent (if account exists)</td>
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<td>Generalized Anxiety</td>
<td>9</td>
<td>Child; Parent (if account exists)</td>
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<td>Child; Parent (if account exists)</td>
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<td>Social Anxiety</td>
<td>8</td>
<td>Child; Parent (if account exists)</td>
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<td>School Avoidance</td>
<td>3</td>
<td>Child; Parent (if account exists)</td>
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*Triggers are based on cutoff scores developed by Birmaher and Colleagues
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<th>1 Somewhat True or Sometimes True</th>
<th>2 Very True or Often True</th>
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<tbody>
<tr>
<td>1</td>
<td>When I feel frightened, it is hard for me to breathe</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2</td>
<td>I get headaches when I am at school</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3</td>
<td>I don’t like to be with people I don’t know well</td>
<td>□</td>
<td>□</td>
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<tr>
<td>4</td>
<td>I get scared if I sleep away from home</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5</td>
<td>I worry about other people liking me</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6</td>
<td>When I get frightened, I feel like passing out</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>7</td>
<td>I am nervous</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>8</td>
<td>If I follow my mother or father wherever they go</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>9</td>
<td>People tell me that I look nervous</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>10</td>
<td>I feel nervous with people I don’t know well</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>11</td>
<td>I get stomachaches at school</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>12</td>
<td>When I get frightened, I feel like I am going crazy</td>
<td>□</td>
<td>□</td>
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<tr>
<td>13</td>
<td>I worry about sleeping alone</td>
<td>□</td>
<td>□</td>
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<td>14</td>
<td>I worry about being as good as other kids</td>
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<td>□</td>
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<td>15</td>
<td>When I get frightened, I feel like things are not real</td>
<td>□</td>
<td>□</td>
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<tr>
<td>16</td>
<td>I have nightmares about something bad happening to my parents</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>17</td>
<td>I worry about going to school</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>18</td>
<td>When I get frightened, my heart beats fast</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>19</td>
<td>I get shaky</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>20</td>
<td>I have nightmares about something bad happening to me</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>21</td>
<td>I worry about things working out for me</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>22</td>
<td>When I get frightened, I sweat a lot</td>
<td>□</td>
<td>□</td>
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Additional screeners for anxiety

- **SPENCE Children’s Anxiety Scale** [http://scaswebsite.com](http://scaswebsite.com)
  - Free, has child, parent and teacher scales
  - Ages 3-17
  - Available in many (28+) languages
  - 44 item measure for child and 38 item measure for parent
  - Screens for somatization, panic, GAD, separation anxiety and social phobia

- **GAD7**
  - Free
  - Brief, only 7 questions
  - Validated for ages 14 and up
  - Scores 0-21 with >5 (mild), >10 (moderate), >15 (severe)
  - Total score >10 should trigger extended evaluation

Screen for Child Anxiety Related Disorders (SCARED) Traumatic Stress Disorder Scale

**Directions:**
Below is a list of sentences that describe how people feel. Read each and decide if it is “Not True or Hardly Ever True,” “Somewhat True or Sometimes True” or “Very True or Often True” for you. Then for each sentence, choose the answer that seems to describe you for the last 3 months.

<table>
<thead>
<tr>
<th></th>
<th>0 Not True or Hardly Ever True</th>
<th>1 Somewhat True or Sometimes True</th>
<th>2 Very True or Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have scary dreams about a very bad thing that once happened to me.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>I try not to think about a very bad thing that once happened to me.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>I get scared when I think back on a very bad thing that once happened to me.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>I keep thinking about a very bad thing that once happened to me, even when I don’t want to think about it.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
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Score ........................................
Think about **comorbidity**: Depression and ADHD are common. ~50% of kids with anxiety have 2 or more anxiety diagnoses.
Comorbid Disorders

- Depression and Bipolar Disorders
- ADHD
- Autism (but repetitive behaviors are not OCD)
- Eating Disorders
- Psychosis
- Tic Disorders (Tourette’s triad of Tics, ADHD, OCD)
- Substance Use Disorders (bidirectional)
- Somatic Symptom Disorders (often presumed to be expression of anxiety)
- Borderline Personality Disorder
- Disruptive Behavior Disorders
- Sleep Disorders (bidirectional)
Comorbidity in the MTA Sample (N = 579)

- ADHD alone: 179 (31%)
- ODD: 126 (21%)
- Tic: 14
  - Anxiety + ODD: 11
    - Anxiety: 58 (10%)
  - Conduct: 43 (7%)
  - Mood: 5
- 67 (12%)
- 12%
Anxiety, ADHD and ODD

• Anxiety about school and depressive symptoms can result from constant negative messages about behavior, but often ADHD and anxiety are simply comorbid conditions.

• Children can become very oppositional and even aggressive when pressed to do things that make them anxious.

• Social anxiety may produce enough inhibition that a child may be quiet and compliant at school but oppositional at home with family.
**Treatment**

Can problem be managed in primary care?

- **YES**
  - **Mild Problem** (noticeable, but basically functioning OK)
    - Discuss their concerns.
    - Reassure that “many kids feel this way”. Correct distorted thoughts (e.g. “If I don’t get an ‘A’, I’ll die”).
    - Reduce stressors, but still have to face a fear to conquer it.
    - Offer tip sheet on relaxation techniques to help child tolerate exposure to their fears.
    - If parent is highly anxious too, encourage them to seek aid as well since anxiety can be modeled.
    - Offer parent and child further reading resources on anxiety.
    - Explain somatic symptoms as “stress pains” or something similar.
    - Come back if not better.

- **NO**
  - **Moderate/Severe Problem** (significant impairment in one setting or moderate impairment in multiple settings)
    - **Recommend Individual psychotherapy** (CBT is preferred; key element is a gradual exposure to fears) Also offer the advice on the left pathway as per a “mild problem”.
    - **Consider starting SSRI if therapy not helping or anxiety is severe.**
      - Low dose Fluoxetine or Sertraline are the first line choices.
      - Use therapy alone before medications unless anxiety is quite impairing.
      - Wait four weeks between SSRI increases, use full dose range if no SE.
      - Check for agitation/suicidal thought side effect by phone or in person in 1-2 weeks, and stop medicine if agitation or increased anxiety.
      - Try a second SSRI if first is not helpful.
  - **Referral**
Exposure Curve

- 3rd exp. without avoidance
- 2nd exp. with avoidance
- 1st exp. with avoidance
- Exposure
- Stimulus
- Habituation

Anxiety vs. Time
Professor Gallagher and his controversial technique of simultaneously confronting the fear of heights, snakes, and the dark.
Relaxation Therapy Tip Sheet

The following two techniques when practiced regularly can become useful skills that help a child face a plan of gradually increasing exposure to their fears. Gradual, tolerated exposures are a core element of “unlearning” a fear. It is suggested to do either or both of these once a day for a while until the calm state produced can be easily achieved. Using one of these behaviors will decrease physiological arousal if the body feels anxious, stressed or in pain. It is best to practice these skills at times when not feeling anxious so that it will be less intimidating to try at a time of high anxiety.

Breathing Control

- Imagine that you have a tube that connects the back of your mouth to your stomach. A big balloon is connected to the tube down in your stomach. When you breathe in the balloon blows up and when you breathe out the balloon deflates. Put your hand on your stomach and practice taking breaths that push your hand out as that balloon inflates. When learning this trick, it might be easier to lie down on your back while you observe what is happening.
- Now focus on doing these stomach balloon breaths as slowly and as comfortably possible. Inhale slowly, pause briefly, and then gently exhale. When you allow that balloon to deflate, notice the calm feeling that comes over you. Counting the length of each phase may help you find that sense of calm, such as counting slowly to 3 during inhalation, to 2 while pausing, then to 6 while exhaling.
- Now practice making your breath smooth, like a wave that inflates and deflates.
- If you experience brief dizziness or tingling in fingers, this just means you are breathing too quickly (hyperventilating), so slow your breathing further to stop that sensation. Once skilled at this, just a few controlled breaths at a time of stress will produce noticeable relief, and can be done anywhere.

Progressive Muscle Relaxation

This is particularly helpful for kids who experience body aches along with stress/anxiety. It is easier to have someone guide a child through this the first few times until the technique is learned. Tell kids this is like learning to turn their muscles from uncooked spaghetti into cooked spaghetti.

- Lie down in a quiet room and take slow breaths, try Breathing Control as above.
- Think about the muscles of your head and face, now scrunch them up tightly and clench your teeth, hold that as you count to 10, then allow all of those muscles to relax. Notice that feeling of relaxation in your face, and your jaw loosening.
- Now concentrate on muscles of your shoulders and neck, tighten up your neck muscles pulling your head down, shrug your shoulders up, hold that uncomfortable tightness, for a count of 10, then let all those muscles relax and notice the feeling.
- While continuing your slow breathing, move your attention to your arms and hands, tightening those muscles further and further, hold it as you count to 10. Then allow those muscles to relax.
- Now think about the muscles in your legs, your bottom and your feet, tighten all these muscles up, feel the hard tension throughout your legs, hold it as you count to 10, then allow your legs and feet to relax as you continue your slow breathing.
- Now that all of your muscles have relaxed, continue your slow breathing and take some time to enjoy the sense of relaxation. Focus on how the most relaxed areas of your body feel now.

Robert Hilt, MD
Exposure-Response Prevention

- Improve relaxation skills to use during exposure
- Externalize disordered thinking
- Develop exposure hierarchy
  - Small, achievable steps! Failure will set back progress
- Proceed through hierarchy
  - Reward progress
- Maintenance
Exposure Hierarchy

Most feared

8. going to toilet in public toilets.
7. going to eat outside the home
6. touching doors and objects outside home, e.g. at the supermarket
5. going to toilet in friend’s house
4. eating at friend’s house
3. touching objects in friend’s house

Least feared

2. touching own waste bin without gloves
1. touching own waste bin with rubber gloves on
School Refusal

- Diagnosis: extremely poor attendance
- Prevalence: 2-5%
- Commonly start with staying home/leaving early due to physical symptoms
  - Headaches, stomachaches, nausea and diarrhea common
- Anxiety may present with defiance, outright refusal, tantrums, inflexibility, separation anxiety, avoidance
- Onset: start of school year, new school, stressful life events, separation anxiety, fear of poor grades, bullying
- Treatment:
  - Behavioral
    - Back to school ASAP
    - Make sure home isn’t rewarding
    - Work with school (IEP, 504, school counselor)
  - Meds: SSRI, rarely long-acting benzo

Initial treatment of anxiety

- Mild
  - CBT (or other therapy)

- Moderate
  - CBT
  - Consider SSRI—esp. if not responding, not ready for therapy

- Severe
  - CBT and SSRI

# Anxiety Medications

Starting at a very low dose of SSRI for the first week or two with anxiety disorders is especially essential to reduce the child's experience of side effects (augmented by associated somatic anxieties).

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage Form</th>
<th>Usual starting dose for adolescents</th>
<th>Increase increment (after ~4 weeks)</th>
<th>RCT anxiety treatment benefit in kids</th>
<th>FDA anxiety approved for children?</th>
<th>Editorial Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine</td>
<td>10, 20, 40mg, 20mg/5ml</td>
<td>5-10 mg/day (60mg max)*</td>
<td>10-20mg**</td>
<td>Yes (For OCD &gt;7yr) (For MDD &gt;8yr)</td>
<td>Yes</td>
<td>Long 1/2 life, no SE from a missed dose</td>
</tr>
<tr>
<td>Sertraline</td>
<td>25, 50, 100mg, 20mg/ml</td>
<td>25 mg/day (200mg max)*</td>
<td>25-50mg**</td>
<td>Yes (For OCD &gt;6yr)</td>
<td>Yes</td>
<td>May be prone to SE from weaning off</td>
</tr>
</tbody>
</table>

Sertraline and Fluoxetine are both first line medications for child anxiety disorders, per the evidence base.

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage Form</th>
<th>Usual starting dose for adolescents</th>
<th>Increase increment (after ~4 weeks)</th>
<th>RCT anxiety treatment benefit in kids</th>
<th>FDA anxiety approved for children?</th>
<th>Editorial Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluvoxamine</td>
<td>25, 50, 100mg</td>
<td>25 mg/day (300mg max)*</td>
<td>50 mg**</td>
<td>Yes (For OCD &gt;8yr)</td>
<td>Yes</td>
<td>Often more side effect than other SSRI's, has many drug interactions</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>10, 20, 30, and 40 mg</td>
<td>5-10 mg/day (60mg max)*</td>
<td>10-20mg**</td>
<td>Yes (For OCD &gt;7yr) (For social phobia &gt;8yr)</td>
<td>Yes</td>
<td>Not preferred if child also has depression. Can have short 1/2 life</td>
</tr>
<tr>
<td>Citalopram</td>
<td>10, 20, 40mg, 10mg/5ml</td>
<td>5-10 mg/day (40mg max)*</td>
<td>10-20mg**</td>
<td>Yes (For OCD &gt;6yr)</td>
<td>Yes</td>
<td>Very few drug interactions</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>5, 10, 20mg, 5mg/5ml</td>
<td>2.5 to 5 mg/day (20mg max)*</td>
<td>5-10mg**</td>
<td>No</td>
<td>No</td>
<td>Active isomer of citalopram</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>20, 30, 40, 60mg</td>
<td>30 mg/day (120mg max)</td>
<td>30mg</td>
<td>Yes (For generalized anxiety &gt;7yr)</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

* Recommend decrease maximum dosage by at least 1/3 for pre-pubertal children
** Recommend using the lower dose increase increments for younger children.
Successful medication trials should continue for 6-12 months.
Child/adolescent Anxiety Multimodal Study (CAMS)

• Design
  • 488 7-17 y.o. with SAD, GAD or SP
  • 14 sessions of CBT, sertraline, combo, or placebo
  • 12 weeks

• Results
  • Very much or much improved:
    • 80.7% combo
    • 59.7% CBT
    • 54.9% sertraline
    • 23.7% placebo
  • Pediatric anxiety rating scale, similar results
  • SI no more frequent in sertraline than placebo, no suicide attempts

Cognitive Behavioral Therapy, Sertraline, or a Combination in Childhood Anxiety. Walkup et al. NEJM 2008;359(26), 2753
• CBT and sertraline both work, combo of the two has superior response rate
The Pediatric OCD Treatment Study (POTS)

- **Design**
  - 112 7-17 y.o. with OCD
  - Sertraline, CBT, combo, or placebo
  - 12 weeks

- **Results**
  - Improvement in CY-BOCS
    - Combo > CBT = sertraline > placebo
  - Clinical remission
    - Combo 53.6%
    - CBT 39.3%
    - Sertraline 21.4%
    - Placebo 3.6%
  - No patient became suicidal or made an attempt

- **Conclusion**
  - Youth with OCD should begin with CBT or CBT plus SSRI

POTS team. JAMA 2004;292(16), 1969
### SSRI Potential Side Effects

#### TABLE 7 SSRI Side Effects

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal distress</td>
<td>Typically self-resolves Symptomatic care</td>
</tr>
<tr>
<td>Headache</td>
<td>Typically self-resolves Symptomatic care</td>
</tr>
<tr>
<td>Appetite change</td>
<td>Counsel on healthy nutrition Administration at bedtime</td>
</tr>
<tr>
<td>Sedation</td>
<td>Administration in morning Counseling on sleep hygiene</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>Consider melatonin as needed</td>
</tr>
<tr>
<td>Diaphoresis</td>
<td>No action if mild</td>
</tr>
<tr>
<td>Sexual side effects</td>
<td>Consider medication change</td>
</tr>
<tr>
<td>Activation (dissipation, agitation, irritability, silly)</td>
<td>If persistent and significant, discontinue medication</td>
</tr>
<tr>
<td>Platelet dysfunction (rare)</td>
<td>Discontinue medication</td>
</tr>
</tbody>
</table>

If any symptoms are severe, prescriber may decrease medication dose or switch to another.
WARNING: SUICIDALITY AND ANTIDEPRESSANT DRUGS

Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults in short-term studies of Major Depressive Disorder (MDD) and other psychiatric disorders. Anyone considering the use of PROZAC or any other antidepressant in a child, adolescent, or young adult must balance this risk with the clinical need. Short-term studies did not show an increase in the risk of suicidality with antidepressants compared to placebo in adults beyond age 24; there was a reduction in risk with antidepressants compared to placebo in adults aged 65 and older. Depression and certain other psychiatric disorders are themselves associated with increases in the risk of suicide. Patients of all ages who are started on antidepressant therapy should be monitored appropriately and observed closely for clinical worsening, suicidality, or unusual changes in behavior. Families and caregivers should be advised of the need for close observation and communication with the prescriber. PROZAC is approved for use in pediatric patients with MDD and Obsessive Compulsive Disorder (OCD).
SSRI Risk Benefits

**TABLE 8**

SSRI Benefit to Suicidal Risk Comparison

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number Needed to Treat</th>
<th>Number Needed to Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>10(^a)</td>
<td>112</td>
</tr>
<tr>
<td>OCD</td>
<td>6</td>
<td>200</td>
</tr>
<tr>
<td>Non-OCD anxiety</td>
<td>3</td>
<td>143</td>
</tr>
</tbody>
</table>

- Data from ref 60. OCD, obsessive-compulsive disorder.

- \(^a\) High number needed to treat likely secondary to high placebo response rate in pediatric depression studies (30% to 60% compared with 40% to 70% SSRI response rate). SSRI efficacy has been established, but pooled studies and this high number needed to treat underscore the importance of individualizing treatment.

After two SSRIs don’t work

- Duloxetine (Cymbalta) – FDA Approved for GAD age 7 and up
- Venlafaxine* (Effexor XR) – Side effect profile makes this a 2\textsuperscript{nd} tier option
- Mirtazapine* (Remeron) – no controlled trials
  - Consider if need sedation and appetite stimulation
- Buspirone* (Buspar) – 2 negative RCTs in youth with GAD
- Beta-blockers* - no controlled trials
  - Used for performance anxiety
- Antihistamines - no controlled trials
  - Hydroxyzine used for as adjunctive, often for insomnia/anticipatory anxiety
  - Hydroxyzine can increase QTc
  - FDA approval for “symptomatic relief of anxiety and tension associated with psychoneurosis”
- Tricyclic antidepressants
  - Clomipramine shown to be efficacious in OCD, FDA approved ≥ 10yo
  - Anticholinergic side effects, cardiac monitoring, risk of fatality with overdose

*Not FDA approved for anxiety treatment <18

Benzodiazepines

• Have not shown efficacy in RCTs with youth
• Risk of tolerance and dependence
• Disinhibited behavior, mania (alprazolam, clonazepam)
• Concerns about memory and learning
• They may limit developing a sense of mastery of situational fears
• When used for severe anxiety - adjunctively & short term
Comorbid ADHD

- Atomoxetine – May decrease comorbid anxiety more than stimulants
- Stimulants – Increased anxiety can be a side effect, but anxiety more often decreases with treatment
- Guanfacine/Clonidine – May moderated arousal side effects, but no data to support treatment of anxiety disorders
- Bupropion* – No good data to support treatment of any child or adolescent disorder, and typically described as poor choice in anxiety due to activation side effect, but a third line treatment for adolescent depression and some SSRI non-responders report improvement in anxiety and depression.
- Behavioral treatments work better in children who have comorbid anxiety than in children with ADHD alone (MTA)
Antipsychotics

- Risperidone and aripiprazole with indications for irritability and agitation in autism
- Augmentation for depression treatment in adults
- Lurasidone and fluoxetine+olanzapine approved for bipolar depression in youth.
- May decrease intrusive thoughts-impulses across diagnosis (OCD, PTSD, Tic Disorders, bipolar spectrum)
- Concerns about long-term risk due to weight gain, metabolic syndrome, tardive dyskinesia and hyperprolactinemia requiring increased monitoring
Sleep Troubles

- Commonly impacted by both depression and anxiety
- Impact from SSRI’s
- Sleep hygiene
- CBT-Insomnia
- Sleep meds: no medication labeled for insomnia in children by FDA
  - **Melatonin**: 3-5 mg, 1 hour before bedtime
  - **Diphenhydramine**: 12.5-25 mg starting dose, max 50 mg QHS, short term only
  - **Trazodone**: 25-50 mg QHS, max 150 mg QHS
    - More serotonergic at higher doses and may increase risk of serotonin syndrome
    - Cases of priapism in males
  - **Gabapentin**: May improve sleep quality, decrease anxiety, reduce cannabis craving
Refusal to engage in therapy

- Help him/her learn more about what therapy really is; see: https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/What-Is-Psychotherapy-For-Children-And-Adolescents-053.aspx
- Educate patient and family on the benefits of therapy
- Remind him/her that therapists are different, therapies are different, and the future experience may be nothing like the past
- Suggest starting with self-guided therapy
- Take a motivational stance – Teens especially may respond to appeals not to be controlled by external forces on to have freedom
Anxiety Resources

Information for Families

Books parents may find helpful:
Freeing your Child from Anxiety (2004), by Tamar Chansky, PhD
Helping Your Anxious Child (2008), by Rapee, PhD, Wignall, DPsych, Spence, PhD, Cobham, PhD, and Lyneham, PhD
Worried No More: Help and Hope for Anxious Children (2005), by Aureen Pinto Wagner, PhD
Talking Back to OCD (2006), by John March, MD
Freeing Your Child from Obsessive-Compulsive Disorder (2001), by Tamar Chansky, PhD

Books children may find helpful:
What to Do When Your Brain Gets Stuck: A Kid’s Guide to Overcoming OCD (2007), by Dawn Huebner, PhD
What to Do When You Worry Too Much (2005), by Dawn Huebner, PhD
What to Do When You Are Scared and Worried (2004), by James Crist, PhD

Recording children may find helpful:
I Can Relax (2012), by Donna Pincus

Websites parents may find helpful:
Anxiety Disorders Association of America
www.adaa.org
Children’s Center for OCD and Anxiety
www.worrywisekids.org
Child Anxiety Network
www.childanxiety.net/Anxiety_Disorders.htm
American Academy of Child and Adolescent Psychiatry
www.aacap.org/aacap/families_and_youth/resource_centers/Anxiety_Disorder_Resource_Center/Home.aspx
National Institute of Mental Health
Anxiety BC Youth (an online CBT tools website for teens)
http://youth.anxietybc.com
After the Injury (from Children’s Hospital of Philadelphia)
www.aftertheinjury.org
Self-guided therapy
(depression and anxiety)

For parents:
- Freeing Your Child From Anxiety: Powerful, Practical Solutions to Overcome Your Child’s Fears, Worries, and Phobias. (Tamar Chansky)
- Freeing Your Child From Negative Thinking: Powerful, Practical Strategies to Build a Lifetime of Resilience, Flexibility and Happiness. (Tamar Chansky)
- The Depressed Child: Overcoming Teen Depression (Kaufman)

For children:
- What to Do When You Worry Too Much: A Kid’s Guide to Overcoming Anxiety (Huebner and Matthews).
- What to Do When Your Brain Gets Stuck (Huebner)
- Taking Depression to School (2002), (Kathy Khalsa)
- Where’s Your Smile, Crocodile? (Clair Freedman)
Self-guided therapy (depression and anxiety)

• For adolescents/young adults:
  • Mastery of Your Anxiety and Worry: Workbook (Craske and Barlow)
  • Mastery of Your Anxiety and Panic: Workbook (Barlow and Craske)
  • Riding the Wave Workbook (Pincus et al)
  • Feeling Good: The New Mood Therapy (David Burns)
  • Relaxation Exercises
    • [http://www.seattlechildrens.org/healthcare-professionals/access-services/partnership-access-line/resources/](http://www.seattlechildrens.org/healthcare-professionals/access-services/partnership-access-line/resources/)
      • Relaxation Therapy Tip Sheet, page 30 in Primary Care Principles for Child Mental Health
  • Depression Self Care
Useful Apps: mood and anxiety

- Positive Penguins: educational app to help kids understand why they feel the way they do and help them challenge their negative thinking
  - [http://positivepenguins.com/](http://positivepenguins.com/)
- Breathe2Relax: app designed by the National Center for Telehealth & Technology to teach breathing techniques to manage stress
- Worry Box: app to track worries
- Bellybio: interactive, guided deep breathing
- Optimism: mood tracking app
- Mindful Yeti: mindfulness app for anxiety
Useful Apps: Sleep

• Bedtime meditations for kids: guided meditations

• Deep Sleep with Andrew Johnson: guided progressive muscle relaxation to target anxiety and insomnia

• isleep: guided meditations with music for sleep