

Anxiety Disorders of Childhood and Adolescence

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1. BACKGROUND, EPIDEMIOLOGY AND RELEVANCE

Anxiety symptoms are ubiquitous in youth. Clinicians need to be familiar with the normal developmental course of anxieties in youth and their consequent mastery by children in order to differentiate normative versus pathological anxiety. Anxiety symptoms do not necessarily constitute an anxiety disorder.

Fear and anxiety are common experiences across childhood and adolescence. The clinician evaluating childhood anxiety disorders faces the task of differentiating the normal, transient and developmentally appropriate expressions of anxiety from pathological anxiety. Adept assessment and management of anxiety symptoms through reassurance, anticipatory guidance and psychoeducation of parents may forestall the development of full blown anxiety syndromes. Anxiety disorders are among the most common psychiatric disorders in children and adolescents affecting from 7-15% of individuals under 18 years of age. Anxiety disorders are not rare and often mimic or are comorbid with other childhood disorders. Symptoms such as school refusal, tantrums, or irritability may be less reflective of oppositional behavior than an underlying social phobia or generalized anxiety disorder. Given the uniqueness of each child and the complex interplay among the internal and external variables that drive anxiety, a multimodal approach to diagnosis and treatment is warranted.

Anxiety disorders are a heterogeneous group of disorders that vary in their etiology, treatment, and prognosis. Given these differences, we will discuss each condition individually to help the primary care clinician in parsing out the necessary details of each disorder.

Separation Anxiety Disorder

The estimated prevalence of SAD is 4-5%, making it one of the most common childhood psychiatric disorders. The following are characteristics of the disorder

- higher rate of SAD for girls than boys
- it can be diagnosed up until age 18
- primarily a disorder of prepubertal children
- average age of onset of 7.5
- earliest of all anxiety disorders to be diagnosed in children

Separation anxiety is typically a disorder of middle childhood (ages 7-9), although it has also been described in adolescents. If the disorder develops acutely, a precipitating stressor can often be identified. Common precipitating factors include a move, change of school, loss of a loved one, illness in the family or prolonged absence from school. Separation anxiety waxes and wanes, with exacerbations in times of stress. While some children recover fully after a single episode, others may experience a more protracted and chronic course.

Comorbidities with separation anxiety are common. As many as 60% of the children diagnosed with separation anxiety have at least one comorbid anxiety disorder, and 30% have two with the most likely being generalized anxiety disorder and specific phobias. Separation anxiety is also closely associated with depression; one third of the children diagnosed with SAD have comorbid depression.

School Refusal

School refusal is not an anxiety disorder diagnosis, per se, but it bears mentioning as it often presents in relation to other psychiatric diagnoses. School refusal is defined as difficulty attending school, associated with emotional distress, especially anxiety and depression. It is distinguished from truancy and conduct disorder because the child is home from

school with the parent’s knowledge, and the child does not have any associated antisocial behaviors, such as lying, stealing or destructiveness.

1-2% of all school aged children and 5% of all clinic-referred children become school refusers. Boys and girls are equally affected.

Generalized Anxiety Disorder

Some amount of anxiety is typical of normal. The majority of children, at one time or another experiences fears, worries and scary dreams. This leaves the distinction between pathological and developmentally appropriate anxiety to be made by the clinician (See Table 1.).

TABLE 1-1	Normal Developmental Fears
Birth–6 months	Loud noises, loss of physical support, rapid position changes, rapidly approaching unfamiliar objects
7–12 months	Strangers, looming objects, sudden confrontation by unexpected objects or unfamiliar people
1–5 years	Strangers, storms, animals, the dark, separation from parents, objects, machines, loud noises, the toilet, monsters, ghosts, insects, bodily harm
6–12 years	Supernatural beings, bodily injury, disease (AIDS, cancer), burglars, staying alone, failure, criticism, punishment
12–18 years	Tests and exams in school, school performance, bodily injury, appearance, peer scrutiny, athletic performance

Pathological worries of children with GAD tend to encompass more domains of concerns (such as health of family members, school performance, social relationships), be associated with greater distress, cause stronger daily interference, are more difficult to control.

Current understanding of the epidemiology of GAD in children and adolescents continues to rely heavily on data collected using the older diagnostic entity Overanxious Disorder—OAD. Using the older criteria, youth prevalence rates for GAD are estimated to be from 2.7% to 5.7%. The mean age of onset of GAD/OAD is reported to be 8.8 years. Comorbidities with GAD other anxiety disorders are high.

Specific Phobia

Specific phobia is a relatively common anxiety disorder for children. Prevalence is estimated to be at 3-4% and is somewhat higher for girls than for boys. It peaks in prevalence between 10 and 13 years of age. Some fears are common to normal development and are listed below. Normally, these fears decrease with age. Normal fears are distinguished from true phobias by their intensity and degree of impairment.

Age Group	Common Fear/ Normal
preschoolers	strangers, the dark, animals and imaginary creatures
elementary children	animals, the dark, threats to safety and thunder/lightening
adolescents	may be agoraphobic or have fears with sexual or failure themes

Social Phobia (Social Anxiety Disorder)

SP has the distinction of being the most common adult anxiety disorder, and is the third most common psychiatric disorder overall, with a lifetime prevalence of nearly 15%. Only depression and alcohol abuse occur more frequently. In children and adolescents, prevalence is frequently cited to be 1%, with the caveat that it is generally under-diagnosed in childhood and adolescence. Reasons for this include widespread failure of both parents and school personnel to identify the disorder, partially because they may not understand it is anything other than “shyness”.

Panic Disorder

Panic attacks are discrete, intense periods of fear and discomfort with cognitive and somatic symptoms that escalate in a crescendo fashion. Attacks may last minutes to, rarely, several hours. The attacks may be unexpected or “out of the blue.” or they may be situationally predisposed (more likely but not always occurring in a specific context), or situationally bound (almost always occurring in a specific situation). Panic attacks, but not necessarily the disorder itself, may occur in association with Specific Phobias, PTSD, Social Phobia or SP, but by definition, in panic disorder at least some of the panic attacks are unexpected. The following are a list of symptoms common to panic attacks. Panic attacks develop abruptly and reach a peak within ten minutes. To diagnose a panic attack one needs to experience at least four of the following symptoms:

- palpitations, pounding heart, or accelerated heart rate
- sweating
- trembling or shaking
- sensations of shortness of breath or smothering
- feeling of choking
- chest pain or discomfort
- nausea or abdominal distress
- feeling dizzy, unsteady, lightheaded, or faint
- derealization (feelings of unreality) or depersonalization (being detached from oneself)
- fear of losing control or going crazy
- fear of dying
- paresthesias (numbness or tingling sensations)
- chills or hot flashes

Panic disorder (PD) is diagnosed when the attacks are recurrent, and at least one of the attacks is followed by a month or more period of worried anticipation for additional attacks and/or concern for negative consequences of an attack, to the point where it may change behavior. Agoraphobia (fear and avoidance of situation in which a panic attack may occur or in which escape may be difficult) may or may not complicate the disorder.

Many adolescents report having had a panic attack, however, much fewer meet the criteria for panic Disorder. Prevalence of PD is reported to be between 0.5% and 5%, with greater representation in pediatric psychiatric clinic populations, e.g., up to 10% of referrals.

Obsessive-Compulsive Disorder

The essential features of obsessive-compulsive disorder (OCD) include the recurrence of obsessions and/or compulsions severe enough to be time consuming (i.e., more than one hour per day), cause marked impairment or significant distress. Obsessions as defined by (1), (2), (3), and (4):

- (1) recurrent and persistent thoughts, impulses, or images that are experienced at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress
- (2) the thoughts, impulses, or images are not simply excessive worries about real-life problems
- (3) the person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action
- (4) the person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind (not imposed from without as in thought insertion)

Children may or may not recognize that the obsessions or compulsions are unreasonable or excessive, and this criterion is not necessary in order to make a pediatric diagnosis. The following is the DSM-IV definition of a compulsion.

Compulsions as defined by (1) and (2):

- (1) repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly
- (2) the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they are designed to neutralize, or prevent, or are clearly excessive obsessions that are recurrent and persistent thoughts, urges, impulses or images that are experienced

Around 2% of children meet criteria for OCD. Cases of clinically significant OCD need to be distinguished from the sub-clinical obsessions and compulsions experienced by large numbers of children and adolescents in the course of normal development. The mean age of onset is 10.3 years.

Like adults, children with OCD tend to present with both obsessions and compulsions, although independent presentations of compulsions and (less likely) obsessions are possible. Symptoms tend to follow adult patterns: at some time during the course of the illness, washing rituals affecting more than 85% of children with OCD, repeating rituals 51% and checking rituals 46%. Ordering, arranging, counting, collecting, ensuring symmetry and a preoccupation with having said or done the right thing are all common.

Childhood onset OCD is a chronic and debilitating illness. Studies indicate that the majority of children with OCD will require long-term medication treatment and that many if not most will continue to have symptoms into adulthood.

Selective Mutism

Selective mutism is characterized by the consistent failure to speak in specific social situations in which there is the expectancy for speech, despite speaking in other situations, such as the home. The failure to speak is not due to a lack of knowledge or comfort with social communication or a specific language (such as might occur for immigrants), and is debilitating to the individual. It is not diagnosed when better accounted for by embarrassment related to speech or language abilities, or by another psychiatric disorder.

Prevalence estimates of selective mutism range from 0.03% to 2%. The age of onset is usually between 3 and 6 years. The disorder is more common in girls than boys, with a ratio of about 3:1. Symptoms may be present several years before a referral is made, which typically occurs through the school in the early school age years.

In general, there is increasing evidence for a high association of selective mutism with anxiety disorders. In evaluating these patients the primary care clinician needs to screen for other anxiety disorders. The majority of children with selective mutism appear to outgrow their disorder although it is not uncommon for the disorder to persist for several years in elementary school.

2. ASSESSMENT AND DIAGNOSIS

Separation Anxiety

Diagnosis

Children suffering from SAD often come to the clinician's attention when problems with school attendance develop. Presentation may range from great reluctance to refusal and temper tantrums if parents insist on taking the child to school. Once separation takes place, these children may worry incessantly about the misfortunes that might befall their loved ones. Nightmares with prominent themes of separation are sometimes reported. Fears of being lost and never reunited with their families often beset these children. Typically the "storm" is resolved once the child is returned to home. Somatic complaints such as morning stomach aches, headaches, nausea and vomiting, are more often seen in younger children, while older ones may also complain of palpitations and feeling faint.

A detailed history is the most helpful diagnostic resource. As is true for most of the internalizing disorders (i.e., anxiety, depression), accounts from the child are usually more telling than parents and teachers report. Descriptions of the events preceding the separation, response to parents' departure, ensuing behavior (usually in school) and the consequences of separation are helpful in understanding the pattern of distress and precipitants. Gathering a comprehensive family history of psychiatric disorders is important, given the notable family patterns involving SAD. Anxiety rating scales such

as the Screen for Child Anxiety Related Emotional Disorders (SCARED) or the Multidimensional Anxiety Scale for Children (MASC) may be used diagnostically and as measures of treatment outcome. General psychiatric symptom rating scales, such as the Connors Parent and Teacher Questionnaires may assist in the diagnosis of comorbid disorders, which are common for these children. Routinely available laboratory studies do not increase the accuracy of the diagnosis.

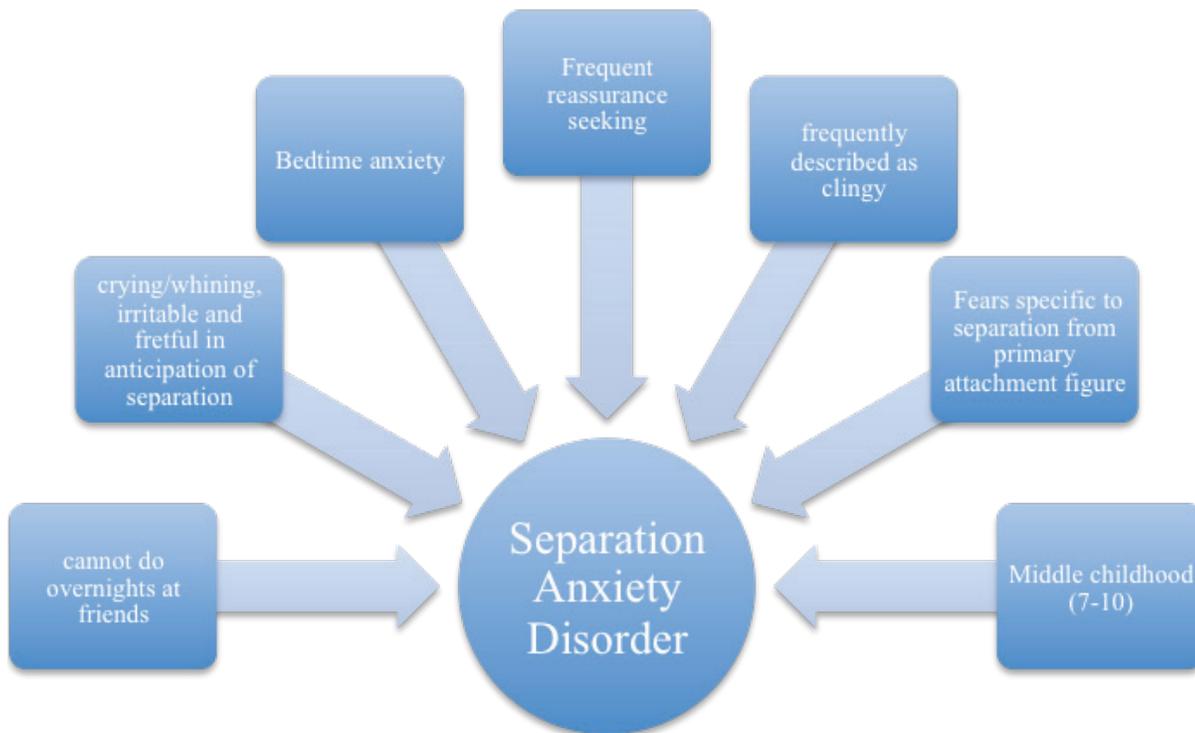
Differential Diagnosis

The clinician must differentiate separation anxiety from developmentally appropriate fears accompanying separation from loved ones. These developmentally normal separation fears occur earlier in childhood, have milder presentations, and tend to be transient and self-limiting. Functional impairment is not a typical feature of fears accompanying normal development.

Delineation of SAD from other disorders sharing "school refusal" as a symptom is sometimes a challenging task. After conduct disorder and oppositional defiant disorder (i.e., truancy) have been ruled out, one should carefully evaluate evidence for other anxiety disorders. School refusal may be based in a specific phobia (e.g., test taking and, or fear of humiliation), in situationally bound panic disorder or in social phobia, as well as SAD.

Relative comfort in social settings will differentiate separation anxiety from social phobia. Well-defined and usually singular phobic objects characterize specific phobias. Distress can occur even in the presence of an attachment figure.

Several additional points bear emphasizing. First, children with SAD commonly have parents with an anxiety or depressive disorder. Careful assessment and, if necessary, treatment of the parent may be called for. This may entail simple psychoeducation of the parents regarding their inadvertent support of the child's anxiety versus frank treatment for an anxiety disorder in the parent. Second, a complete evaluation is important as over half of children with SAD have a second comorbid anxiety diagnosis which can unnecessarily complicate treatment if it is missed.



School Refusal

Diagnosis

Because of the variability in the clinical presentations of school refusal, evaluations prior to treatment should engage multiple informants. The child and the family should undergo clinical interviews. Members of the school, daycare and the family doctor are all potentially important sources of collateral information, though this may not be practical in a busy Primary Care Clinician's office. Patterns of family dynamics need to be explored for potential weaknesses, e.g., inadequate parental oversight, conflicting parental tactics. A thorough medical exam should be undertaken to rule out any organic cause for the child's somatic complaints, if these are part of the presentation. Once the primary diagnosis is made, search should continue for associated comorbid disorders, as comorbidities are common.

Differential Diagnosis

Because school refusal is not a diagnostic entity, the goal of a clinical evaluation will be to identify the primary disorder, of which the school refusal is a symptom (See Table 1).

Table 1	Differential DIAGNOSIS OF SCHOOL REFUSAL
Conduct/Oppositional Defiant	(Truancy) in addition to school refusal. "Hangs out" with friends when not in school, often complicated by substance abuse or antisocial behavior.
Separation Anxiety Disorder	Fears separation from parent or attachment figure. Spends "Out of school time" in presence of parent.
Generalized Anxiety Disorder	Anxiety in multiple domains, not limited to school setting, fretful, overly conscientious/fearful.
Specific Phobia	Exhibits anxiety toward teacher, other student, activity, test taking or other specific object or circumstance.
Social Phobia	Social setting, per se, is the primary fear. May fear scrutiny in test taking, being observed in bathroom etc.
Panic Disorder	May have situationally bound or predisposed panic attacks. Some panic attacks have occurred out of school or unexpectedly, anticipatory anxiety, agoraphobia.
Posttraumatic Stress Disorder	Multiple symptoms in addition to school refusal: irritability, depression, re-experiencing, all related to a specified trauma.
Obsessive-Compulsive Disorder	Presence of obsessive thoughts/compulsive rituals that may be a source of embarrassment or result in phobic avoidance.

Generalized Anxiety Disorder

Diagnosis

The differential diagnosis of GAD can be complicated, as it frequently involves symptom overlap with other anxiety disorders. Children and adolescents with GAD tend to worry excessively about their performance and competence, even in the absence of external scrutiny. Ruminating about past mistakes and worrying about future adversities (i.e., "what if concerns) may cause a decline in academic function and precipitate a referral. Parents will often report children's apprehension about "adult issues:" illness, old age, death, financial matters, wars and natural disasters. Children with GAD are often seen as perfectionistic and self-cautious, frequently seeking reassurance. Because they "cannot stop worrying" these youths often appear de-concentrated, restless, fragile, tense and irritable. Somatic complaints such as stomachaches and headaches are often reported by youngsters suffering from GAD and can precipitate frequent visits to pediatricians.

Several anxiety scales are available for use. These include: the Revised Children’s Manifest Anxiety Scale (RCMAS), the Multidimensional Anxiety Scale for Children (MASC) and the Child Behavior Checklist (CBCL). These scales have potential value both in identifying anxiety disorders as well as monitoring treatment progress.

Differential Diagnosis

GAD can be differentiated from separation anxiety by its pervasive nature and presence across different contexts (e.g. school, home and peer relations). Panic disorder is more “phasic” in comparison to the more “tonic” GAD. The content of anxiety in panic disorder is usually focused on future panic attacks. In specific phobia, fears center on the phobic object. Obsessive thoughts can be distinguished from GAD by their intrusive nature and concomitant compulsive rituals used to alleviate anxiety. In Post-Traumatic Stress Disorder (PTSD), anxiety is usually related to a past traumatic event or reexperiencing of the event. Prevalence of depressed mood, anhedonia and vegetative signs set depressive episodes apart from GAD, in spite of significant symptom overlap.

Finally, medical conditions often present with symptoms that may mimic GAD. Caution is warranted not to overlook hyperthyroidism, diabetes mellitus, and the more rare syndromes such as pheochromocytoma or systemic lupus erythematosus. Excessive stimulant use, alcohol withdrawal or drug dependence can also mimic GAD. The recreational use of steroids, primarily by adolescent boys, bears monitoring as this practice has been associated with anxiety.



Specific Phobia

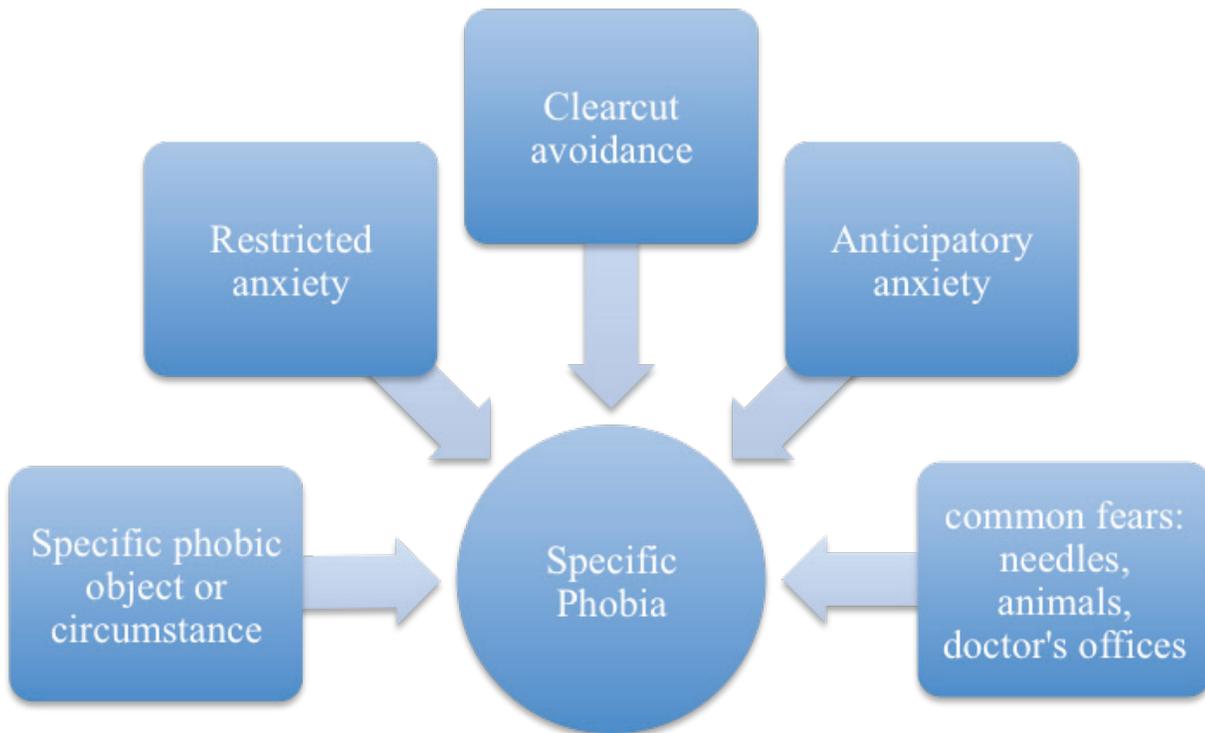
Diagnosis

Children usually present with excessive fear related to some well-circumscribed situation or object. Often parents will complain that the child is preoccupied with the object, causing the fear or the attempts to avoid it to interfere with family life. The child's play, relationship with peers and family members as well as school performance can be negatively influenced by avoidance of a feared situation or even by incapacitating anticipatory anxiety.

Differential Diagnosis

The initial task is to differentiate developmentally appropriate fears from a specific phobia. Specific phobia is not diagnosed if the child's anxiety is better accounted for by another disorder. See the table below for differentiating features.

GAD	Fears and worries tend not to be confined to a specific object or situation
Panic Disorder	Fears in panic disorder are related to anticipation of re-experience of an attack
Social Phobia	Fears are confined to social situations, especially if one's performance is subject to scrutiny
OCD	Fear of contamination, asymmetry, or unfinished action (Checking)
Separation anxiety disorder	Fear of separation from loved ones in



Social Phobia (Social Anxiety Disorder)

Diagnosis

Children with Social Phobia typically do not spontaneously report nor seek treatment for their disorder. The following symptoms should alert the clinician to Social Phobia:

- school refusal
- test anxiety
- shyness
- poor peer relationships
- problems in social situations
- difficulty using public restrooms
- trouble eating in front of other people

To date, there are no laboratory tests or physiological probes that have been demonstrated to be pathognomonic for SP. The Social Phobia and Anxiety Inventory for Children (SPAI-C) and the Social Phobia and Anxiety Inventory (SPAI) are empirically derived inventories meant to be used with children ages 8-14 years of age and over 14 years of age, respectively for diagnostic assessment and clinical monitoring of treatment.

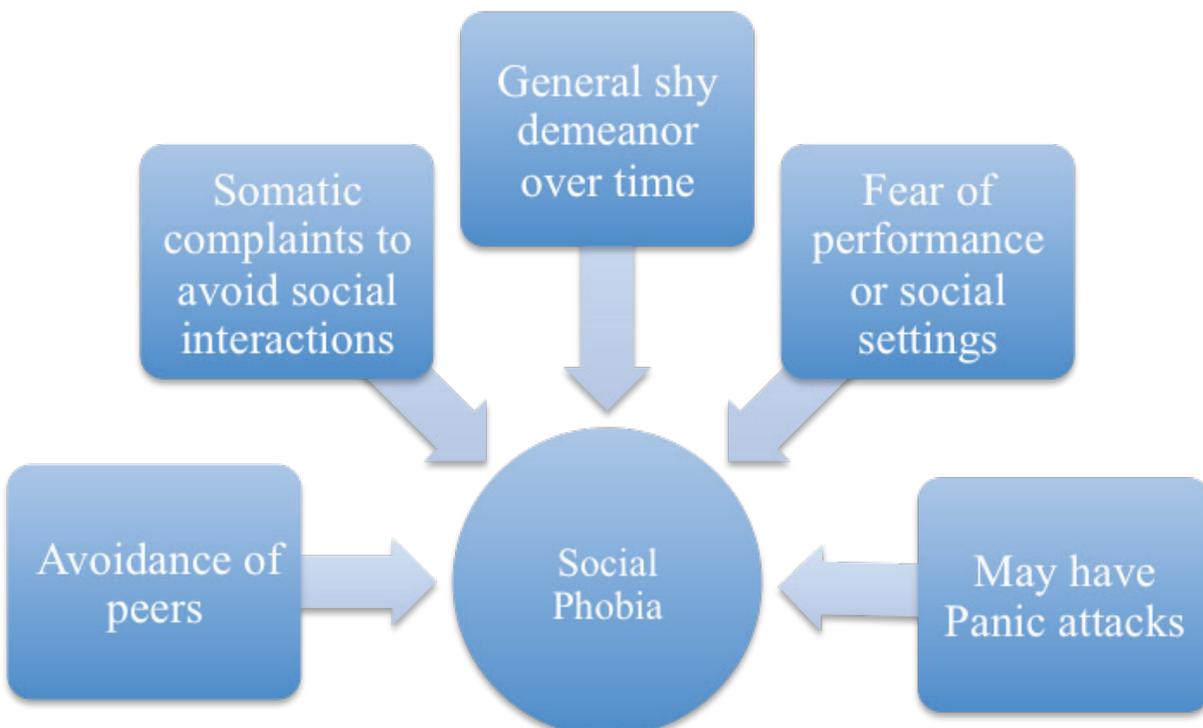
Differential Diagnosis

The following should be considered in the differential diagnosis:

- panic disorder with agoraphobia
- separation anxiety disorder
- generalized anxiety disorder
- specific phobia

Classically, SP is characterized by the avoidance of social situations in the absence of panic attacks. Although social avoidance may occur in panic disorder with agoraphobia, it is the specific fear of having a panic attack or being seen while having a panic attack that discriminates the two disorders. Fears in individuals with agoraphobia may or may not include the fear of scrutiny by others. Also, unlike SP, agoraphobic individuals may be reassured in social situations by the presence of a companion.

In separation anxiety disorder, the primary fear is one of separation from the primary caretaker. These individuals are usually comfortable in social settings in the home, whereas socially phobic individuals are distressed in social situations, even in the home.



Panic Disorder

Diagnosis

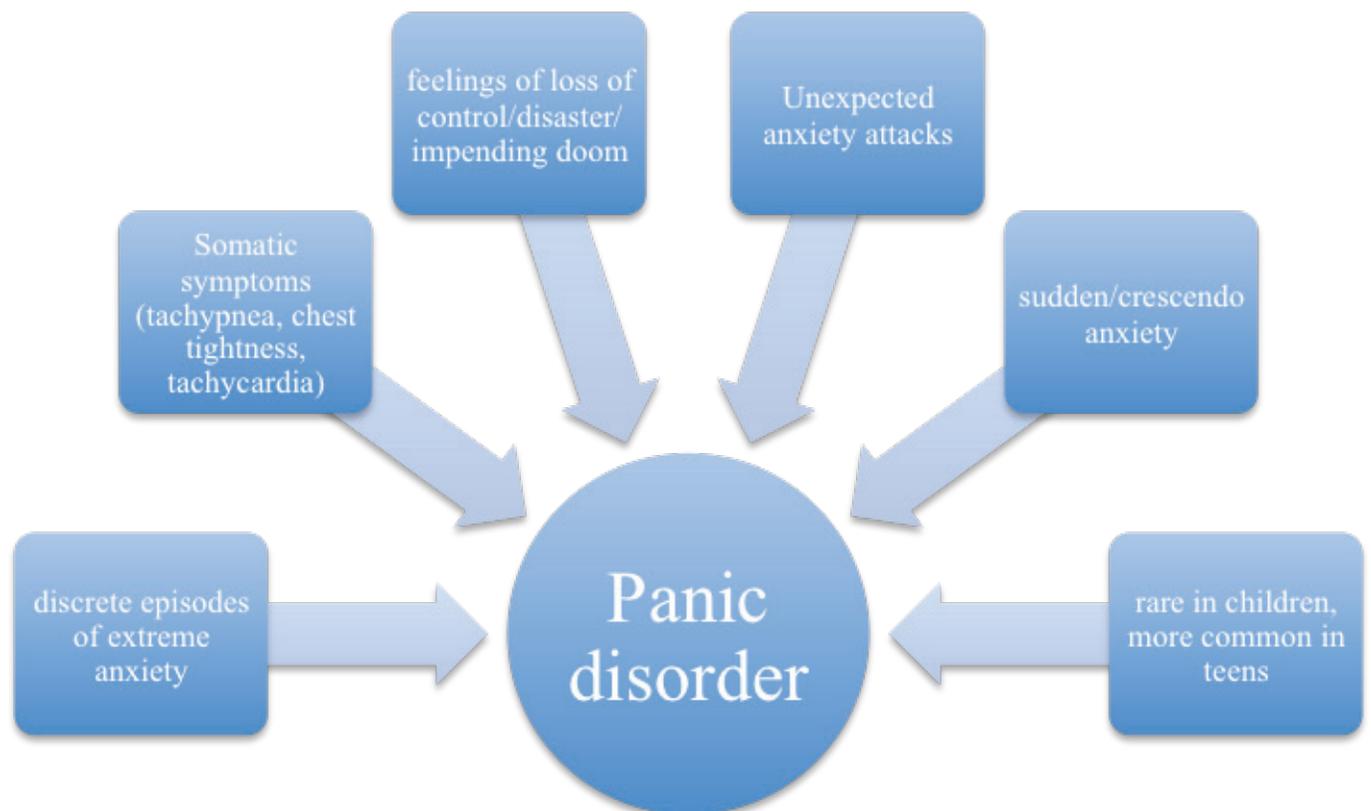
A somewhat intricate relationship between PD, other anxiety disorders and depression calls for a thorough clinical assessment. A detailed history should be obtained from the patient, family members, teachers and other professionals acquainted with the child, as with the child. Discerning whether the child can predict the onset of the attack is important for differential diagnosis. Pediatric and neurological exams can be helpful in some instances to elucidate the origin of somatic complaints or unusual sensations. Anxiety symptom scales may provide useful diagnostic information and later assist in evaluating treatment progress.

Differential Diagnosis

It is essential to differentiate PD from medical conditions such as hyperthyroidism, hyperparathyroidism, pheochromocytoma, diabetes, asthma, seizures, vestibular dysfunction or cardiac problems. Intoxication with stimulants or withdrawal from sedatives can produce symptoms that mimic panic attacks.

The following table helps to differentiate Panic Disorder from other anxiety disorders.

Separation Anxiety Disorder	Fear and panic occurring only when a child is separated from an attachment figure.
Social Phobia	Discomfort is experienced only in situations when one is subjected to scrutiny.
Specific Phobia	Fear and anxiety are an expected response to confrontation of the phobic object.
OCD	Obsessions and compulsive rituals are present.
PTSD	Recollection of past trauma usually precedes emotional and autonomic distress.



Obsessive-Compulsive Disorder

Diagnosis

Accurate diagnosis of pediatric OCD is complicated by comorbid disorders, a waxing and waning course, changes in favored obsessions and compulsions, and potential confusion with developmentally appropriate expression of fearful preoccupations and rituals. Additionally, many children feel shameful about their obsessions and compulsions, making disclosure difficult. Consequently, careful history taking from the parents or primary caregiver and the use of semi-structured interview scales are useful in making the diagnosis. Input from siblings, teachers and day care providers can be helpful.

The primary instrument for assessing OCD in children and adolescents is the Children's version of the Yale-Brown Obsessive Compulsive Scale (CY-BOCS) which can be useful to rate the severity of the disorder as well as to monitor its treatment progress. A companion instrument, the CY-BOCS Symptom Checklist, is an extremely useful paper and pencil checklist for parents and children to identify current and past obsessions and compulsions. It is a time efficient way to survey a vast array of symptoms and is helpful in mapping treatment target symptoms.

Differential Diagnosis

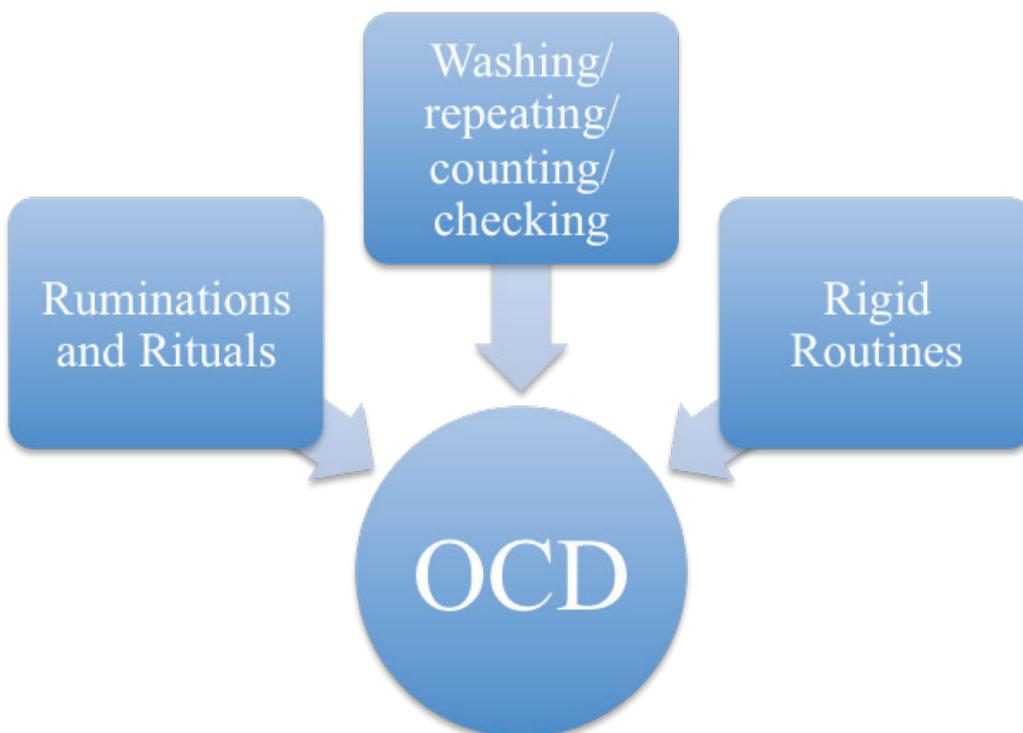
Because of the comorbidity of OCD and Tourette's Syndrome, a disorder of chronic motor and vocal tics, it is necessary to distinguish complex motor tics from a true ritual. Tics are usually not heralded by a preceding thought or obsession.

The stereotypies and repetitive movements seen in mental retardation and pervasive developmental disorder tend to be more fixed than the broader symptom picture of OCD.

Obsessive ruminations in depressed or dysthymic individuals can often mimic OCD symptoms although in the former case mood symptoms predominate. Similarly, although obsessions or compulsions can occur in psychotic disorders, there is by definition no disorder in reality testing in OCD. The individual with OCD is often aware of the ridiculous or unreasonable nature of the cognition or behavior, although in younger children this is not a required feature of the diagnosis.

OCD symptoms associated with PANDAS (pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections) have a temporal relationship with Group A beta-hemolytic streptococcal infections and are sometimes associated with choreiform movements.

The eating rituals of anorexic or bulimic patients and the rigid personality traits characteristic of obsessive-compulsive personality disorder need to be considered in the differential diagnosis of OCD



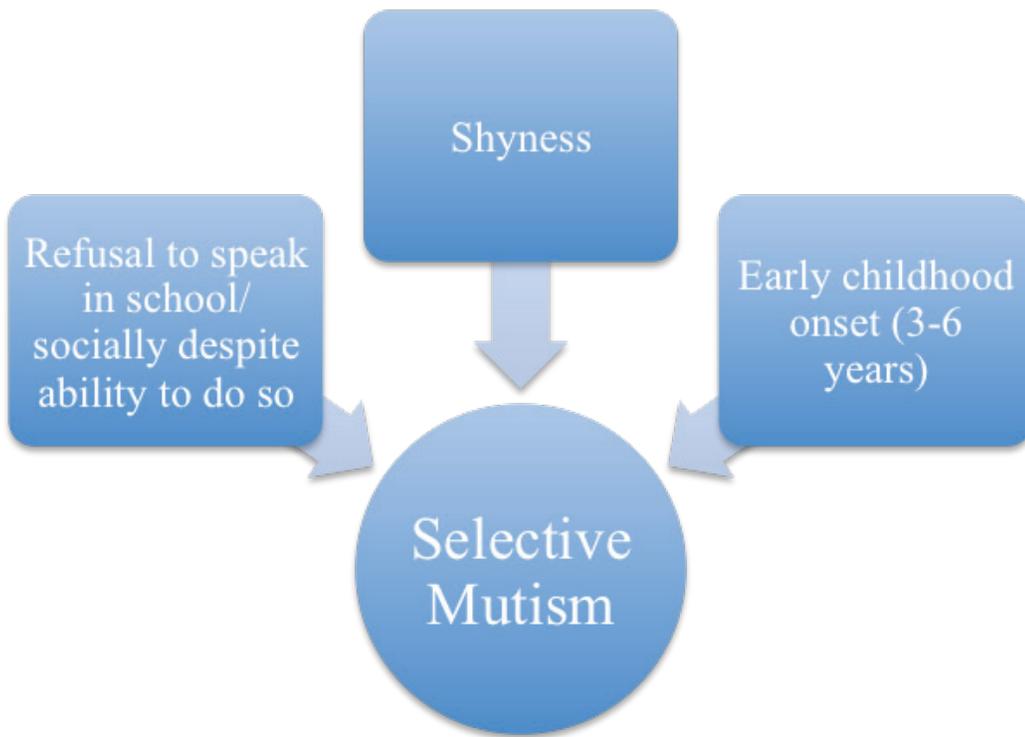
Selective Mutism

Diagnosis

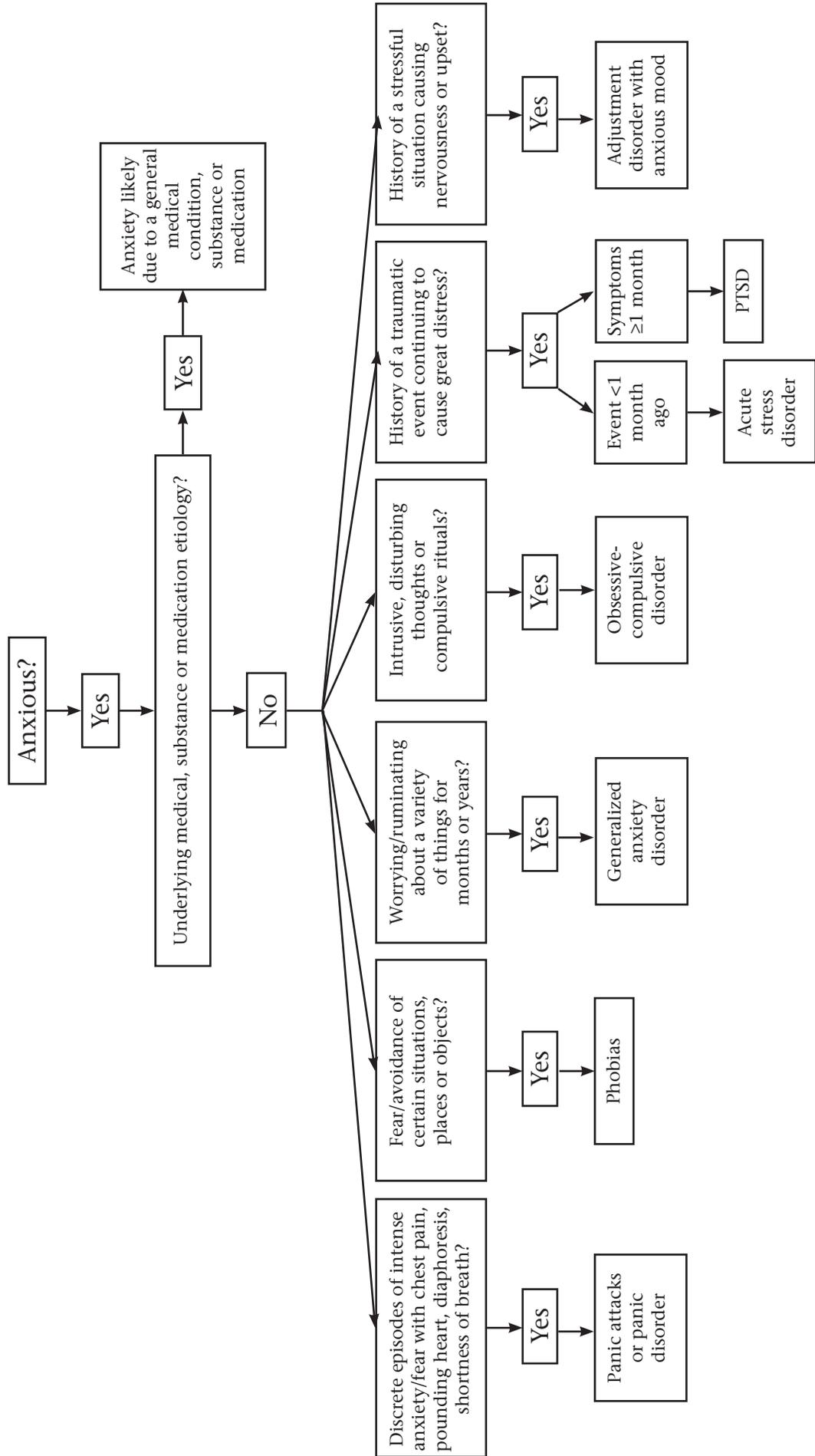
Diagnosis is based on clinical history. Children with selective mutism should receive a complete medical history and physical examination. Neurological examination and developmental history should focus on motor, cognitive, language and social milestones. Quality of temperament, social interactions and the precise contexts in which speech occurs should be assessed. Formal hearing, speech and language assessment (sometimes utilizing the child's audio-recorded speech) may be necessary.

Differential Diagnosis

Shyness, unfamiliarity with the language or the presence of a communication disorder may be mistaken for selective mutism. Selective mutism should only be diagnosed in a child with an established capacity to speak in some social situations, such as at home. The presence of a comorbid anxiety (e.g., social phobia), communication (e.g., stuttering) or other disorder should be diagnosed when present. It is worth noting that the presence of selective mutism does not imply that a child has been abused.



Diagnostic Algorithm for anxiety disorders



3. MANAGEMENT

Separation Anxiety

Treatment

If the child presents with school refusal, this needs addressing. For separation difficulties which do not involve school, use of psychoeducational, behavioral and cognitive techniques is recommended.

Psychoeducational interventions targeting the family members should focus on the following:

- explaining the diagnosis to the child
- explain how the behaviors negatively affect the child
- explain how behavioral, cognitive, and emotional changes in family members may help the child
- educating parents about age-appropriate developmental tasks
- assist parents in helping their child confront the separation experience
- avoid the typical escape/avoidance response that reinforces the anxiety
- gradual mastery of minor separations
- teach parents to model coping and non-distress and reinforce the child's successes

Behavioral techniques have been demonstrated to be successful in SAD related behaviors. Shaping the desired behavior through contingency management by positively reinforcing non-fearful behavior and withdrawing rewards for anxious behaviors may yield results. Modeling and exposure based treatments have also been reported as effective. In these, children are rewarded for practicing "being brave" and are taught new skills for managing old anxious behaviors. Success in this endeavor depends upon identification of manageable target behaviors, practicing new behaviors and appropriate reinforcement strategies.

Cognitive interventions focusing on the maladaptiveness of "catastrophic" thoughts and their replacement with more adaptive cognitions, in combination with self-instruction and teaching realistic appraisal of fear producing circumstances, can be fruitful. Generally referred to as CBT (cognitive behavioral therapy), this type of treatment is now widely used with children, and some manualized protocols are available.

Some somatic complaints can be countered by instruction in deep muscle relaxation or tension-relaxation exercises that can serve as anxiety counter-responses.

Psychotropic agents should be reserved for more refractory and complicated cases, or when anxiety is so severe that it limits therapy based exposure practice. Although, there is no currently approved medication for the treatment of SAD, standard of care consensus suggests that the SSRI's are first line pharmacotherapy. Adjunctive medications may include clonazepam, particularly while awaiting benefit of the SSRI, although this strategy might best be reserved for older children. Tricyclic antidepressants (e.g., clomipramine, imipramine) have been used successfully in the past, although use of these agents is currently limited due to their side effect profile and potential for cardiac toxicity. It should be borne in mind that Cognitive Behavioral Therapy (CBT) is likely to be the most powerful and enduring treatment.

School Refusal

Treatment

In uncomplicated cases where school refusal has not lasted more than two weeks, treatment is fairly straightforward. After informing the parents about the nature of the disorder and eliciting their cooperation as well as that of school authorities, the child is encouraged to return to school as soon as possible. Parents are instructed to show empathy and understanding for the child's distress but to insist in a firm and consistent manner on regular school attendance. The child is supported and provided skills to master the fears and worries incumbent in the separation. This may involve the parent being present in the classroom for a brief period and then fading out their presence. Reward and praise should accompany desired behavior.

If school refusal has become entrenched, especially in older adolescents, therapy is much more difficult. Under these circumstances, CBT is considered first line treatment for school refusal. Success will likely be dependent upon successful identification of the positive reinforcers at home and the negative reinforcers at school, and some combination of relaxation therapy, systematic desensitization, modeling, shaping and contingency management and involves school as well as family. A gradual return to school is the typical goal. Identifying the common negative perceptions, such as "the kids think

“I’m stupid,” and replacing them with more positive and realistic perceptions are frequently part of the plan. Teaching self-monitoring skills and counter anxiety responses is common. Extended treatment to family and the teacher helps to make the behavioral plan consistent throughout the course of the child’s day. The best treatments span the home and school domains.

The use of medications has been addressed in several studies. While most reports involve the use of tricyclic antidepressants (with or without CBT), the general feeling of clinicians is that these medications should not be considered first line, given new reports of the effectiveness of the safer SSRI’s, such as fluoxetine in treating anxiety disorders in children. Additionally, it is general clinical opinion that medication should not be added to treatment until a trial of CBT based therapy has been undertaken, or in particularly entrenched cases.

Generalized Anxiety Disorder

Treatment

A number of studies demonstrate the efficacy of cognitive-behavioral therapy (CBT). Common treatment components include:

- desensitization
- prolonged exposure
- modeling
- contingency management
- self-management/cognitive strategies
- relaxation
- visual imagery
- self-affirmative statements
- self-instruction
- identifying faulty cognitions
- replacing faulty cognitions with adaptive thoughts

Several reports have been made of the successful use of The Coping Cat, a manualized treatment protocol developed by Kendall.

Increasingly, practitioners are turning to psychopharmacological therapy for treatment of pediatric GAD. Many now consider the use of SSRI’s as first-line agents for pediatric GAD. Limited information exists concerning the efficacy of benzodiazepine use in pediatric GAD. Short term use for highly anxious children, especially while awaiting onset of the action of an SSRI remains a potential treatment choice.

Specific Phobia

Treatment

Both exclusively behavioral as well as cognitive behavioral therapies (CBT) are widely used to treat children with specific phobias. All children and adolescents diagnosed with a specific phobia should be treated with CBT, as this is the standard of care. It should also be noted that flooding, or implosive therapy, is not a recommended modality for the treatment of children. Psychoeducation of parents about the basics of anxiety reinforcement and extinction are necessary features of treatment. Often, providing them with a “rule of thumb” that avoidance increases anxiety and exposure decreases it, can be helpful.

Anecdotal reports of benzodiazepine or antidepressant use for treatment of phobias should not encourage the clinician to pursue medication intervention. Psychosocial treatments are efficacious and are the standard of care.

Social Phobia (Social Anxiety Disorder)

Treatment

Rigorous treatment outcome data for children with SP are limited. While published support for the efficacy of Cognitive Behavioral Therapies (CBT) are available, most studies do not focus on children with SP, but instead include them in the larger category of children with anxiety disorders. Nonetheless, some SP-specific data are slowly becoming available. Given this limited data, it is worth giving a child with SP a trial of CBT.

Following the lead of investigators of adult SP, preliminary reports on the utility of pharmacotherapy for children and adolescents with the disorder are beginning to appear. Both fluoxetine and fluvoxamine have been described as effective and well tolerated by children with anxiety disorders, including SP.

Cognitive and behavioral based strategies are the preferred treatment approach for social phobia in children and adolescents. Where medications are indicated, despite the absence of an FDA label indication in childhood, SSRI's are considered the pharmacological treatment of choice. Empirical evidence and downward extrapolation from adult studies supports the use of medication in treating Social Phobia.

Panic Disorder

Treatment

Behavioral, cognitive and pharmacologic treatments of panic disorder in children, have for the most part, been extrapolated from the adult literature, with some necessary modifications.

While no controlled trials to evaluate the efficacy of behavioral and cognitive approaches in children have been undertaken, anecdotal data suggest that systematic desensitization may be helpful in the treatment of agoraphobia. Exposure techniques may be particularly helpful in situationally bound and predisposed panic attacks.

Masi and colleagues reported considerable success in their open label treatment of adolescent PD with paroxetine. Diler (2003) reviews small scale studies describing success with imipramine, alprazolam, clonazepam and other SSRI's. More systematic studies are necessary before a recommendation regarding pharmacotherapy can be made. However, clinical wisdom is leaning heavily in favor of the use of SSRI's, when there is significant disability.

Obsessive-Compulsive Disorder

Treatment

The American Academy of Child and Adolescent Psychiatry has established Practice Parameters for the treatment of OCD for pediatric patients. Here, recommendation is made that CBT, with or without medication, be considered first line treatment. Graduated exposure and response prevention (E/RP) has been demonstrated to have a respectable success rate with durability of effect. In this technique, identification of all obsessions and compulsions is followed by assignment of a stimulus hierarchy, ranked by "subjective units of discomfort." (SUDS). Exposure tasks are then undertaken with concurrent prevention of the usual obsessive or compulsive behavior. Repeated presentation of the anxiety invoking stimulus ensues, based on least to greatest SUDS, in the absence of the avoidance response, until they evoke minimal anxiety. This treatment approach is based on the principle that anxiety responses will habituate and eventually extinguish in the presence of repeatedly presentations of the anxiety stimulus, in the absence of an escape or avoidance response (i.e., performing the compulsive ritual). Mild cases of OCD are likely best treated initially with behavioral techniques exclusively, with adjunctive pharmacological treatment reserved for moderate-to severe cases.

Pharmacotherapy with serotonergic agents such as clomipramine and various SSRI's (fluoxetine- up to 60mg/day/ , sertraline- up to 200mg/day, fluvoxamine-up to 200 mg/day) has demonstrated effectiveness in the treatment of children with OCD. Three SSRI's, fluvoxamine (Luvox), sertraline (Zoloft) and fluoxetine (Prozac) have FDA label indications for the treatment of OCD in childhood and adolescence. Because side effects with the SSRI's tend to be fewer, these agents are typically preferred, with a 12 week trial of an adequate dose recommended before the trial is considered a failure. Following failure of a second SRI, a course of clomipramine should be considered. Augmentation with an antipsychotic, such as risperidone is an alternative strategy for those with a limited response to SRI's. In general, published studies reveal that 40-50% of patients will experience a 25-40% reduction in symptoms with their first trial of medication. Medication treatment may be particularly indicated in cases of OCD where primary obsessional OCD is present (e.g., primary obsessional slowness) and target compulsions amenable to CBT are lacking. Treatment reports of PANDAS related OCD with immunoglobulin and plasmapheresis therapies have been primarily limited to specialty or research settings.

Selective Mutism

Treatment

Historically, treatments for selective mutism have included a range of individual, family, behavioral and psychodynamic modalities.

A multimodal approach with or without pharmacotherapy is the treatment of choice. The child should not be removed from the classroom for initiation of treatment. Cognitive-behavioral therapy is the primary intervention aimed at reducing the child's anxiety inhibiting speech and positively reinforcing the child for speaking. An attitude of expectation for normal speech and reinforcement for efforts to speak are important. Behavioral treatments are time consuming, requiring persistence and the cooperation of parents, teachers and other professionals. The child should never be removed from the classroom setting during treatment.

Psychosocial interventions utilizing modeling and peer pressure may be used to reinforce incremental or successive approximations of speech (e.g., hand raising, whispering) in the context of small groups of adults or peers. Family therapy may be helpful.

Pharmacotherapy for selective mutism includes the use of SSRI's, such as fluoxetine and sertraline and the monoamine oxidase inhibitor phenelzine. Given the complexity of using an MAOI agent, this should be reserved for use by psychiatrists. Evidence is preliminary at best, but a trial of an SSRI, or phenelzine failing that, should be considered when the symptoms of selective mutism are debilitating, of long duration or refractory to other interventions.

WHEN TO REFER?

Unfortunately, there is a dearth of child and adolescent psychiatrists in this country. Given this, primary care physicians will be required to diagnose and treat a sizable majority of the patients suffering from anxiety. There are bound to be cases in which specialty referral will be necessary. The primary care physician should keep in mind that the wait list to be seen by child and adolescent can be several months long in certain communities and this wait requires the initiation of treatment.

"First do no harm" applies in the treatment of anxiety disorders. If one is uncomfortable in the treatment of a certain disorder then that case should be referred to specialty care. If a child has multiple co-morbidities whether psychiatric or medical then this complicates the treatment and this might warrant referral. Many times a primary care clinician might just need a specific question to be answered and a simple phone call to a child and adolescent psychiatrist might be effective without referring the patient to specialty care. If a patient has failed pharmacological treatment and a course of the appropriate psychotherapy then they should be referred. When elucidating whether or not a course of psychotherapy has failed it is imperative to make sure that the psychotherapy given is an evidence based treatment. Just because a patient is in therapy does not mean that it is the appropriate modality. For example, if a patient with obsessive compulsive disorder has not had proper CBT then one cannot say they have failed a course of psychotherapy. Keep in mind that we "practice" medicine and the more one treats anxiety disorders the more comfortable and proficient one becomes.

PATIENT AND FAMILY EDUCATION

American Academy of Child and Adolescent Psychiatry facts for families:

The anxious child:

http://www.aacap.org/galleries/FactsForFamilies/47_the_anxious_child.pdf

OCD:

http://www.aacap.org/galleries/FactsForFamilies/60_obsessive_compulsive_disorder_in_children_and_adolescents.pdf

Panic Disorder:

http://www.aacap.org/galleries/FactsForFamilies/50_panic_disorder_in_children_and_adolescents.pdf

School Refusal

http://www.aacap.org/galleries/FactsForFamilies/07_children_who_wont_go_to_school.pdf

National Institute of Mental Health

Anxiety Disorders booklet:

<http://www.nimh.nih.gov/health/publications/anxiety-disorders/nimhanxiety.pdf>

GAD:

http://www.nimh.nih.gov/health/publications/generalized-anxiety-disorder/nimh_generalizedanxietydisorder.pdf

Panic Disorder:

<http://www.nimh.nih.gov/health/publications/when-fear-overwhelms-panic-disorder/complete.pdf>

PTSD:

http://www.nimh.nih.gov/health/publications/post-traumatic-stress-disorder-ptsd/nimh_ptsd_booklet.pdf

Social Phobia:

http://www.nimh.nih.gov/health/publications/social-phobia-social-anxiety-disorder/nimh_socialphobia_publication.pdf

OCD:

<http://www.nimh.nih.gov/health/publications/when-unwanted-thoughts-take-over-obsessive-compulsive-disorder/complete.pdf>

CLINICAL TOOLS

American Academy of Child and Adolescent Psychiatry practice parameters

Anxiety Disorders:

http://www.aacap.org/galleries/PracticeParameters/JAACAP_Anxiety_2007.pdf

OCD:

<http://www.aacap.org/galleries/PracticeParameters/Ocd.pdf>

PTSD:

<http://www.aacap.org/galleries/PracticeParameters/PTSDT.pdf>

Screen for Child Anxiety Related Disorders (SCARED):

<http://www.wpic.pitt.edu/research/ScaredChild-final.pdf>

<http://www.wpic.pitt.edu/research/ScaredParent-final.pdf>

References:

- Achenbach TM and Rescorla LA. 2001, *Manual for the ASEBA School Age Forms and Profiles*, Burlington, VT: University of VT Research Center for Children, Youth and Families.
- Albano AM, Chorpita BF and Barlow DH. 1996, Childhood anxiety disorders, in: Mash EJ and Barkeley RA (eds) *Child Psychopathology*, Guilford Press, New York.
- Black B, Garcia AM and Freeman JB, 2004, Specific phobia, panic disorder, social phobia and selective mutism, in: Weiner JM and Dulcan MK (eds) *Textbook of Child and Adolescent Psychiatry*, APA Publishing, Washington DC.
- Compton SN, Nelson AH and March JS. 2000, Social phobia and separation anxiety symptoms in community and clinical samples of children and adolescents, *J Am Acad Child Adolesc Psychiatry*, vol. 39, no. 8, pp. 1040-6.
- Costello EJ. 1989, Developments in child psychiatric epidemiology, *J Am Acad Child Adolesc Psychiatry*, vol. 28, no. 6, pp. 836-41.
- Diler RS. 2003, Panic disorder in children and adolescents, *Yonsei Medical Journal*, vol. 44, no. 1, pp. 174-179.
- Donnelly C and McQuade, 2004, Anxiety disorders in Childhood and Adolescence, in: Klykylo WM and Kay JL (eds) *Clinical Child Psychiatry, 2nd Edition*, John Wiley and Sons, Ltd.
- Essau CA, Conradt J and Petermann F. 2000, Frequency, comorbidity and psychosocial impairment of specific phobia in adolescents, *J Clin Child Psychol*, vol. 29, no. 2, pp. 221-31.
- Evans DW, Leckman JF, Carter A, Reznick J S, Henshaw D, King RA and Pauls D. 1997, Ritual, habit and perfectionism: the prevalence and development of compulsive-like behavior in normal young children. *Child Dev*, vol. 68, no. 1, pp. 58-68.
- Freeman JB, Garcia AM and Leonard HL. 2002, Anxiety disorders, in: Lewis M (ed) *Child and Adolescent Psychiatry: A Comprehensive Textbook*, LW&W, New York.
- Fyer AJ. 1998, Current approaches to etiology and pathophysiology of specific phobia, *Biol Psychiatry*, vol. 44, no. 12, pp. 1295-304.
- Geller DA and Spencer T. 2003. Obsessive-compulsive disorder, in: Martin A, Scahill L, Charney D and Leckman J (eds) *Pediatric Psychopharmacology: Principles and Practice*, Oxford University Press, New York.
- King NJ and Berstein GA. 2001, School refusal in children and adolescents: a review of the past 10 years, *J Am Acad Child Adolesc Psychiatry*, vol. 40, no. 2, pp. 197-205.
- Masi G, Millepiedi S, Mucci M, Poli P, Bertini N and Milantoni L. 2004, Generalized anxiety disorder in referred children and adolescents, *J Am Acad Child Adolesc Psychiatry*, vol. 43, no. 6, pp. 752-60.
- Masi G, Mucci M and Millepiedi S. 2001, Separation anxiety disorder in children and adolescents: epidemiology, diagnosis and management, *CNS Drugs*, vol. 15, no. 2, pp. 93-104.
- Reynolds CR and Richmond BO. 1978, What I think and feel: a revised measure of children's manifest anxiety, *J Abnorm Child Psychol*, vol. 6, no. 2, p. 271-80.

- Shaffer D, Fisher P, Dulcan MD, Davies M, Piacentini J, Schwab-Stone MjE, Lahey BB, Bourdon K, Jensen PS, Bird H R, Canino G and Regier DA. 1996, The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): description, acceptability, prevalence rates, and performance in the MECA study-Methods for the Epidemiology of Child and Adolescent Mental Disorders Study, *J Am Acad Child Adolesc Psychiatry*, vol. 35, no. 7, pp. 865-77.
- Swedo SE, Leonard HL, Garvey M, Mittleman B, Allen AJ, Perlmutter S, Lougee L, Dow S, Zamkoff J and Dubbert BK. 1998, Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections: clinical description of the first 50 cases, *Am J Psychiatry*, vol. 155, no. 2, pp. 264-71.
- Weems CF, Silverman WK and LaGreca AM. 2000, What do youth referred for anxiety problems worry about? Worry and its relation to anxiety and anxiety disorders in children and adolescents, *J Abnorm Child Psychol*, vol. 28, no. 1, pp. 63-72.
- Wright HH, Miller MD, Cook MA and Littman JR. 1985, Early identification and intervention with children who refuse to speak, *J Am Acad Child Adolesc Psychiatry*, vol. 24, no. 6, pp. 739-46.
- Zohar AH and Bruno R. 1997, Normative and pathological obsessive-compulsive behavior and ideation in childhood: a question of timing, *J Child Psychol Psychiatry*, vol. 38, no. 8, pp. 993-9.