



Massachusetts General Hospital
Founding Member, Mass General Brigham

XI. Anxiety in Youth with Autism

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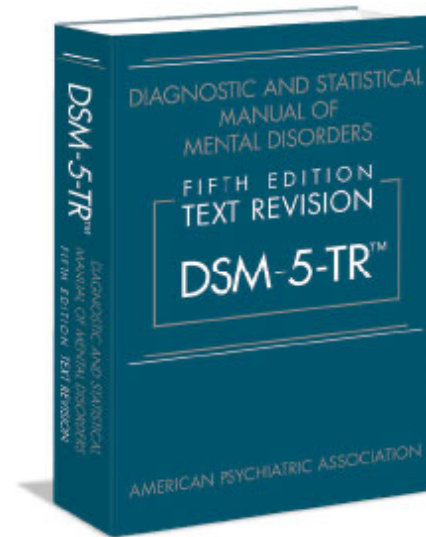


HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

DSM-5 Anxiety Disorders

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- Separation Anxiety Disorder
- Selective Mutism
- Specific Phobia
- Social Anxiety Disorder
- Generalized Anxiety Disorder
- Agoraphobia
- Panic Disorder
- Unspecified Anxiety Disorder



DSM-5 Diagnostic Criteria for Anxiety Disorders

SEPARATION ANXIETY DISORDER	SPECIFIC PHOBIA	SOCIAL ANXIETY DISORDER	AGORAPHOBIA	GENERALIZED ANXIETY DISORDER	PANIC DISORDER
<p>Recurrent excessive distress when anticipating or experiencing separation from home or from major attachment figures</p> <p>Persistent and excessive worry about experiencing an untoward event that causes separation from a major attachment figure losing or about possible harm to them (injury or death)</p> <p>Persistent reluctance or refusal to engage in developmentally expected activities because of fear of separation</p> <p>Persistent and excessive fear of or reluctance about being alone or without major attachment figures at home or in other settings.</p> <p>Repeated nightmares involving the theme of separation</p> <p>Repeated complaints of physical symptoms when separation from major attachment figures occurs or is anticipated</p>	<p>Marked fear or anxiety about a specific object or situation</p> <p>The phobic object or situation almost always provokes immediate fear or anxiety</p> <p>The phobic object or situation is actively avoided or endured with intense anxiety or fear</p> <p>The fear or anxiety is out of proportion to the actual danger posed by the specific object or situation and to the sociocultural context</p>	<p>Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others</p> <p>The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated</p> <p>The social situations are avoided or endured with intense fear or anxiety</p> <p>The social situations almost always provoke fear or anxiety and are avoided or endured with intense fear or anxiety</p> <p>The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context</p>	<p>Marked fear or anxiety about two (or more) of the following five situations:</p> <ul style="list-style-type: none"> -using public transportation -being in open spaces -being in enclosed spaces -standing in line or crowd -being outside of the home alone <p>The individual avoids or fears these situations because of thoughts that escape might be difficult or help might not be available in the event of developing panic-like symptoms or other incapacitating or embarrassing situations</p> <p>Agoraphobic situations almost always provoke fear or anxiety</p> <p>The agoraphobic situations are actively avoided, require the presence of a companion, or are endured with intense fear or anxiety</p> <p>The fear or anxiety is out of proportion to the actual danger posed by the agoraphobic situations and to the sociocultural context</p>	<p>Excessive anxiety and worry occurring more days than not about a number of events and activities.</p> <p>The individual finds it hard to control the worry</p> <p>The anxiety and worry are associated with three or more of the following six symptoms:</p> <ul style="list-style-type: none"> -restlessness or feeling on edge -being easily fatigued -difficulty concentrating or mind going blank -irritability -muscle tension -sleep disturbance 	<p>An abrupt surge of intense fear or intense discomfort that reaches a peak within minutes, and during which time four or more of the following symptoms occur:</p> <ul style="list-style-type: none"> -Palpitations -Sweating -Trembling or Shaking -Shortness of breath -Feelings of choking -Chest pain or discomfort -Nausea or abdominal distress -Feeling dizzy or faint -Chills or heat sensations -Paresthesias -Derealization/ depersonalization -Fear of losing control or "going crazy" -Fear of dying



Symptoms of Anxiety

Cognitive Symptoms

- Worrying
- Fears and phobias
- Restlessness or feeling on edge
- Difficulty concentrating or mind going blank
- Fear of losing control or “going crazy”
- Derealization/ depersonalization
- Irritability

Autonomic Symptoms

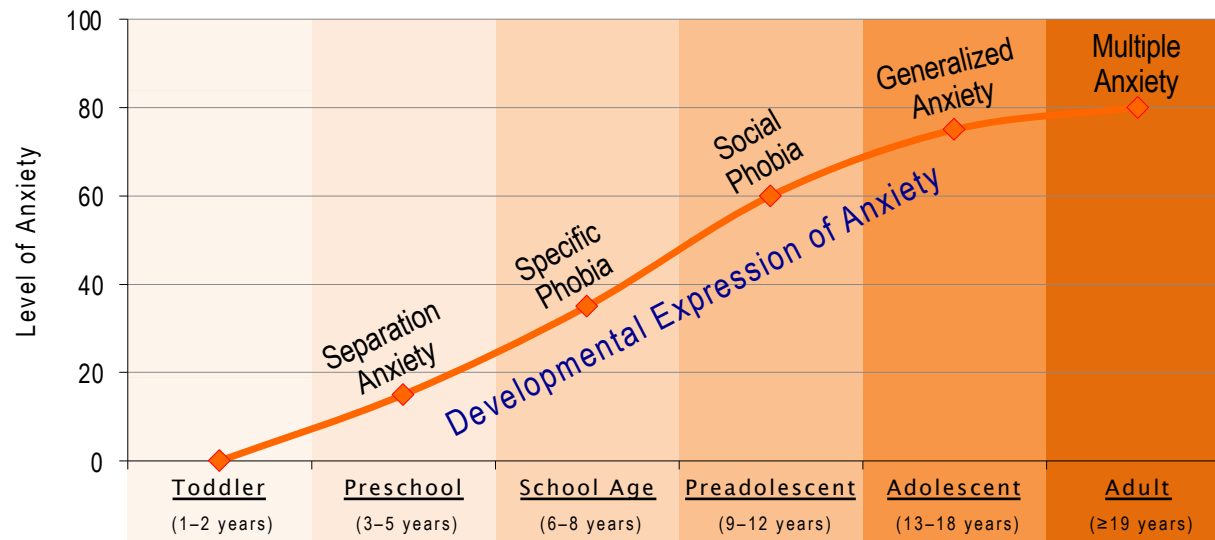
- Palpitations
- Sweating
- Trembling or Shaking
- Muscle tension
- Shortness of breath
- Feelings of choking
- Chest pain or discomfort
- Nausea or abdominal distress
- Feeling dizzy or faint
- Chills or heat sensations
- Paresthesias

Neurovegetative Features

- Being easily fatigued
- Sleep disturbance
- Appetite disturbance

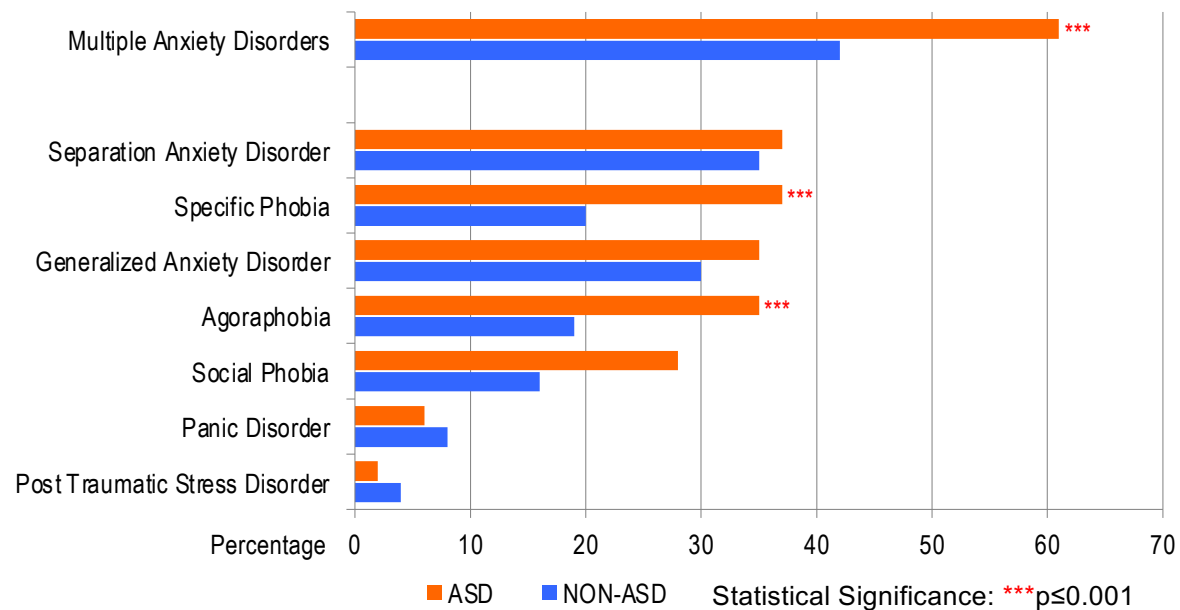


Expression of Anxiety with Development



Anxiety Disorders in Youth with Autism

Lifetime Psychiatric Comorbidity

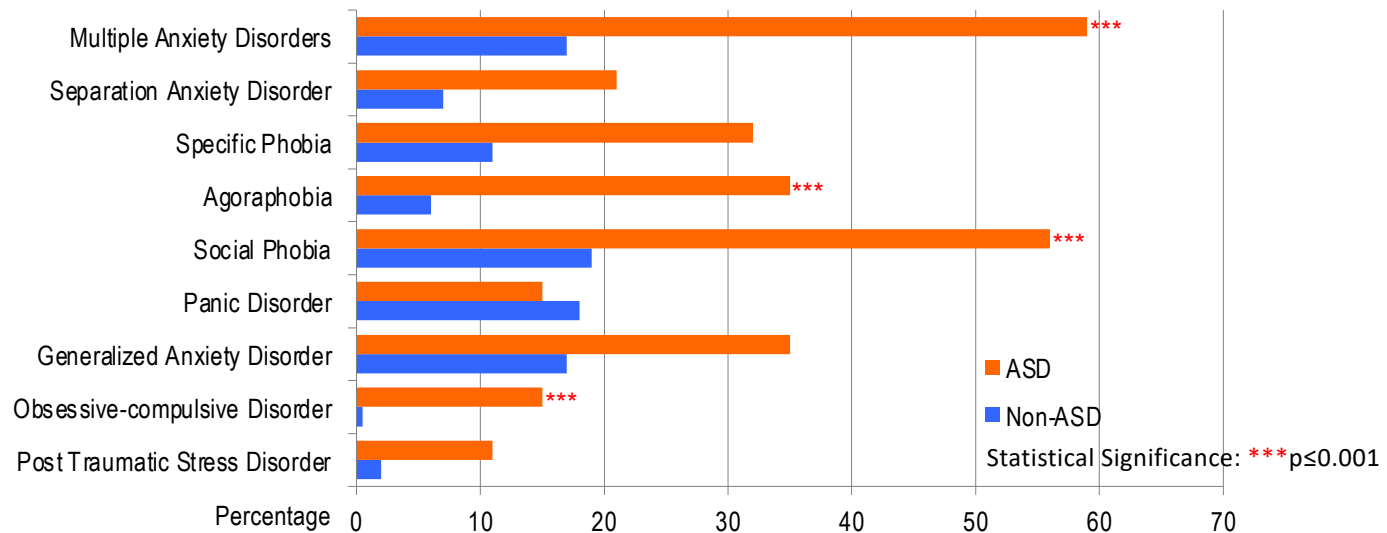


Higher than expected rates of Anxiety disorders in youth with Autism



Anxiety Disorders in Psychiatrically Referred Adults with ASD

Lifetime Psychopathology: Anxiety Disorders



Higher than expected rates of Anxiety disorders in adults with Autism



Anxiety **Worsens** Autistic Traits

Anxiety worsens:

- Sensory Dysregulation
- Cognitive Rigidity (change in routine, transitions)
- Eye-contact
- Empathy
- Ego-centricity
- Social Impairment
- Verbal Communication (pitch & monologues)
- Repetitive Behaviors



Presentation of ANXIETY in ASD

Objective symptoms of anxiety

- Rely on neuro-vegetative features
(disturbed sleep, appetite)
- Rely on physical symptoms
(GI symptoms, muscle-tension, palpitation, skin picking, lip smacking, teeth grinding)
- Always shake hands
(sweaty hands)
- Worsening of Autistic Features
(stemming, tics, sensory dysregulation, cognitive rigidity)
- ATs related triggers for Anxiety
(Sensory Dysregulation, Cognitive Rigidity [change in routine, transitions], socially/emotionally demanding situations)



BUSPIRONE **for the Treatment of Anxiety in** **Intellectually-intact Youth with** **Autism**

A R E T R O S P E C T I V E C H A R T R E V I E W



Methods: Acquisition of Participants

A retrospective review of medical records of consecutively referred patients to *ASD ambulatory care clinic* at the Massachusetts General Hospital who were treated with Buspirone during calendar year 2015

Participation Criteria

- Aged 6-17 years
- Diagnosed with DSM-IV-TR criteria for ASD and an Anxiety Disorder
- Participants with at least mild severity of ASD (ASD-CGI-S ≥ 3) and moderate severity of Anxiety (ANX-CGI-S ≥ 4).
- Treated with buspirone for at least 8 weeks during a 12-month period with the exception of termination d/t treatment-limiting AEs.



Trial Treatments

Study Medication

- Buspirone prescribed PO BID
- Start LOW, up-titrate SLOW, & optimize response
- Buspirone dosage strengths: 5 mg, 7.5 mg, 10 mg, 15 mg, 30 mg

Study Medication

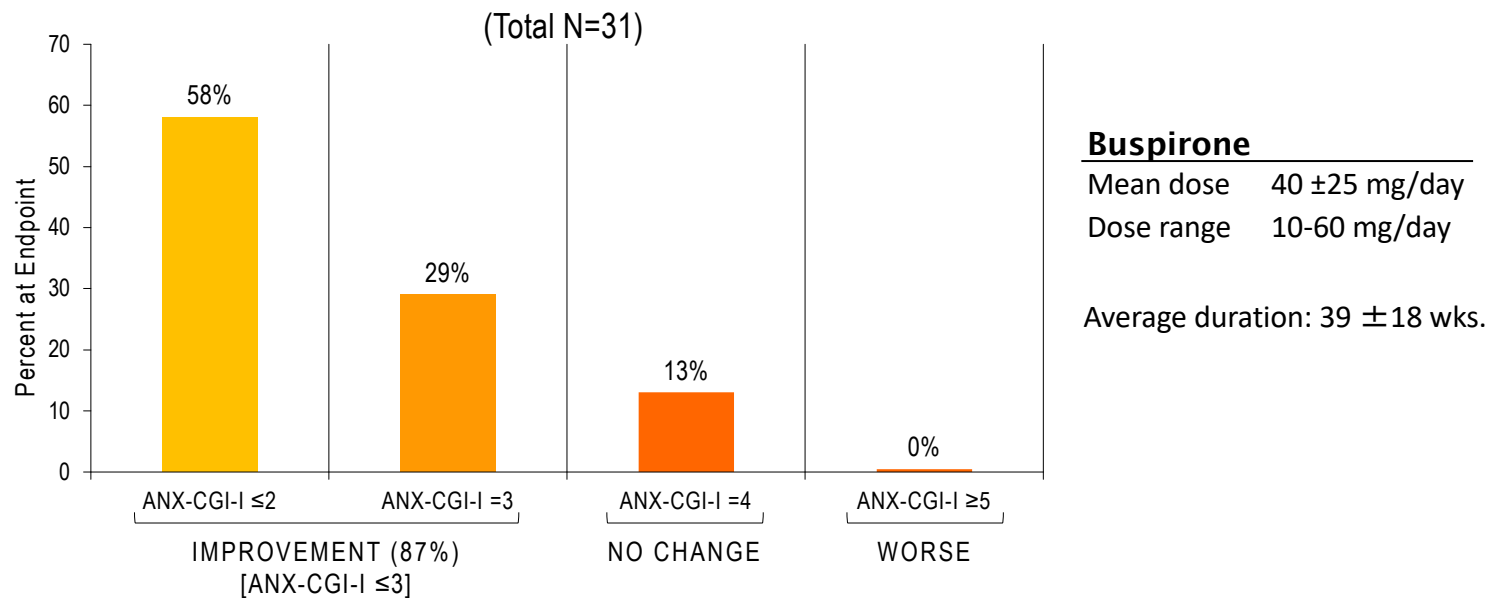
Mean dose	40 ±25 mg/day
Dose range	10-60 mg/day (N=1 received 120mg/day)

Average duration: 39 ±18 weeks



Buspirone Treatment in ASD Youth: A Retrospective Chart Review

Anti-Anxiety Response on Anxiety-CGI-I



Significant improvement in anxiety symptom severity with treatment



Results: Tolerability

29/31 (94%) patients continued buspirone treatment.

Mild-Moderate (transient) AEs (N=2)

- N=1: Insomnia
- N=1: Sedation

Severe AEs: None

Treatment-limiting AEs (N=2)

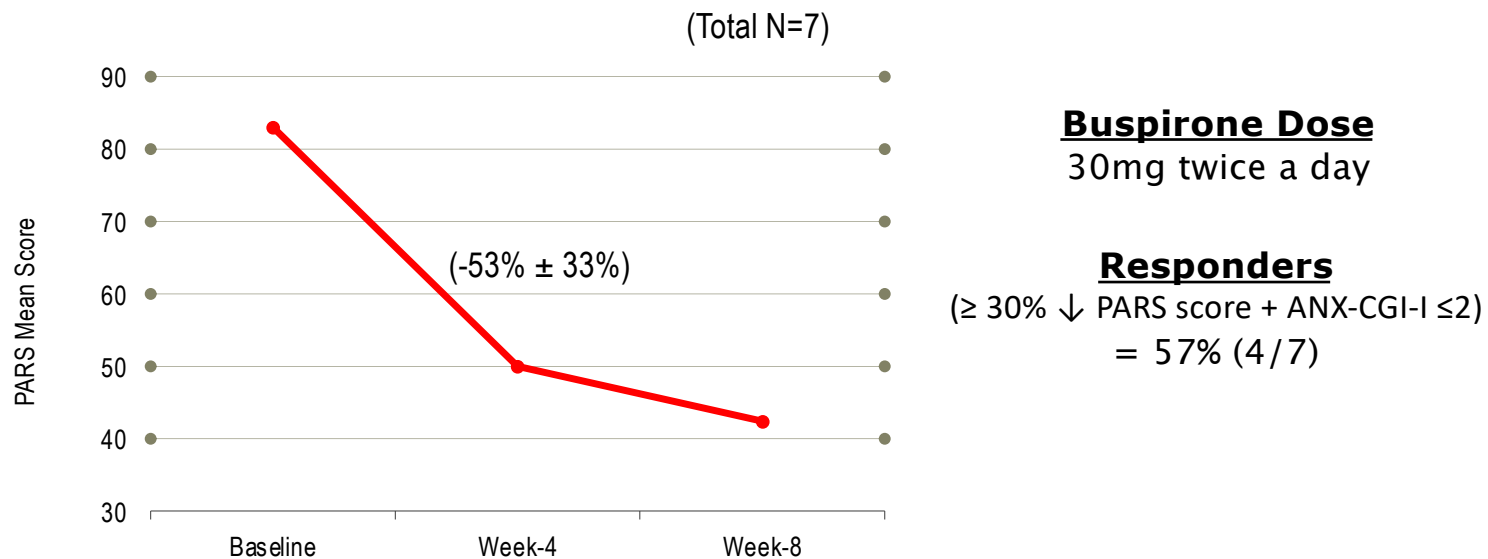
- N=1: Mood lability after 5-weeks Tx
- N=1: Hypomania-like symptoms after 18 months of treatment

Treatment was well tolerated



Open-label Trial of Buspirone For Treatment of Anxiety in ASD

Response on Anxiety Rating Scale



Significant improvement with treatment in anxiety symptom severity

