Anxiety and Depression in Teens-Primary Care Approach

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SCAAP January 2020

Disclosures

I have had no financial relationship or other affiliation with a commercial interest within the last 12 months
Objectives

1) Review **Scope** of Anxiety and Depression
2) Review **Primary Care Evaluation** and **Screening Instruments**
3) Review **Coexisting Conditions**
4) Review **Self-management, Behavioral, and Pharmacologic Options**

Why is this Important?

- In **Youth Mental Health** Rankings, **South Carolina** ranks out of the 50 states- **42nd** *
  - Higher prevalence of mental illness
  - Lower rates of access to care

*THE STATE OF MENTAL HEALTH IN AMERICA 2018  
www.mentalhealthamerica.net*
1) Scope of Anxiety

• 25% of teens ages 13-18 are affected by anxiety disorders

• If Anxiety is left untreated
  • Higher risk for poor academic performance
  • Develops into adult anxiety/depressive disorders
  • Higher risk of substance use

• With Anxiety diagnosis
  • 10-15% will have depression

Anxiety

Fear
• Emotional response to real or perceived imminent threat causing “fight or flight” reaction

Anxiety
• Anticipation of future threats causing muscle tension, vigilance, cautious or avoidant behaviors
  • Develops in childhood and persists if not treated
• Anxiety D/O differ in DSM-5 by what induces fear
• Anxiety is top complaint among college students seeking mental health services
Types of Anxiety

**Separation Anxiety-F93.0**
- Preschool onset; Females > Males
- 4% children 1.6% teens 1.9% adults

**Specific Phobias**
- Onset prior to age 10; 2:1 Females to Males
- 5% children 16% teens 3-5% adults

**Social Anxiety-F40.10**
- Onset 8-15 years; Females > Males
- 7-9% in children, teens, and adults
Types of Anxiety

**Panic Disorder-F41.0**
- Onset 20-24 years; 2:1 Females to Males
- 0.4% children 2-3% teens and adults

**Agoraphobia-F40.0**
- Onset < 35 years, may occur in children
- 1.7% teens and adults

**Generalized Anxiety Disorder-F41.1**
- Onset ~ 30 years; 2:1 Females to Males
  - symptoms of anxiety from young age
- 0.9% teens 2.9% adults

**Separation Anxiety**
- F93.0

**Needle phobia**
- F43.231

**Arachnophobia**
- F40.218
Scope of Depression

• In US, rates of severe youth depression
  • increased from 5.9% to 8.2% in a 5-year period
• On average, 10 years lapse between onset of symptoms and treatment*
• With Depression diagnosis
  • 75% also have anxiety

*THE STATE OF MENTAL HEALTH IN AMERICA 2018
www.mentalhealthamerica.net

Depression in SC

• 11% ages 12-17
  • At least one episode of Major Depressive episode in past year*
• 19% of 9th-12th graders
  • Report seriously considering attempting suicide**
• 11% of 9-12th graders
  • Report attempting suicide at least once**

*THE STATE OF MENTAL HEALTH IN AMERICA 2018
www.mentalhealthamerica.net
**Centers for Disease Control and Prevention. (2018)
Suicide in SC

• **Suicide** was the second leading cause of death for persons aged 10–14, 15–19, and 20–24 in 2017 in SC*

• **Suicide rate** was 53% higher in 2016 than the Healthy People 2020 target and 16% higher than the national rate**

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*https://www.cdc.gov/nchs/products/databriefs/db352.htm
Types of Depression

Disruptive Mood Dysregulation Disorder (DMDD)
- 2-5% in children; Males > Females
- Persistent irritability/anger present most days
- Frequent episodes of out-of-control behavior
- F34.8

Major Depressive Disorder (MDD)
- 2% in children; 4-8% in teens
- 1:1 M:F in children; 2:1 F:M in teens
- F32.9 with specifiers

- New DSM5 category to mitigate frequency of Bipolar Disorder Diagnoses
- Outbursts can last up to 8 hours
- Diagnosed before age 10
Types of Depression

Persistent Depressive Disorder (Dysthymia)
- 2-5% in children and teens; Males > Females
- F34.1

Premenstrual Dysphoric Disorder - N94.3
- 1.5% to 5.8% in menstruating females

Differences in DSM-5 Depression Disorders are in duration and timing

Risk Factors

Genetics and Environment
- Anxious parents’ children are 5x more likely to develop early anxiety and depression
- Depressed parents’ children at high risk for early anxiety and depression
- Parental rejection associated with depression
- Parental control associated with anxiety
- Familial risk is genetic AND related to shared environmental stressors
2) Evaluation

• Focused assessment of mental health issues
  • Family, Patient, School, Other settings
• ADHD is often an undiagnosed underlying disorder in Anxiety and Depressive Disorders
• If you as PCP, Diagnose and Treat ADHD*
  often symptoms of Anxiety and Depression improve without other interventions or medications

*Clinical Practice Guideline for the Diagnosis, Evaluation and Treatment of Attention-Deficit/Hyperactivity Disorder (ADHD)
in Children and Adolescents
https://doi.org/10.1542/peds.2019-2528

Normal vs Abnormal?

• “Normal” for teens does not mean always happy, easy, or functioning 100% of the time
• “Abnormal” is the clinician’s judgement
  • Excessive, out of proportion fears/worry more days than not for at least 6 months
  • Extended sadness, other symptoms for 2 weeks
  • Symptoms inconsistent with development levels
  • Impairment in functioning in home, school, social/sport activities, and relationships
Focused Assessment

• Family and Patient’s **Chief Complaints**
• **History** of symptoms-mostly insidious onset
  • Behavioral symptoms
  • Cognitive impact-Teacher reports helpful
  • Physical symptoms
• **Functioning level ***
• **PMH, Fam HX, Psychosocial Hx, ROS**

Clinical Interview

SIGECAPS—Depression

• Sleep
• Interest
• Guilt
• Energy
• Concentration
• Appetite
• Psychomotor
• Suicidality

FISP—Anxiety

• Feeling nervous, Fearful, Fatigue
• Irritability, Inability to relax
• Sleep difficulties, cannot Stop worry, cannot Sit still
• Panic, Poor concentration
Medical Differential

- Thyroid disease
- Vitamin D deficiency
- Ebstein Barr infection
- Anemia
- HIV
- Neurodegenerative disorders
- Hepatitis
- Inflammatory Bowel
- Collagen Vascular
- CNS Disorders
- Side effects of medications
Differential

• **Anxiety/ Depression** symptoms are **Insidious**
• **Sudden** onset of symptoms - consider
  • Head trauma
  • Physical or sexual abuse
  • Major psychological stress in family or school, such as domestic violence or bullying

Screening

• **Pediatric Symptom Checklist** - 35 questions
  • Parents (**PSC-35-Parent**) and Youth (**PSC-35-Y**)
  • Ages 4-16 and PSC-35-Youth for ages 11 and up
  • Assess **psychosocial** function
  • Responses are scored - Total possible is 70
    • Never = 0, Sometimes = 1 or Often = 2
  • Ages 6-16, **possible problem score** is **28 or higher**
  • Ages 3-5, **possible problem score** is **24 or higher**
    • Ignore items 5, 6, 17, and 18 (school-related) - Total is 62

[https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/](https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/)
Screening

• Subscales of PSC-35 by parent or patient
  • **Attention**
    • Questions 4, 7, 8, 9, 14
    • Possible problem score is **7 or higher**
  • **Anxiety/Depression (Internalizing)**
    • Questions 11, 13, 19, 22, 27
    • Possible problem is **5 or higher**
  • **Conduct (Externalizing)**
    • Questions 16, 29, 31, 32, 33, 34, 35
    • Possible problem score is **7 or higher**

https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/

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Screening

• **Pediatric Symptom Checklist-17**
  • Parent (PSC-17-Parent) and Youth (PSC-17-Y)
  • Overall possible problem score is **15 or higher**
  • **Attention** Subscale
    • Questions 6-10
    • Possible problem score is **7 or greater**
  • **Anxiety/Depression (Internalizing)**
    • Questions 1-5
    • Possible problem score is **5 or greater**
  • **Conduct (Externalizing)**
    • Questions 11-17
    • Possible problem is 7 or greater

https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/
Screening

• **PHQ-9** for Depression
  • Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3
  • Total Score Depression Severity
    • 1-4 **Minimal** depression
    • 5-9 **Mild** depression
    • 10-14 **Moderate** depression
    • 15-19 **Moderately severe** depression
    • 20-27 **Severe** depression

Screening

• **GAD 7** for Anxiety
  • 0 = Not at all, 1 = Several days, 2 = More than half the days, 3 = Nearly every day
  • Total scores of 5 = **Mild** anxiety 10 = **Moderate** 15 = **Severe** Anxiety

• **SCARED** (Screen for Child Anxiety Related Emotional Disorders)-parent and child versions
Screening

Follow up screening results from any of these screening instruments is an additional help in monitoring severity and improvements or worsening in mental health.

**Screening**

- **NICHQ Vanderbilt Assessment Scale-PARENT**
  - Inattentive ADHD-Questions 1-9
  - Hyperactive/Impulsive ADHD-Questions 9-18
  - Combined Type ADHD-Questions 1-18
  - Oppositional-Defiant Disorder 19-26
  - Conduct Disorder-Questions 27-40
  - Anxiety/Depression Screen-Questions 41-47
  - Performance Questions 48-55

Screening

• NICHQ Vanderbilt Assessment Scale-TEACHER
  • Inattentive ADHD-Questions 1-9
  • Hyperactive/Impulsive ADHD-Questions 10-18
  • Combined ADHD-Questions 1-18
  • Oppositional Defiant/Conduct Disorder-19-28
  • Anxiety/Depression-Questions 29-35
  • Performance Questions 36-43


3) Coexisting Conditions

• SLEEP MATTERS!
• Daytime sleepiness
  • impairs concentration, attention span, memory, ability to convert short term memory into long term memory and may lead to loss of inhibition of prefrontal cortex causing behavior problems
• Sleep disorders occur in up to 30% of children and teens

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1432166
Coexisting Conditions

**SLEEP MATTERS!**

- Teenagers need between 8.50 and 9.25 hours of sleep each night
- Children ages 5 through 12 need between 10 and 11 hours of sleep per night
- Adults need 7 to 9 hours

https://www.sleepfoundation.org/sleep-disorders/
Coexisting Conditions

• Bereavement
• Neurodevelopmental Disorders
  • ADHD, any subtype
  • Specific Learning disorders- Reading, Math, Written expression
  • Communication disorders- Language, Speech
  • Motor disorders- Tourette’s, Tics
  • Autism Spectrum disorder
  • Intellectual disabilities

Stuttering

ADHD

Tic Disorder

Reading Disability
Dyslexia

Math Disability
Dyscalculia
Coexisting Conditions

• Behavioral Disorders
  • Oppositional Defiant disorder-ODD
  • Conduct disorder

• Sleep Disorders
  • Insomnia, Hypersomnia, Parasomnias
  • Circadian (biological clock) rhythm disorders
  • Breathing-related- Snoring, Sleep Apnea, OSA, or CSA
  • Narcolepsy- irresistible falling asleep
  • Movement disorders -Restless Legs syndrome, Sleepwalking
  • Disrupted sleep from GERD, Bedwetting, Nightmares/ Night terrors

• Mood disorders
  • Obsessive Compulsive and related disorders
  • Trauma disorders
  • Stressor-Related disorders
  • Bipolar disorders

• Schizophrenia spectrum and psychotic disorders
• Personality disorders
• Substance Use disorders
Coexisting Conditions

• **60-70%** patients with anxiety or depression
  • have at least **one** coexisting disorder

• **10-15%** patients with anxiety or depression
  • have **2 or more** coexisting disorders

• The higher the number of coexisting conditions the **greater the impairments** in function
4) Self-Management

- **Teach** Patient/Parent
  - **Breathing** Techniques
  - **Relaxation** Techniques
  - **Mental imagery** so that worries float away
  - **Safe place** imagery
  - **Thought stopping** or **Thought substituting**
  - **Positive self-talk**

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Self-Management

- **Exercise** daily
- **Get enough** sleep
- **Eat** well-**balanced diet**
- **Practice** relaxation techniques
  - Yoga
  - Mindfulness
- **Stop** consumption of caffeinated drinks
- **Consider** expressive writing/journaling

[https://www.mhanational.org/infographic-b4stage4-changing-way-we-think-about-mental-health](https://www.mhanational.org/infographic-b4stage4-changing-way-we-think-about-mental-health)
Parenting Tips

• Every child “wants” to be good!
  • **Reward** positive behaviors
  • Practice **Active listening** and **Validation of feelings**
  • Be **Clear** and **Give requests** with as few steps as possible
  • **Set** and **Explain** limits
  • Give **Consistent, CALM** responses to negative behaviors
  • Learn **De-escalation** techniques
  • Help your child learn to “**Reframe**”
  • Focus on **Strengths** not weaknesses
  • **Increase Enjoyable** activities together
  • **BUILD RESILIENCE**
Behavioral Therapy

• **Anxiety**
  - CBT-Cognitive Behavior Therapy
  - PCIT (Parent-Child Interaction Therapy)
    • for ages 2-7

• **Depression**
  - CBT-Cognitive Behavioral Therapy
  - Interpersonal Psychotherapy (IPT)
  - Group CBT
Pharmacologic Anxiety

• **SSRIs** - Selective Serotonin Reuptake Inhibitors
• Other Medication Options
  • **Anxiolytics**
  • **SNRIs** (Selective Norepinephrine Reuptake Inhibitors)
  • **TCAs** (Tricyclic Antidepressants)

Pharmacologic Depression

• Counseling (CBT) plus medication (SSRIs) are BEST
• Other Medication Options
  • **SNRIs** (Selective Norepinephrine Reuptake Inhibitors)
  • **TCAs** (Tricyclic Antidepressants)
  • **Atypical Antidepressants** like Wellbutrin (NDRI)
    • Norepinephrine/Dopamine Reuptake Inhibitor
Choosing Medications

**Genetic testing** can detect variants

- **Pharmacodynamic genes**
  - Indicate the effect a medication has on the body
  - Can inform drug candidate selection
- **Pharmacokinetic genes**
  - Indicate the effect the body has on the drug via metabolism
  - Can inform drug dosage

Choosing Medications

- **Family history** of success with medication
- **Genetic testing** information
- **FDA approved** for condition and age group
  - Off Label Use
- **Side Effect Risk**
- **Previous experience of clinician**
# Antidepressants

<table>
<thead>
<tr>
<th>Medication</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluoxetine</strong></td>
<td>MDD*, OCD**</td>
<td>MDD 8 or &gt;</td>
<td>5-20 mg</td>
<td>20 mg up to 80 mg</td>
</tr>
<tr>
<td>(Prozac)</td>
<td></td>
<td>OCD 7 or &gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sertraline</strong></td>
<td>OCD</td>
<td>6 or &gt;</td>
<td>25 mg</td>
<td>200 mg</td>
</tr>
<tr>
<td>(Zoloft)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Fluvoxamine</strong></td>
<td>OCD, SAD***</td>
<td>8 or &gt; &gt;18</td>
<td>25 mg</td>
<td>200 mg</td>
</tr>
<tr>
<td>(Luvox)</td>
<td></td>
<td></td>
<td></td>
<td>300 mg</td>
</tr>
</tbody>
</table>

*MDD=Major Depressive Disorder **OCD=Obsessive Compulsive Disorder ***SAD=Social Anxiety Disorder

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<thead>
<tr>
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<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Escitalopram</strong></td>
<td>MDD, GAD* &gt;18</td>
<td>12 or &gt;</td>
<td>10 mg</td>
<td>20 mg</td>
</tr>
<tr>
<td>(Lexapro)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Citalopram</strong></td>
<td>MDD</td>
<td>18 or &gt;</td>
<td>20 mg</td>
<td>40 mg</td>
</tr>
<tr>
<td>(Celexa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Paroxetine</strong></td>
<td>MDD, OCD, SAD, GAD, PTSD**</td>
<td>18 or &gt;</td>
<td>10 mg</td>
<td>60mg</td>
</tr>
<tr>
<td>(Paxil)</td>
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</tr>
</tbody>
</table>

*GAD=Generalized Anxiety Disorder **PTSD=Post-Traumatic Stress Disorder
**Antidepressants**

<table>
<thead>
<tr>
<th>Medications SNRIs</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duloxetine (Cymbalta)</td>
<td>GAD* MDD**</td>
<td>7 or &gt; 18 or &gt;</td>
<td>30 mg</td>
<td>120 mg</td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td>MDD, GAD, SAD***</td>
<td>Adol 18 or &gt;</td>
<td>37.5 mg</td>
<td>225 mg</td>
</tr>
<tr>
<td>Desvenlafaxine (Pristiq) (Brand only)</td>
<td>MDD GAD(ol) SAD(ol)</td>
<td>7-17 18 or &gt;</td>
<td>25 mg 50 mg</td>
<td>200 mg 400 mg-adults</td>
</tr>
</tbody>
</table>

*GAD=Generalized Anxiety Disorder **MDD=Major Depressive Disorder ***SAD=Social Anxiety Disorder (ol)=off label

**Antidepressants**

<table>
<thead>
<tr>
<th>Atypical Meds</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion (Wellbutrin) NDRI XL-1x/d; SR-2x/d; IR-3x/d</td>
<td>MDD</td>
<td>6 or &gt; Adol</td>
<td>3mg/kg/d 75 mg 150 mg for XL</td>
<td>150-250 mg (6mg/kg) 450 mg for XL</td>
</tr>
<tr>
<td>Trazodone (Desyrel)</td>
<td>Insomnia (ol) MDD</td>
<td>18 mo 18 or &gt;</td>
<td>25 mg 150 mg</td>
<td>100 mg &lt; 3 y 150 mg 600 mg</td>
</tr>
</tbody>
</table>

ol=off label
### Antidepressants

<table>
<thead>
<tr>
<th>Medications-Atypical</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mirtazapine (Remeron) NASSA</td>
<td>MDD* SAD**</td>
<td>&gt;3 7 and up</td>
<td>7.5 mg 15 mg</td>
<td>45 mg</td>
</tr>
<tr>
<td>Vilazodone (Viibryd)-SSRI + (Brand only)</td>
<td>MDD GAD*** OCD****</td>
<td>12-17 18 or &gt;</td>
<td>5 mg 10 mg</td>
<td>40 mg</td>
</tr>
<tr>
<td>Vortioxetine (Trintellix)-SSRI+ (Brand only)</td>
<td>MDD GAD</td>
<td>7-18 18 or &gt;</td>
<td>5 mg 20 mg</td>
<td></td>
</tr>
</tbody>
</table>

*MDD=Major Depressive Disorder; **SAD=Social Anxiety Disorder; ***GAD=Generalized Anxiety Disorder; ****OCD=Obsessive Compulsive Disorder

### Antidepressants

<table>
<thead>
<tr>
<th>Medications TCAs</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clomipramine (Anafranil)</td>
<td>OCD MDD</td>
<td>10 or &gt; 18 or &gt;</td>
<td>25 mg 25 mg</td>
<td>200 mg 250 mg</td>
</tr>
<tr>
<td>Amitriptyline (Elavil)</td>
<td>MDD Headache</td>
<td>12 or &gt;</td>
<td>25 mg 10 mg</td>
<td>300 mg</td>
</tr>
</tbody>
</table>
### Anxiolytics

<table>
<thead>
<tr>
<th>Medications</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td>Alprazolam (Xanax) (SCH IV)</td>
<td>GAD*, Panic DO</td>
<td>18 or &gt;</td>
<td>0.25 mg</td>
<td>4-6 mg (adults)</td>
</tr>
<tr>
<td>Buspirone (BuSpar)</td>
<td>GAD</td>
<td>6 or &gt;</td>
<td>7.5 mg BID</td>
<td>60 mg</td>
</tr>
<tr>
<td>Clonazepam (Klonopin) (SCH IV)</td>
<td>Seizures Panic DO</td>
<td>Children 18 or &gt;</td>
<td>1.5 mg 0.25 mg TID</td>
<td>20 mg 4 mg</td>
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</tbody>
</table>

*GAD=Generalized Anxiety Disorder

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### Anxiolytics

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<thead>
<tr>
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<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td>Hydroxyzine (Vistaril)</td>
<td>Anxiety, Sedation</td>
<td>6 or &gt; Under 6</td>
<td>10 mg 0.6 mg/kg</td>
<td>100 mg divided 100 mg</td>
</tr>
<tr>
<td>Lorazepam (Ativan) (SCH IV)</td>
<td>Sedation (IV-IM), Anxiety</td>
<td>18 or &gt; 18 or &gt;</td>
<td>0.5 up to 2 mg BID-TID</td>
<td>10 mg</td>
</tr>
<tr>
<td>Temazepam (Restoril) (SCH IV)</td>
<td>Insomnia</td>
<td>18 or &gt;</td>
<td>7.5 mg</td>
<td>30 mg</td>
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## Medications

### Antipsychotic

<table>
<thead>
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<th>Medications-Antipsychotic</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
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<tbody>
<tr>
<td>Quetiapine (Seroquel)</td>
<td>Schizophrenia</td>
<td>10 or &gt;</td>
<td>25 mg</td>
<td>800 mg</td>
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<tr>
<td></td>
<td>Bipolar</td>
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<td></td>
<td>Depression</td>
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<td>augmentation</td>
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<td></td>
<td>Sleep (ol)</td>
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<td>Behavior (ol)</td>
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<td></td>
<td>Poor impulse</td>
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<td></td>
<td>control (ol)</td>
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*ol = Off Label*

### Others

#### 2nd gen antipsychotics

<table>
<thead>
<tr>
<th>Medications-Antipsychotic</th>
<th>Indication</th>
<th>Age</th>
<th>Initial Dose</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aripiprazole (Abilify)</td>
<td>Autism</td>
<td>6 or &gt;</td>
<td>2 mg</td>
<td>20 mg</td>
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<tr>
<td></td>
<td>Irritability</td>
<td>6 or &gt;</td>
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<td>Tourette’s DO</td>
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<td>Depression</td>
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<td>Risperidone (Risperdal)</td>
<td>Autism</td>
<td>5 or &gt;</td>
<td>0.25 mg</td>
<td>3 mg</td>
</tr>
<tr>
<td></td>
<td>Irritability</td>
<td></td>
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</tr>
</tbody>
</table>
CBD Oil

CBD-Cannabidiol oil

• Extracted from industrial hemp *Cannabis sativa*
• **Not** psychoactive-THC < 0.3%
• Reacts with Endocannabinoid System (ECS)
  • ECS maintains homeostasis connecting all organs/systems*


CBD Oil

• Only FDA approved use in children is *Epidiolex®*
  • use in intractable epilepsy Dravet syndrome, Lennox-Gastaut syndrome
  • lack of regulation in production and distribution pose current problems
• Most research currently in chronic pain and addiction* but stay tuned

The child who knows unconditional love has the greatest gift the world can offer.