

An Introduction to Pediatric Psychopharmacology Updated September 2013

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Disclaimer

The information below is intended as general guidelines to the pediatrician. In no way is this information intended to guide specific practice with specific patients.

Some General Points:

DO NO HARM - As with all medications, psychotropic medications work best when the diagnosis is correct. In certain cases, they can make thoughts, feelings and behaviors worse, or cause physical problems. When in doubt regarding a diagnosis or treatment, an evaluation by a qualified mental health professional is advised.

MULTIMODAL TREATMENT - Medications alone are rarely the optimal treatment for a psychiatric problem. Other treatment modalities such as individual psychotherapy, family therapy, individual tutoring, school accommodations, group therapy, community supports such as social clubs, etc., are usually warranted.

FDA APPROVAL - Until recently, the FDA did not require that psychiatric medications under development be studied in children. As a result, many medications that are increasingly used in children and adolescents have not been FDA approved. While in most cases there is some clinical evidence supporting the use of these medications for specific disorders, placebo-controlled randomized clinical trials with sufficient numbers of subjects are frequently lacking. Informed consent with patients regarding use of off-label medications should also include acknowledgment of their off-label status and an explanation of why an off-label medication IS being used as opposed to an FDA approved alternative.

START LOW, GO SLOW – Psychotropic medications for children should be initiated at a careful dose, and dose increases should be cautious.

I will focus on:

- ADHD
- Depression
- Anxiety disorders
- Sleep problems

ADHD Medications

What's New?

- Stimulants still the first-line agent in those without tics, severe anxiety, narrow-angle glaucoma, mood instability
- Blackbox warnings on stimulants likely by FDA due to sudden death risk and cardiovascular problems; Most recent American Heart Association guidelines recommend screening for personal and family cardiac history; an EKG maybe ordered at the discretion of the prescriber. Consider an echocardiogram or pediatric cardiology referral in the setting of positive history or abnormal EKG, or consider nonstimulant treatment options.
- Long-acting alpha agonists
- Prodrug (Vyvanse)
- Atomoxetine (Strattera) - nonstimulant ADHD medication, now second in line after stimulants; inhibits norepinephrine reuptake; approved by FDA in 12/02; Black Box warning imposed in 2005 due to 5 cases of suicidal ideation and one attempted suicide in 1300 clinical trial patients; additional concern re potential liver injury after 2 documented cases (monitoring for jaundice, dark urine, unexplained flu-like symptoms and abnormal LFTS recommended); may be preferable in context of stimulant side effects including tic exacerbation and insomnia.
- Multimodal Treatment of ADHD Study (Arch Gen Psychiatry. 1999; 56:1073-1086) clearly supports use of medications for ADHD; although follow-up studies underscore these children continue to have areas of difficulty.

Medication Treatments for ADHD

STIMULANTS	Dosing	Peak	Duration	Side effects	Other
<i>Methylphenidates – Short acting</i>					
Methylphenidate (Ritalin)	Start 5mg qd-tid up to 60mg qd.	Peaks 1-3h	Lasts 2-4h	Appetite suppression, sleep disturbance, tic exacerbation, stomachache, HA, emotional lability, rebound effect	Avoid late pm dosing
Dextro-methylphenidate (Focalin)	Start 2.5mg qd	Peaks 1-4h	Lasts 2-5h	Same	Same
Methylphenidate CT	Start 5 mg BID up to 20 mg TID.		Lasts 3-4h	Same	Chewable tablet
Methylphenidate Oral Solution	Start 5 mg BID up to 30 mg BID			Same	Grape-flavored clear liquid

<i>Methylphenidates – Intermediate Acting</i>					
Ritalin SR	Start 10mg qam up to 60 mg qam	Peaks at 3 hours	Lasts 4-8 hours	Same	Continuous release tablet; individual variability in duration of action due to wax matrix
Metadate ER	Start 10 mg qam up to 30 mg BID		Lasts 6-8 hours	Same	Brand-name generic of Ritalin SR
Methylin ER	Start 20mg qam up to 60 mg qam		Lasts 4-8 hours	Same	Brand-name generic of Ritalin SR
<i>Methylphenidates – Long acting</i>					
Extended-release methylphenidate (Concerta)	Start 18mg qam up to 54mg qd	Peaks 8h	Lasts 12h	Same, but generally less rebound, less emotional lability.	Possibly less potential for abuse. Capsule with osmotic release mechanism; capsule must remain intact
Metadate CD	Start 10mg qam	Peaks 5h	Lasts 8h		Same "Diffucap" bead release mechanism; can open and sprinkle beads. 30% released immediately, 70% delayed release.
Focalin XR	Start 5mg qam, or half the currently prescribed racemic Lasts approx 8h dose of MPH up to			Same	Capsule can be opened and beads sprinkled. Mimics 2 equal doses of regular Focalin.

	max of 20mg daily.				
Ritalin LA	10-60 mg qam			Same	Capsule can be opened and beads sprinkled. Mimics 2 equal doses of regular Ritalin
Daytrana (MPH transdermal system)	10-30mg po qam. Remove after 9 hours.		Lasts 8-12 hours.		Same Continuous release patch. Can remove patch earlier to decrease duration.
Quillivant XR Methylpheniate HCl concentrate	Start at 20mg qam and increase weekly by 10mg up t 60 mg daily	5 h			Supplied as powder, reconstituted as oral suspension. New in 2013
<i>Amphetamines – Short acting</i>					
Dextrostat (dextroamphetamine)	Preschoolers : 2.5 mg qam up to 20 mg BID School-aged and adolescents: 5mg qam up to 20 mg BID		Lasts 3-5 hours	Same	Brand-name generic of Dexedrine
Liquadd (dextroamphetamine)	Start 5 mg qam up to 20 mg BID		Lasts 3-5 hours	Same	Bubble-gum flavored liquid
Desoxyn (metamphetamine)	Start 2.5-5 mg qam up to 10 mg BID		Lasts 3-5 hours	Same	Tablet
Amphetamine mixed salts (Adderall)	Start 2.5mg qd-bid; upperlimit 60mg/day	Peaks 1-3h	Lasts5h	Same	Intermediate half-life; less rebound

Dextroamphetamine (Dexedrine)	Start 2.5mg qd-bid up to 40mg qd	Peaks 1-3h	Lasts 5h	Same	Tablet
<i>Amphetamines- Intermediate-acting</i>					
Adderall	Start 2-5-5mg qam up to 60 mg qam		Lasts 4-8 hours	Same	Tablet. Can be crushed. Available in smaller dosing increments (5, 7.5, 10, 12.5, 15, 20, 30)
<i>Amphetamines- Long-acting</i>					
Adderall XR	Start 10mg qam	Peaks 1-4h	Lasts 9h	Same	Can open capsule and sprinkle beads.
Dexedrine spansules	Start 5mg qam	Peaks 1-4h	Lasts 6-9h	Same	
Vyvanse (lisdexamfetamine)	Start 20-30mg qam up to 70 mg qam		Lasts 8-12 h		Capsule can be dissolved in water. Is a prodrug of dextroamphetamine
NOREPINEPHRINE REUPTAKE INHIBITOR					
Atomoxetine (Strattera)	Start 10-25 mg (weight dependent) up to 80 mg qd				CYP2D6 inhibitor; GI side effects, appetite suppression Monitor for liver injury, suicidal ideation (black box warning); 24/7 coverage; no insomnia
OTHER NON-STIMULANTS					

Wellbutrin (bupropion)	Start 75 mg qam up to 1.4-6mg/kg/d		Lasts 6-9 h		Tablet. Non-FDA approved. Contraindicated with eating disorders, seizures.
Provigil (modafanil)	Start 100 mg qam up to 400mg qam.			Lasts 18-24h	Not FDA-approved due to Stevens Johnson risk
Tenex (guanfacine immediate release)	Start 1mg qam up to 4mg qam. Dose increase no faster than 1mg/wk.				Alpha 2-agonist. Longer-acting and less sedating than clonidine. Risk of hypotension. Do not stop abruptly. Not FDA approved.
Intuniv			Lasts 24 h.		Long-acting version of Tenex. Dosing is additive.
Clonidine	Start 0.05 mg qam up to 0.3 mg qam.		Lasts up to 4 h.		Sedation and hypotension; rebound hypertension/tachycardia. Not FDA approved.
Kapvay					Long-acting clonidine. Alpha-2 agonists may be used alone or with a stimulant.

Juvenile-Onset Depression

Symptoms of Depression: "SIGECAPS" DEPRESSED MOOD +

- SLEEP disturbance
- Loss of INTEREST/pleasure
- GUILT/worthlessness
- Decreased ENERGY
- Decreased CONCENTRATION
- Change in APPETITE

- PSYCHOMOTOR retardation or agitation
- SUICIDALITY

Features often unique to adolescents:

- Increased sleep
- Irritability; negativistic or mixed mood state
- Increased po intake and weight gain
- Social withdrawal
- Decline in academic performance
- Masking by comorbid disorders (e.g. substance abuse, conduct disorder)
- Younger children may present with somatic symptoms.

How to distinguish from juvenile-onset bipolar disorder:

The 5th edition of the Diagnostic and Statistical Manual, due out in 2013, is expected to distinguish between JBPD as an episodic disorder closely similar to the adult disorder and “severe mood dysregulation,” characterized by chronic irritability. See Leibenluft E (2011) “Severe Mood Dysregulation, Irritability, and the Diagnostic Boundaries of Bipolar Disorder in Youth, American Journal of Psychiatry, 168(2): 129-142. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3396206/>

LBPD is a complicated disorder that requires child psychiatry. If a child becomes activated or manic on an antidepressant, s/he should be evaluated by a child psychiatrist.

How to approach depression in the pediatric office

- Identify depression and any co-morbidities
- Ask about family history of mood disorders and suicide
- Assess stressors, family's dysfunction, other supports including school
- Provide psychoeducation and support, including re safety issues (e.g. lock up Tylenol, store gun with local police)
- Consider possible medical causes, e.g. anemia, hypothyroidism, lead, substance abuse, infectious mononucleosis
- Consider psychotherapy referral, SSRI and/or atypical antidepressant trial

Examples of questions to ask the patient

- Do you feel bad (sad, grumpy, mad) inside most days?
- Are you acting differently because of how bad you're feeling?
- Do you feel so bad that life doesn't seem worth living?
- Have you actually thought of ways you might hurt yourself, or even kill yourself?

Treatment of Depression

- Multimodal approach (TADS study supports combined fluoxetine and cognitive behavioral therapy); long term follow up suggests use of meds hastens recovery
- Manage psychosocial stressors
- Include parents
- Address school issues
- Psychoeducation of child and family

BLACK BOX WARNING

On October 15, 2004, the Food and Drug Administration issued a requirement that all antidepressants prescribed for children and adolescents carry a black box warning in their package insert. The warning concerns increased suicidal thinking and behavior that may occur in children and adolescents during the early phase of treatment. The warning is based on pooled analyses of short-term (4-16 weeks) placebo-controlled trials of SSRIs and other antidepressants in a variety of diagnoses in over 4400 patients. The FDA reported an increased risk of suicidal thinking or behavior during the first few months of treatment in those receiving antidepressants. The average risk of such events on drug was 4%, twice the placebo risk of 2%. No suicides occurred in these trials.

In light of these findings, the FDA recommends that observation for clinical worsening, suicidality or unusual changes in behavior during the first few months of antidepressant medication therapy *include weekly visits during the first four weeks, biweekly visits for the next eight weeks, then visits as clinically indicated.* A recent meta-analysis found a favorable benefit-risk ratio in treating depressed youth with antidepressants (Bridge JA et al 2007: Clinical response and risk for reported suicidal ideation and suicide attempts in pediatric antidepressant treatment: a meta-analysis of randomized controlled trials. JAMA 297:1683-1696). *Pediatricians should conduct and document an informed consent process with parents before prescribing antidepressants for juveniles, including describing the treatment options, the potential risks and benefits of treatment, the potential risks of no treatment, the guardian's understanding of these, and child/adolescent's assent if still a minor.*

Classes of Antidepressants

- Selective Serotonin Reuptake Inhibitors
- Other antidepressants (bupropion, venlafaxine, nefazodone, mirtazapine)
- Tricyclic antidepressants
- Monoamine Oxidase Inhibitors (MAOIs) (phenelzine, tranylcypromine, selegiline)

Antidepressants and the Pediatrician: Suggestions

- Consider becoming familiar with ONE SSRI and ONE other type of antidepressant
- Prioritize your treatment: Start with a safety evaluation; arrange for a next visit for further evaluation and assessment of treatment needs, including medication
- Discuss with your practice group what billing codes you may use for further visits
- PROVIDE AND DOCUMENT AN INFORMED CONSENT PROCESS BEFORE STARTING ANYMEDICATION
- REMEMBER: No treatment can be less safe than treatment; consider a referral to a child psychiatrist if in doubt

BLACK BOX WARNING

prescribing antidepressants for juveniles, including describing the treatment options, the potential risks and benefits of treatment, the potential risks of no treatment, the guardian's understanding of these, and child/adolescent's assent if still a minor.

Issues with SSRIs

- Delayed efficacy (3-6 weeks)
- Annoying but not life-threatening side effects
- Generally safe in overdose
- Fluoxetine and levo-citalopram FDA approved for use in juveniles; controlled data support the use of fluoxetine (most recently the NIMH-funded 2004 Treatment of Adolescent Depression Study TADS), sertraline and citalopram in children; paroxetine is also supported by one controlled study but see FDA warning below.
- The TORDIA study (Treatment of Resistance Depression in Adolescents), Brent D et al. (2008) Switching to another SSRI or to venlafaxine with or without cognitive behavioral therapy for adolescents with SSRI-resistant depression: the TORDIA randomized controlled trial. *JAMA*. Feb 27;299(8):901-13) supports the use of a 2nd SSRI if 1st is ineffective. Contrary to previous thinking, no evidence that venlafaxine is superior, and it may be associated with increased risk of suicidality
- Most common side effects 1) Sexual dysfunction 2) Nausea 3) Sleep disturbance
- Beware of activation, precipitating a mania. A child who is activated on an antidepressant, or who has an underlying bipolar disorder and has been precipitated into a manic phase by the antidepressant, may be agitated, hyperactive, unable to sleep. Treatment is to stop the medication.
- Discuss sexual dysfunction, change in appetite.
- MAY NOT BE SAFE IN PREGNANCY, ACCORDING TO RECENT EVIDENCE; FEMALE PATIENTS SHOULD HAVE A PREGNANCY TEST PRIOR TO INITIATING TREATMENT AND SHOULD TAKE APPROPRIATE PRECAUTIONS TO PREVENT PREGNANCY WHILE ON AN SSRI
- Newer SSRI Duloxetine HCl (Cymbalta) associated with hepatic injury in postmarketing reports

SSRI Side-Effects (Kutcher, 1997): Relatively common

- Sexual dysfunction
- Dizziness
- Sweating
- Diarrhea
- GI distress
- Sexual disturbances
- Headaches
- Fatigue
- Restlessness
- Initial insomnia
- Weight gain

SSRI Side-Effects (Kutcher, 1997): Relatively uncommon

- Delayed micturition

- Blurred vision
- Hypomanic symptoms
- Tachycardia
- Seizures
- Skin rashes
- Hypersomnia
- Sexual dysfunction
- Dry mouth
- Tremor
- Constipation
- Bleeding/bruising (particularly when combined with non-steroidal anti-inflammatories)

A clinical approach to side effects

- Side-effects are very idiosyncratic in children; if a child develops a symptom on the SSRI, it may well be the SSRI.
- Determine with the child and family how impairing the side effect(s) is (are) and make a risk-benefit analysis re continuing the medication.
- SSRI Discontinuation Syndrome most documented with paroxetine (Paxil) and fluvoxamine (Luvox), probably because they have shorter half-lives and no active metabolite
- Dizziness, paresthesias, asthenia, nausea, visual disturbance and headache
- Taper all SSRIs except possibly fluoxetine (Prozac) because of its long half-life

SSRIs: Dosing

- Start at $\frac{1}{4}$ to $\frac{1}{2}$ of adult starting dose
- For young children, if well tolerated go up to half of adult starting dose after 1-2 weeks and wait 3-4 weeks.
- For adolescents, if well tolerated go up to adult starting dose after 1-2 weeks and wait 3-4 weeks.
- If some evidence of response, consider more time OR slow dose increase.
- If no evidence of response, consider slow dose increase, augmentation with lithium, or switching to another SSRI; if prohibitive side effects, switch to another SSRI.

Discontinuation Symptoms

The shorter-acting SSRIs (especially fluvoxamine and paroxetine) are associated with withdrawal effects on abrupt cessation. Patients should be cautioned to take the medication regularly and not discontinue it abruptly.

SSRIs: Drug-Drug Interactions

The SSRIs are known to inhibit metabolism of various cytochrome P450 isoenzymes. The effect is to raise the level of any co-administered medication which may be metabolized by the same isoenzyme. For example, sertraline (Zoloft), citalopram (Celexa), fluoxetine (Prozac) and fluvoxamine (Luvox) are all metabolized by the P450 IIIA4 isoenzymes. So is erythromycin. Thus, coadministration of, say, sertraline and erythromycin may actually increase erythromycin levels, thus increasing the risk of side effects from erythromycin.

Serotonin Syndrome

- Usually occurs with the addition of a serotonergic agent to other meds

- Characterized by mental status changes, agitation, myoclonus, hyperreflexia, diaphoresis, shivering, tremor, diarrhea, incoordination, fever
- Need to rule out sepsis, neuroleptic malignant syndrome

Tricyclic Antidepressants

Evidence suggests these are not significantly better than placebo in treating child/adolescent depression

Atypical Antidepressants (second-line treatment for depression in children/adolescents)

- Venlafaxine (Effexor) (not effective in one placebo-controlled study of juveniles with depression)
- Nefazodone (Serzone) (not effective in one placebo-controlled study of juveniles with depression; brand name medication removed from market due to association with liver problems)
- Mirtazapine (Remeron)
- Bupropion (Wellbutrin)

Atypical antidepressants: Venlafaxine (Effexor)

- Can cause diastolic hypertension, discontinuation syndrome
- May cause anxiety, nausea, insomnia, sedation, dizziness, constipation, stomachaches, headaches
- Usually clinically inconsequential medication interactions
- May be associated with increase in spontaneous suicidality (Hammad et al, 2006, Arch Gen Psychiatry 63:332-333).

Atypical antidepressants: Nefazodone (Serzone brand removed from market)

- Serotonin and NE reuptake inhibition
- Indicated for depression; Also useful for anxiety
- New blackbox warning re liver failure; monitor liver function tests at baseline, with dose increases, and at regular intervals on stable dose
- May cause nausea, sedation (slow titration), agitation, dry mouth, constipation, confusion
- Few sexual side effects
- Less activating
- A metabolic inhibitor with med-med interactions like the SSRIs

Atypical antidepressants: Mirtazapine (Remeron)

- One controlled study does not support its use in children/adolescents
- Alpha-2 presynaptic autoreceptor inhibition (like yohimbine)
- Also stimulates serotonin and NE release
- Blocks post-synaptic serotonin receptors, so may cause sedation, weight gain, nausea

Atypical antidepressants: Bupropion (Wellbutrin)

- Affects both dopamine and NE systems
- Effective anti-ADHD agent
- Effective for depression in adults
- Anti-smoking (Zyban)
- No sexual dysfunction, less manicogenic
- Not to be used with seizures, bulimia

- May cause appetite suppression, sleep disturbance, tic exacerbation, irritability (especially at too-high dose)
- Caution in combining with other drugs that can lower seizure threshold
- Now available in one-a-day dosing (Wellbutrin XL)

Monoamine Oxidase Inhibitors

- Examples: Phenelzine (Nardil), Tranylcypromine (Parnate)
- Complicated to use (dietary restrictions and med interactions)
- BEWARE OF COMBINING WITH: Sympathomimetics, (e.g. Pseudoephedrine) (hypertensive crisis); Demerol, dextromethorphan, serotonergic agents (serotonin syndrome); TCAs (get symptoms like serotonin syndrome)
- Do not recommend use by pediatricians

Anxiety Disorders

Note: DSM-V, due out in 2013, is expected to modify the specific criteria for these disorders and may add a new diagnosis called "Mixed Anxiety-Depressive Disorder."

- Generalized anxiety disorder
- Social phobia, selective mutism
- Panic disorder
- Obsessive-compulsive disorder
- Post-traumatic and acute stress disorders
- Separation anxiety
- Specific phobia
- Adjustment disorder with anxiety

Anxiety Disorders: General

- Most common psychiatric condition in children and primary cause of inattention
- If child meets criteria for one anxiety disorder, frequently meets others
- Controversial diagnostically because of this and comorbidity with other psychiatric disorders, lack of biological markers
- Good evidence for cognitive-behavioral treatment in mild cases and combined treatment in moderate to severe cases
- Highly familial
- Relationship to temperament (Chess and Thomas, Kagan's "inhibited child" work)
- Course tends to be chronic, (remission/relapse)
- Medical conditions such as hyperthyroidism, hypoglycemia, pheochromocytoma, and substance-induced anxiety, need to be ruled out

Obsessive Compulsive Disorder - PANDAS (controversial)

Pediatric

Autoimmune

Neuropsychiatric

Disorders

Associated with

Strep

When to check for Strep (throat culture, ASO titer, anti-Dnase-B titer)

Any patient with tics, chorea, Obsessive Compulsive Disorder, choreiform movements who has:

- Abrupt onset of symptoms
- Abrupt exacerbation of symptoms
- Loss of a medication response
- History of good behavior with sudden dramatic behavioral difficulties (Leonard, 1999)

Treatment of Anxiety Disorders

Consider first: Cognitive Behavioral Therapy (CBT), family work, stress reduction, etc. Consider meds if important functional impairment (e.g. not able to go on playdates, not going to school).

The CAMS Study (**Child/Adolescent Anxiety Multimodal Treatment Study**) supports combined use of SSRI and CBT as first-line treatment (Walkup JT et al. Cognitive Behavioral Therapy, Sertraline, or a Combination in Childhood Anxiety. *NEJM* 359:2753-2766, Dec 25, 2008.)

How to handle anxiety in the pediatric office

- Identify anxiety and functional impairment
- Identify comorbidities
- Take family history
- Rule out possible medical causes including substance abuse
- Provide psychoeducation, advice re relaxation techniques (deep abdominal breathing, exercise, yoga, meditation, pleasure activities, etc.)
- Ask patient to keep a journal of the A, B, Cs of his or her anxiety symptoms (antecedent, behavior, consequence, including any efforts to contain)

Medications for Anxiety

- SSRIs
- Tricyclics
- Buspirone
- Benzodiazapenes
- Beta-blockers
- Combination of the above

NOTE: SEE BLACK BOX WARNING RE ANTIDEPRESSANTS ABOVE

SSRIs for Childhood Anxiety Disorders Increasing usage, although little data, for:

- Panic disorder
- Social phobia
- Generalized anxiety disorder
- Separation anxiety disorder

Buspirone (Buspar)

- 5HT-1A receptor agonist
- Clinical effects not uniform
- No pharmacokinetic studies in children
- May be helpful for GAD, with ADHD, in med-sensitive populations (e.g. brain-injured, PDD)
- Start 2.5-5 mg TID, up to 30-60 mg/d
- Delayed onset of anxiolytic action
- Advantages: mild side effects, no addictive potential
- Can cause hypertension

Benzodiazepines

Short half-life:

- Alprazolam (Xanax)
- Lorazepam (Ativan)

Longer half-life:

- Clonazepam (Klonopin)
- Diazepam (Valium)

Concerns about benzodiazepines

- Sedation, cognitive impairment
- Disinhibition
- Dependence/tolerance
- Potentiate effects of other medications
- Withdrawal side effects (need to taper)

When to consider using benzodiazepines

- Short-term treatment of disabling symptoms, e.g. for school avoidance until an SSRI starts to "kick in"
- Recurrent panic disorder, as a prn or "security blanket" (NOTE: clonazepam and alprazolam most effective for panic in adults)
- RARELY for short-term sleep difficulties

Example of using a benzodiazepine

Problem: 9 yo with school avoidance secondary to social phobia and separation anxiety; develops panic symptoms when approaching school in parents' car.

Solution: 0.25-0.5 mg of clonazepam (Klonopin) given 30-45 minutes before arrival at school to offset panic symptoms and allow desensitization therapy to occur; may need to adjust timing of dosing given wide range of time to onset

Sleep medications for children/adolescents

- Diphenhydramine (Benadryl) 25-50 mg
- Trazodone (Desyrel) 25-50 mg (Key potential side effect is priapism in males)
- Zolpidem (Ambien) 5-10 mg
- Clonidine (Catapres) 0.05-0.10
- Mirtazapine (Remeron) 7.5 mg
- Melatonin 3-5 mg qhs (one controlled study in adolescents)
- Always begin by emphasizing sleep hygiene (regular sleep schedule, no caffeine, no screen time/cell phone or other stimulating activity one hour before bedtime, use bed to sleep only)

For additional information please consult:

www.parentsmedguide.org/parentsmedguide.htm

www.parentsmedguide.org/physiciansmedguide.htm