

# Practical Pearls for Managing Pediatric Depression and Suicidality in Primary Care

Yamini Rao, MD

Primary Care Pediatrician and Behavioral Health Provider

# No disclosures

- I will be discussing off-label medication use in this lecture.

# Learning Objectives

- Identify presentations of depression in the pediatric populations
- Identify in office screening options for suicidality and depression
- Create a treatment plan in mild, moderate and severe depression
- Demonstrate comfort in discussing the “black box warning”
- Evaluate side effects of medications and drug-drug interactions in treating depression
- Identify screening options for suicidality and create a basic safety plan

# Epidemiology

- Depression is under-identified and under-treated
- Present with vague nonrelated concerns
- Prevalence is about 25%- 1 depressive episode by age 18
  - Increase during COVID-19
  - Prepubertal prevalence is 2-5%
- Up to 60% will have suicidal ideation
  - Suicide is the leading cause of death in 10-25 year olds
- Relapse is high! 50-70% of adolescents will have a relapse in 2-5 years
- 65% of youth have subclinical depressive symptoms
- Adolescent females: higher rates and more severe

# Age of Onset of Pediatric Mental Health Disorders

Toddler/Preschool (0-3 Years)	Early School Age (4-7 years)	School Age-prepuberty (6-12 years)	Adolescent (13-16 years)	Late Teen/Young Adult
ASD	ADHD	Anxiety	Depression	Bipolar/Psychosis Panic Disorder

# Assessment and Diagnosis

- DSM-5 Criteria for Major Depressive Disorder- **5 or more of the 9 symptoms for 2+ weeks**
- MUST HAVE
  - Depressed Mood (**irritability**) most of the day/every day  
OR
  - Diminished interest/pleasure/**boredom** in almost all activities, nearly every day
- PLUS 4 or more of these
  - Significant changes in appetite or weight
  - Insomnia/hypersomnia
  - Observable psychomotor agitation or retardation
  - Fatigue or loss of energy
  - Feelings of worthlessness or excessive guilt
  - Diminished ability to think or concentrate or make decisions
  - Recurrent thoughts of death or suicidal ideation

# Assessment and Diagnosis

- DSM-5: Persistent Depressive Disorder/Dysthymia.
- Less symptoms for a longer period
- **3 or more symptoms for a period of 1 year (pediatrics), 2 years (adults)** with decline in functioning
- **MUST HAVE: Depressed mood (or irritability) most of the day for the majority of days.**
- Plus 2 or more of these:
  - Poor appetite/overeating
  - Insomnia/hypersomnia
  - Low energy or fatigue
  - Low self esteem
  - Poor concentration
  - Feelings of hopelessness
  - During the one-year period, the symptoms have not been absent for more than 2 months

# Common Presentations

- Changes in mood, increased irritability
- Loss of interest/boredom
- Changes in sleep or appetite
- Change in school performance
- Chronic or acute stressors (trauma, bullying, life changes)
- Physical complaints
  - Headaches, stomach aches, muscle pain
- Past hx of psych diagnosis
- Non suicidal self injury or suicidality
- Family history of depression

# Differential Diagnosis

- High Rates of Co-Morbidities with psychiatric disorders
  - Anxiety
  - Disruptive behavior
  - ADHD
  - Substance use disorders
- Trauma, Mania, Psychosis, Eating Disorders
- Medical Co-Morbidities
  - Thyroid, Drug side effects
- Labs: CBC, BMP, CMP, TSH, Pregnancy Test, Urine Drug Screen

# Screening/Assessment/Monitoring Tools

- PHQ-9-A (free- self)
- Columbia DISC Depression Scale (CDS) (Free-Self/Parent)
- CES-DC: Center for Epidemiological Studies Depression Scale for Children (Free- Self)
- Kutcher Adolescent Depression Scale (Free- Self)
- Beck Depression Inventory (\$)
- **Clinical assessment is the gold standard: clinical interviews with child, parent, collateral**

# Treatment

- Collaborative
- Frequent monitoring
- Psychoeducation
- Assess Severity to guide treatment
  - Impairment- family, school, peers
- Psychotherapy
  - CBT, IPT
- Pharmacotherapy

# Treatment Based on Severity

Mild	Moderate	Severe
<ul style="list-style-type: none"><li>• 5-7 symptoms</li><li>• Minor functional impairment</li><li>• No comorbid dx</li><li>• No SI</li></ul>	<ul style="list-style-type: none"><li>• 5-7 symptoms</li><li>• Moderate functional impairment</li></ul>	<ul style="list-style-type: none"><li>• &gt; 7 symptoms</li><li>• Severe functional impairment</li><li>• Comorbid dx</li><li>• SI or psychosis</li></ul>
<ul style="list-style-type: none"><li>• <b>Psychotherapy/Psychosocial</b></li><li>• Regular assessment of symptoms</li></ul>	<ul style="list-style-type: none"><li>• <b>Therapy and/or Medication</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Therapy + Medication</b></li><li>• <b>Higher level of care options</b></li></ul>

## Treatment Pillars:

- Collaborative
- Psychoeducation

# Treatment: Evidence Based Psychotherapy

- Brief Problem Solving
- Cognitive Behavioral Therapy (CBT)
- Dialectical Behavioral Therapy
  - Persistent suicidal ideations
- Interpersonal Psychotherapy (IPT)
- Behavior Activation Therapy- quicker intervention
  - Behavior based vs cognition based
  - Goal directed behavior vs mood directed behavior

## **Find the right fit:**

- Mechanism of change in CBT – cognitive reframing and develop social skills/navigate social interactions- challenge their core beliefs and reframe how they view themselves.

# Pharmacologic Treatment Algorithm for Depression

1<sup>st</sup> SSRI trial: Titrate to adequate dose (Fluoxetine 40mg or Escitalopram 10mg) for at least 8 weeks

Partial Response: Trial up to 12 weeks

Augmenting Agent  
like bupropion,  
atypical  
antipsychotic,  
lamotrigine

No response at 8 weeks or side effects

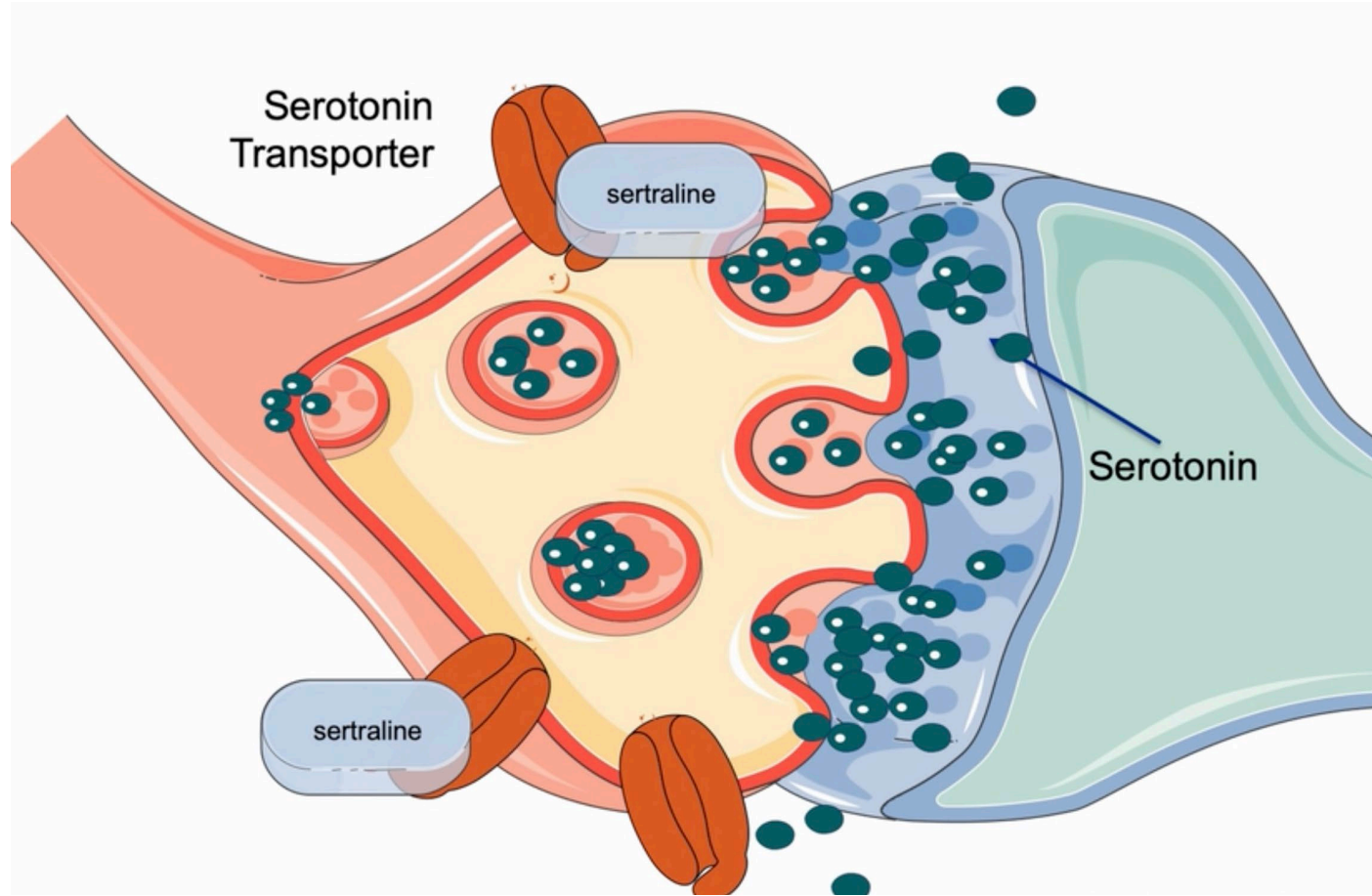
Cross Taper to  
2<sup>nd</sup> SSRI

No response or  
side effects

SNRI, Atypical Antidepressant like  
bupropion, mirtazapine

\*Always ask if psychotherapy is in place

# How do Selective Serotonin Reuptake Inhibitors (SSRIs) work?



- Depression is related to serotonin dysfunction
- Increases levels of serotonin in the synapse almost immediately
- Downregulation of post synaptic serotonin receptors over time (weeks) causes the neuron to release more serotonin

# Pediatric Antidepressants- FDA Approval

Class	Medication	Age (years)								
SSRI		6	7	8	9	10	11	12	13-17	
	Citalopram	NONE								
	Escitalopram	NONE						MDD		
	Fluoxetine		OCD							
		NONE		MDD						
	Fluvoxamine			OCD						
	Paroxetine	NONE								
	Sertraline	OCD								
	Vilazodone	NONE								
	Vortioxetine	NONE								
SNRI	Duloxetine		GAD							
	Desvenlafaxine	NONE								
	Venlafaxine	NONE								
Atypical Antidepressant	Bupropion	NONE								
	Mirtazapine	NONE								
	Trazodone	NONE								
TCA	Clomipramine					OCD				

# Treatment: Starting Medication

- FDA Approval- Fluoxetine and Escitalopram only
- Off label medications are often used
  - 80% of pediatric medications are off label
- Psychoeducation
  - Family history to pick a medication
  - Timeline
  - Side effects
  - Black box warning
  - Adequate Trial of the medication: > 8 weeks

# How to pick your first line SSRI?

- Your preference/experience
- Consider FDA approval (Fluoxetine, Escitalopram)
- Family's preference, family's experiences
- Family's dose response/history
- Compliance Issues
- Liquid/Capsule/Tablet
- Insurance coverage

# Talking to parents about SSRIs

- Not addictive- can be stopped safely anytime.
- Start low, go slow, close monitoring, frequent visits
  - Consider family history of bipolar, concern for ASD/ADHD (low/slower)
- Expected Response time
  - Usually see some response by week 2-4
  - Goal to get to target dose by week 4-8, stay at target dose for at least 4-8 weeks
  - Usually see mood/depression improvement before anxiety)
- How long will SSRI treatment last?
  - Reassess in 6-12 months

# Phases of Treatment

- Initiation- Start SSRI
  - Weekly dose increments- **goal to get to target dose by week 4**
  - Fair trial- at the target dose for 6-8 weeks (fluoxetine 40 mg or escitalopram 20mg)
  - Compliance- Pill reminder apps, Guardian's role?
  - If partial response, trial up to 12 weeks
- Continuation
  - Months 3-12
  - **Goal to treat for 6-12 months after remission of symptoms**
  - Follow up every 6-8 weeks
  - Autonomy around medication compliance for older teens/YA
- Maintenance
  - 1 year+ may plan a slow taper of medications: 25-50% weekly
  - Monitor for recurrence (60-70% recurrence of MDD in adulthood)

# Side effects of SSRIs

- **For all SSRIs, you see side effects before you see benefits!**
  - Anticipatory guidance
  - Anxiety patients are more sensitive/aware of changes in their body
  - Most common side effects start early and go away within 2 weeks
- **GI most common: Nausea, loose stools**
- Insomnia/Fatigue
  - **Peak blood levels 4-6 hours after taking medication. Change dosing time.**
- Headache, tremor, sexual side effects

# SSRI Side Effects

- **Activation-** more common with SSRIs > SNRIs > placebo
  - Early in treatment or with a dose change- most likely related to serum level of SSRI
  - Insomnia, restless, distractible, silly, irritable, agitated
  - More common in younger kids
  - MDD studies: prevalence 0.65-9.5%
- **Treatment approach for SSRI associated activation:**
  - Rule out medical condition
  - Wait a few days if not too impairing
  - Decrease SSRI dose (wait for activation to improve/resolve). Restart and titrate more slowly
  - Switch Medications- Fluoxetine (CYP2D6)  $\leftrightarrow$  Sertraline/Escitalopram (CYP2C19)

# SSRI Side Effects

- Induction of mania is  $< 2\%$ , no statistical difference vs placebo
  - Don't fear mania
  - Explosive outbursts can be part of anxiety
  - Elation, grandiosity, racing thoughts, decreased need for sleep, hypersexuality
  - Symptoms occur later in treatment and continue once SSRI is stopped.
- Serotonin syndrome- risk very low with SSRI monotherapy
  - Adolescents using illicit drugs (MDMA/ecstasy)
- Suicidality?

# Black Box Warning

- October 2004: Black Box warning for suicidality in adolescents and children
  - 24 Trials examined, containing 4400 children and adolescents
  - 9 Antidepressants included
  - **No completed suicides in these trials**
  - More youth on a med spontaneously reported suicidality vs. youth on placebo (4/100 vs. 2/100). Treat 100-140 children to see 1 child report increased suicidality
    - **Only reported suicidal thoughts and behaviors: None of these studies had any completed suicides!**
    - **Based on spontaneous reports, no systematic suicide risk assessment**

# Black Box Warning Discussion/Suicidality

- **Further studies found no increased risk when SI was systemically assessed using structured rating scales**
- Population studies show higher rates of antidepressant rx are associated with lower rates of attempted and completed teen suicide
- Treatment Emergent suicidality differs among specific medications- not across medication classes
  - Higher rates of SI with starting at high doses (always start low)
  - Paroxetine- most suicidality
  - **Sertraline- least suicidality. Lower rates of suicidality compared to placebo**
  - Benzodiazepine treatment- more SI compared to placebo

# Black Box Warning Discussion/Suicidality

- **No scientific consensus exists on whether these medications are truly associated with an increased risk of new-onset suicidal ideation**
- **Benefits of SSRIs much greater than the risks for suicidality.**
- **Recommend frequent monitoring of children for suicidal thoughts when these medications are started.**
- **Create partnership with the family**

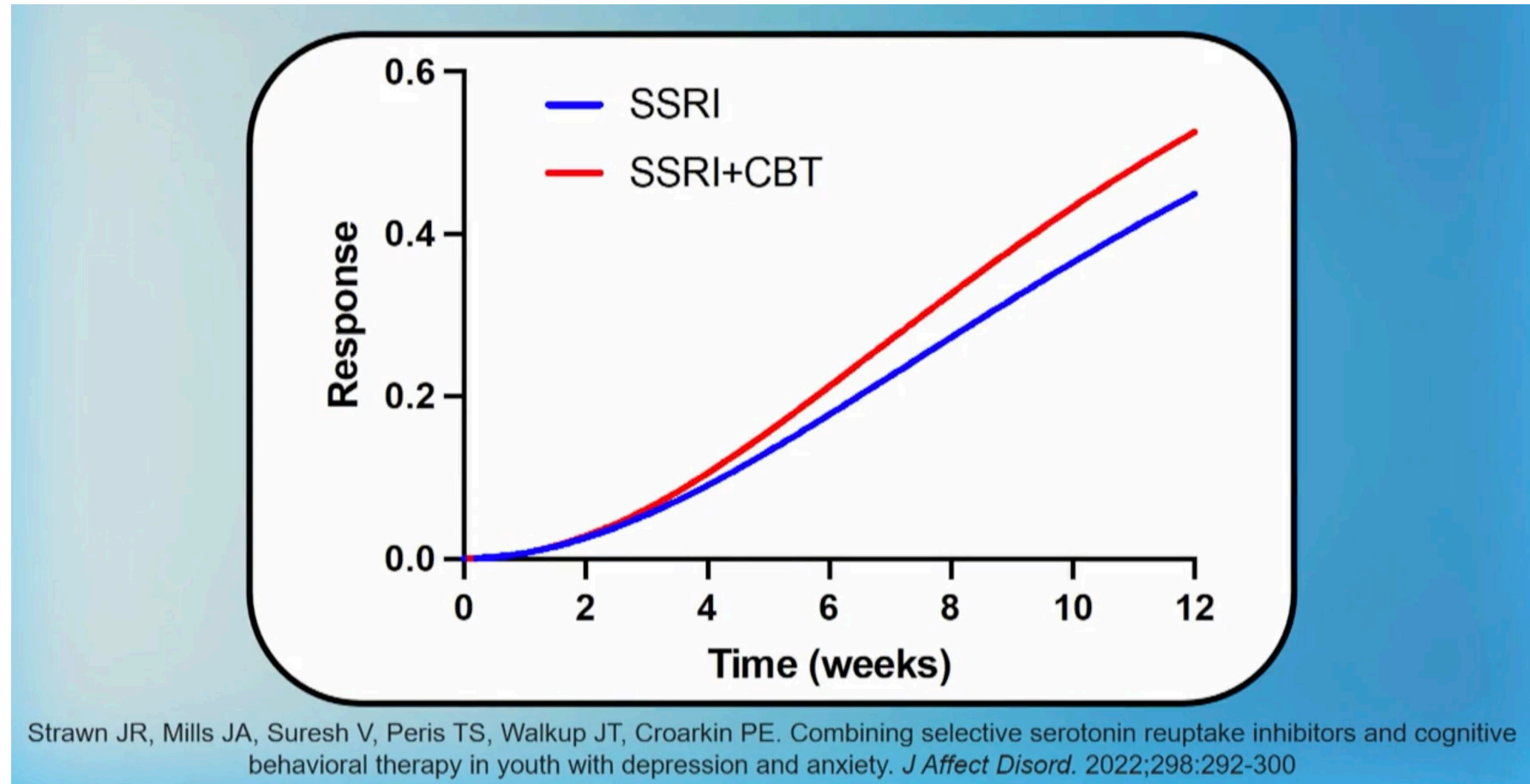
# Pediatric Depression Treatment Dosing

Medication	Starting Dose	Increments (weekly)	Target Dose Range (minimum 4-8 weeks at this dose)	Maximum Dose
Fluoxetine	5-10mg qAM	5-10 mg	20-40mg	60mg (80)
Escitalopram	2.5mg-5mg qAM	5mg	10-20mg	20mg (30)
Sertraline	12.5mg-25mg qAM	12.5mg - 25mg	50-100mg	200mg (30)
Citalopram	10mg qAM	10mg	20-40mg	40mg
Fluvoxamine	25-50mg QHS	50mg (move to BID)	100-150mg	300mg
Paroxetine	10mg/day	10 mg	20-60mg	60mg
Duloxetine	30mg qAM	30mg	40-60mg	120mg
Venlafaxine	75mg/day (divided BID) XR (37.5 mg once daily)	37.5-75mg	150-225mg	375mg
Desvenlafaxine	25mg	25mg	25-100mg	100mg
Bupropion	100 (SR)-150mg (XL)	100-150mg (q2-3wk)	150 (SR)-300mg (XL)	450mg
Mirtazapine	7.5-15mg	7.5-15mg	15-45mg	45mg

# Treatment of Adolescent Depression Study: TADS

- Study Design (12-17 year olds with moderate/severe depression)
  - Fluoxetine (10-40mg)
  - Placebo
  - Cognitive Behavioral Therapy
  - Combined fluoxetine and CBT
- Results at week 12: (CGI-I)
  - **Combined fluoxetine and CBT: 71%**
  - Fluoxetine: 61%
  - CBT: 43%
  - Placebo: 35%
- Results at week 36- all treatments converge
  - Combined: 86%, Fluoxetine: 81%, CBT: 81%
- Less suicidal ideation in the Combined and CBT groups.

# Time Frame Expectations



**It takes 8-10 weeks to see additive benefit** of psychotherapy/CBT in combination treatment for depression and anxiety

# Fluoxetine

- **First FDA approved SSRI for kids ages 8+ in depression and OCD**
- **Lots of pediatric data, SSRI that has been on the market the longest**
- **Longest half life**
- Great for patients with medication compliance issues
- Pill/Liquid
- Dosing
  - Start at 5-10mg, target dose 20-40mg, max dose of 60mg for Depression
  - Will go up to 80mg for refractory anxiety or OCD
- Less discontinuation symptoms
- More **drug drug interactions** (CYP2D6 inhibitor-antiseizure/ migraine/ anticoagulants)
- **Higher risk for activation side effects- but can help with low energy associated with depression**

# Escitalopram

- **FDA approved for adolescents (age 12+) with depression**
- Dosing:
  - Start at 2.5-5mg. Target dose 10-20mg
  - Will go up to 30mg for refractory anxiety or OCD
- Easy dose titrations
- RCT show improvement in children/adolescents with GAD compared to placebo.
- More sedation- move to bedtime if needed
- Tablet or liquid
- **Fewer drug/drug interactions**
- **Lowest activation risk**

# Pharmacologic Treatment Algorithm for Depression

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Partial Response: Trial up to 12 weeks

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# Non-Responders

- Did it fail?
  - Medication Adherence
    - Missing 3+ doses can drop serum levels of medication to almost 0
  - Check with collateral
  - Compare screens from baseline
- Therapy in place?
  - Place patient on waitlist
- Family conflict continues- family therapy

# Treatment SSRI Resistant Depression in Adolescents

- TORDIA Trial
- 40% of adolescents do not respond to initial depression treatment
  - Failed SSRI Trial (minimum 8 weeks, 4 weeks at Fluoxetine 40mg or equiv)
  - **3 arms: Switch to another SSRI, Switch to an SNRI (Venlafaxine XR) or switch med + CBT**
- Week 12 Outcomes
  - **CBT + either med switch higher (54%) vs med alone switch**
  - No difference in switch to SSRI or SNRI
  - **More side effects with SNRI (more suicidality)**
- Week 24
  - 40% remission, if you saw response at **week 12**, more likely to remit
- **Updated analysis: 2<sup>nd</sup> SSRI shows faster/greater improvement (10%)**
- **Take away: try a second SSRI first**

# Cross Titration between SSRIs

- **Risk/Benefit Talk with patient to make the titration schedule.**
- Fast Cross Titration
  - Quicker mood improvement, but possible more side effects
- Slow Cross Titration
  - Slower mood improvement, but likely less side effects
- Dosage forms- liquid/tablet or capsule
- Fluoxetine- consider stopping at once, and starting new med in 4-7 days

# SSRI Dose Equivalents

Fluoxetine (mg/day)	Sertraline (mg/day)	Escitalopram (mg/day)
5-10	12.5-25	2.5
20	50	5
30	75	7.5
40	100	10
50	150	15
60	200	20
70	250	25
80	300	30

Rule of 3 for Cross Titration:

Week 1: Cut Med 1 by 25-30%, Start Med 2 at 25-30% of target dose

Week 2: Cut Med 1 by another 30%, Increase Med 2 by another 30%

Week 3: STOP Med 1, Increase Med 2 by another 25-30%, ideally at or close to target dose

Week 4: Increase Med 2 to target dose. Stay on this dose for 6-8 week trial

# Pharmacologic Treatment Algorithm for Depression

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Partial Response: Trial up to 12 weeks

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# Sertraline

- **Best studied in Pediatric Anxiety, most evidence based, good data in depression as well**
- Comes in liquid and pills
- Dosage: Start at 12.5mg-25mg, FDA max is 200mg
  - Increase by 12.5mg or 25mg- weekly
  - Goal of 50-100 mg/day by week 8 (lower dose in depression)
  - Can go up to 300mg (OCD or refractory anxiety)
- Only FDA approved for OCD

# Paroxetine

- **Highest treatment emergent suicidality of the SSRIs**
- More withdrawal symptoms due to very short half life
- Tablet or Liquid
- Dosage
  - Start at 10mg, target dose 10-50mg

# Fluvoxamine

- **Lack of efficacy for depression**
- **Very short half life**
- Dosing:
  - Start at 25-50mg daily, then move to BID >50mg (Target dose 100-150mg)
  - Needs to be dosed BID
  - Tablet only
- **FDA approved for Pediatric OCD**
- Can be helpful for OCD tendencies- skin picking, nail biting

# Citalopram

- Well studied in pediatric depression
- **Side effect profile is good.** Minimal insomnia
  - Possible weight gain worse with citalopram > fluoxetine/sertraline
- Tablet and liquid
- Dosage
  - Start at 10mg qAM, increase by 10mg, target dose 20-40mg

# SNRIs: Duloxetine

- If failed 2 adequate trials of SSRIs, try an SNRI
- The only FDA approved medication for Generalized Anxiety Disorder for age 7+, some data in depression/but less convincing
- Capsules and Sprinkle Capsules that can be opened.
- Monitor Blood pressure (HTN)
- Dosing
  - Start at 30mg/day, increase weekly or every 2 weeks.
  - Target dose 60mg-120mg

# SNRI: Venlafaxine

- If failed 2 SSRIs, try an SNRI
- **Very short half life (3-13 hours)**
- **High rates of discontinuation symptoms**
  - Brain Zaps/fogs when starting and stopping
  - **Slower taper off**
- Tablets/Capsules
- Dosing
  - Start at 50-75mg/day- in divided doses
  - XR formulation- dosed once/day (37.5mg starting dose)
  - Target dose: 150-225mg/day
- Monitor blood pressure (HTN)

# SNRI: Desvenlafaxine

- Not efficacious for pediatric depression
  - Depression RCT in Kids 7-17- Placebo vs fluoxetine 20mg vs desvenlafaxine
  - Desvenlafaxine = placebo and Fluoxetine > placebo
- Dosing
  - Start at 25-50mg daily
  - Target dose 50-100mg

# Augmentation for Depression

- **In pediatrics, there is no data to support augmentation, yet it is a common clinical practice for partial response**
- Bupropion
- Mirtazapine
- Lithium
  - Might consider in a patient with significant suicidality
- Lamotrigine
  - Less risk of rash if titrate slowly
- Atypical Antipsychotics
  - Adult data: moderate effect size. No pediatric data
  - Side effects/Metabolic monitoring

# Bupropion

- Inhibits reuptake of dopamine and norepinephrine
- Augmentation or monotherapy
  - Helps with SSRI side effects/sexual dysfunction
- May be beneficial with comorbid ADHD, smoking cessation
- Lowers seizure threshold doses > 450mg - avoid in eating disorders, ETOH use/seizure disorder
- Dosing:
  - Immediate release (BID dosing: start 37.5mg BID, dose range 100-300mg/day)
  - 12-hour sustained release (2mg/kg once daily, qAM, up to 100mg, 3mg/kg qAM, 3mg/kg qAM-2mg/kg qPM, 3mg/kg BID)
  - 24- hour extended release (150mg qAM, titrate to 300mg after 2 weeks)

# Mirtazapine- Atypical Antidepressant

- Promotes release of norepinephrine and serotonin.
- No efficacy data in pediatric depression
- Possible adjunct for **sleep (sedating) and increasing appetite (weight gain)**
- Dosing
  - Start at 7.5mg-15mg daily. Max 45mg daily
- Possible use with anxiety/ASD

# Trazodone- Atypical Antidepressant

- Antihistaminic properties at low doses (sedation)
- Serotonergic activity at higher doses (anxiolytic)
- **Minimal data in pediatric anxiety**
- Often used as a **sleep adjunct** to the SSRI
- FDA approved for adult depression
- 25-50mg starting dose QHS, 100mg -300mg per day
- Nefazodone (liver toxicity)

# Tricyclic Antidepressants

- Serotonin and Norepinephrine Reuptake Inhibitors
- Lack of efficacy in depression
- High side effect profile/serotonin syndrome
- High lethality in overdose
- Reasonable to administer TCAs who do not respond to multiple trials of SSRIs
  - Amitriptyline, desipramine, imipramine, nortriptyline
- **Clomipramine- FDA approved for OCD 10+**
- Low doses can be used as an adjunct with an SSRI (sleep, OCD)

# Novel Medications

- **Vilazodone** (serotonin modulator)
  - Less sexual effects in adults
  - **No efficacy in pediatric depression:** One RCT, children age 12-17: Placebo, Vilazodone 15 and Vilazodone 30mg. No difference between the 3 arms.
- **Vortioxetine** (serotonin modulator)
  - RCT in children- negative study. 4 arms: vortioxetine, fluoxetine, and placebo. No difference between study drug and placebo
  - Fluoxetine benefit in more severe illness
- **Agomelatine** (Melatonin receptor agonist and 5HT receptor antagonist)
  - Approved for use in depression in Europe and Australia: not in the USA
  - Recent study: Ages 7-17 showed Agomelatine is similar to Fluoxetine in adolescents
  - Side Effect: increase appetite and weight gain
- **Ketamine**
  - RCT for treatment resistant depression in 13-17 years olds
  - Benefits lasted for 2 weeks, side effects of transient dissociative symptoms

# Stopping SSRIs when in Remission

- During a period of lower stress
- 25-50% taper of dose weekly or monthly
  - Consider the patient's initial side effects, duration of treatment and half life of SSRI
  - Fluoxetine- long half life may not need a taper
  - Paroxetine- short half life- will need a taper
- **Discontinuation syndrome**
  - Flu like illness, insomnia, sensory disturbances
- **Close follow up for at least 3 month (watch for resurgence of symptoms)**

# Hormonal questions around Depression

- Hormonal Contraception and Mood Changes
  - 30% no change, 30% improve, 30% worse
- Premenstrual Dysphoric Disorder (PMDD)
  - Mood symptoms the week before onset of menses and resolve within 1- days of menses onset
  - Track mood/menses
  - Treatment:
    - CBT
    - If contraception is not needed- SSRIs- usually see improvement with first cycle
    - If contraception is needed: Combined Oral Contraception
    - Add on SSRI if symptoms persist
    - Continuous SSRI vs intermittent during luteal phase only: Day 14 of cycle until menses)

# Drug-Drug Interactions

*Cytochrome P450 Inhibitors can alter levels of other medications that use these same enzymes*

- **Fluoxetine- CYP2D6 (potent) and CYP2C19 (moderate)- ask about patient's other medications!**
- **Bupropion- CYP2D6 (potent)**
- Fluvoxamine- CYP1A2 (potent) and CYP2C19 (moderate)
- Paroxetine- CYP2D6 (potent)
- **Citalopram (none)**
- **Escitalopram (none)**
- **Sertraline (none)**
- **Common Medications that use CYP2D6 and CYP2C19 for metabolism**
  - Antiseizure, migraine, anticoagulants, PPIs, opioids, risperidone, tamoxifen

# THC/Cannabis Considerations

- CBD and THC- metabolized through several P450 (CYP2C19) liver enzymes — increases blood levels of escitalopram and sertraline
  - **In patients using cannabis, there is more variation in SSRI levels**
  - **More side effects from the SSRI**
  - Takes longer to reach steady state

# Other Treatment Modalities

- ECT
  - Severe, intractable depression
- Bright Light Therapy
  - Seasonal depression or MDD
- TMS (Transcranial magnetic stimulation)
  - Preliminary study- Well tolerated but no difference between treatment and sham.
- Exercise
- Sleep hygiene
- Omega 3 Fatty acids
  - Small study showed improvement in depression compared to placebo

# Pharmacogenetic Testing

- Not supported by literature
- “Tells us how your liver will process the medication, not your brain”
- Most SSRIs are metabolized by the liver through CP450 systems
- Slow and fast metabolizers- relates likely more to side effects than response
- Body weight/fat mass
- Family history of response
- AACAP, AAP, and the FDA recommends that clinicians avoid using pharmacogenetic testing in selecting medications
  - Active area of research

# Suicidality

- Up to 60% will have suicidal ideation
  - Suicide is the leading cause of death in 10 to 25-year-olds
- Only 2% of youth who have committed suicide were on psychiatric medications
- Most children who completed suicide sought treatment 1 month prior to the event

# Assessing Safety

- Screening for suicidality:
  - Columbia Suicide Severity Rating Scale (CSSRS)
    - Validated Clinician Tool
    - Evaluate ideation, thoughts of method, plan and intent
    - Addresses frequency and intensity of thoughts
    - Evaluates suicidal behaviors, preparatory acts, attempt
    - Evaluate non suicidal self injurious urges and behavior
  - ASQ- Ask Suicide Screening Questions, age 8+
    - 20 second screener
    - A “yes” response to one or more of the four questions identified 97% of youth (aged 10 to 21 years) at risk for suicide
    - <https://www.nimh.nih.gov/research/research-conducted-at-nimh/asq-toolkit-materials/youth-asq-toolkit#outpatient>
  - PHQ- A- Modified with the ASQ
  - PHQ-9- question #9

# PHQ-9 modified for Adolescents (PHQ-A)

Name: \_\_\_\_\_ Clinician: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** How often have you been bothered by each of the following symptoms during the past **two weeks**? For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.

	(0) Not at all	(1) Several days	(2) More than half the days	(3) Nearly every day
1. Feeling down, depressed, irritable, or hopeless?				
2. Little interest or pleasure in doing things?				
3. Trouble falling asleep, staying asleep, or sleeping too much?				
4. Poor appetite, weight loss, or overeating?				
5. Feeling tired, or having little energy?				
6. Feeling bad about yourself – or feeling that you are a failure, or that you have let yourself or your family down?				
7. Trouble concentrating on things like school work, reading, or watching TV?				
8. Moving or speaking so slowly that other people could have noticed?  Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?				
9. Thoughts that you would be better off dead, or of hurting yourself in some way?				

In the **past year** have you felt depressed or sad most days, even if you felt okay sometimes?

☐ Yes ☐ No

If you are experiencing any of the problems on this form, how **difficult** have these problems made it for you to do your work, take care of things at home or get along with other people?

☐ Not difficult at all ☐ Somewhat difficult ☐ Very difficult ☐ Extremely difficult

Office use only:

Severity score: \_\_\_\_\_

Johnson JG, Harris ES, Spitzer RL, Williams JB. The patient health questionnaire for adolescents: validation of an instrument for the assessment of mental disorders among adolescent primary care patients. J Adolesc Health. 2002;30(3):196-204. doi:10.1016/s1054-139x(01)00333-0



Ask Suicide-Screening Questions

Ask the patient:



**Ask the patient:**

- |  |     |    |
|--|-----|----|
| (1) In the past few weeks, have you wished you were dead?  | YES | NO |
| (2) In the past few weeks, have you felt that you or your family would be better off if you were dead? | YES | NO |
| (3) In the past week, have you been having thoughts about killing yourself?                            | YES | NO |
| (4) Have you ever tried to kill yourself?  | YES | NO |
| If yes, how? _____ When? _____   |     |    |


**If the patient answers yes to any of the above, ask the following question:**

- |  |     |    |
|--|-----|----|
| (5) Are you having thoughts of killing yourself right now? | YES | NO |
| If yes, please describe: _____                             |     |    |

Horowitz LM, Bridge JA, Teach SJ, et al. Ask Suicide-Screening Questions (ASQ): a brief instrument for the pediatric emergency department. Arch Pediatr Adolesc Med. 2012;166(12):1170-1176. doi:10.1001/archpediatrics.2012.1276

**Provide resources to all patients: 24/7 National Suicide Prevention Lifeline 1-800-273-TALK (8255) En Español: 1-888-628-9454  
24/7 Crisis Text Line: Text "HOME" to 741-741**

# Brief Suicide Safety Assessment



NIMH TOOLKIT: **YOUTH OUTPATIENT**

Brief Suicide Safety **Assessment**

Ask **Suicide-Screening** Questions

**What to do when a pediatric patient screens positive for suicide risk:**

- Use after a patient (**8 - 24 years**) screens positive for suicide risk on the asQ
- Assessment guide for mental health clinicians, MDs, NPs, or PAs
- Prompts help determine disposition

**1**

**Praise patient** *for discussing their thoughts*

"I'm here to follow up on your responses to the suicide risk screening questions. These are hard things to talk about. Thank you for telling us. I need to ask you a few more questions."

**2**

**Assess the patient** *(If possible, assess patient alone depending on developmental considerations and parent willingness.)*

Review patient's responses from the asQ

Frequency of suicidal thoughts

Determine if and how often the patient is having suicidal thoughts.  
**Ask the patient:** "In the past few weeks, have you been thinking about killing yourself?" **If yes, ask:** "How often?" (once or twice a day, several times a day, a couple times a week, etc.) "When was the last time you had these thoughts?"  

"Are you having thoughts of killing yourself right now?" (If "yes," patient requires an urgent/ STAT mental health evaluation and cannot be left alone. A positive response indicates imminent risk.)

Symptoms **Ask the patient about:**

**Depression:** "In the past few weeks, have you felt so sad or depressed that it makes it hard to do the things you would like to do?"  
**Anxiety:** "In the past few weeks, have you felt so worried that it makes it hard to do the things you would like to do or that you feel constantly agitated/on-edge?"  
**Impulsivity/Recklessness:** "Do you often act without thinking?"  
**Hopelessness:** "In the past few weeks, have you felt hopeless, like things would never get better?"  
**Anhedonia:** "In the past few weeks, have you felt like you

### 3 Interview patient & parent/guardian together

If patient is  $\geq 18$  years, ask patient's permission for parent/guardian to join.

**Say to the parent:** "After speaking with your child, I have some concerns about his/her safety. We are glad your child spoke up as this can be a difficult topic to talk about. We would now like to get your perspective."

- "Your child said... (reference positive responses on the asQ). Is this something he/she shared with you?"
- "Does your child have a history of suicidal thoughts or behavior that you're aware of?" **If yes, say:** "Please explain."
- "Does your child seem:
  - o Sad or depressed?"
  - o Anxious?"
  - o Impulsive? Reckless?"
  - o Hopeless?"
  - o Irritable?"
  - o Unable to enjoy the things that usually bring him/her pleasure?"
  - o Withdrawn from friends or to be keeping to him/herself?"

- "Have you noticed changes in your child's:
  - o Sleeping pattern?"
  - o Appetite?"
- "Does your child use drugs or alcohol?"
- "Has anyone in your family/close friend network ever tried to kill themselves?"
- "How are potentially dangerous items stored in your home?" (e.g. guns, medications, poisons, etc.)
- "Does your child have a trusted adult they can talk to?" (Normalize that youth are often more comfortable talking to adults who are not their parents)
- "Are you comfortable keeping your child safe at home?"

**At the end of the interview, ask the parent/guardian:**  
"Is there anything you would like to tell me in private?"

### 4 Make a safety plan with the patient Include the parent/guardian, if possible.

Create a safety plan for managing potential future suicidal thoughts. A safety plan is different than making a "safety contract"; asking the patient to contract for safety is NOT effective and may be dangerous or give a false sense of security.

**Say to patient:** "Our first priority is keeping you safe. Let's work together to develop a safety plan for when you are having thoughts of suicide."

Examples: "I will tell my mom/coach/teacher."  
"I will call the hotline." "I will call \_\_\_\_\_."

Discuss coping strategies to manage stress (such as journal writing, distraction, exercise, self-soothing techniques).

**Discuss means restriction**  
(securing or removing lethal means): "Research has shown that limiting access to dangerous objects saves lives. How will you secure or remove these potentially dangerous items (guns, medications, ropes, etc.)?"

**Ask safety question:** "Do you think you need help to keep yourself safe?" (A "no" response does not indicate that the patient is safe; but a "yes" is a reason to act immediately to ensure safety.)

## 5 Determine disposition

After completing the assessment, choose the appropriate disposition plan. *If possible, nurse should follow-up with a check-in phone call (within 48 hours) with all patients who screened positive.*

- ☐ **Emergency psychiatric evaluation:** Patient is at imminent risk for suicide (current suicidal thoughts). Send to emergency department for extensive mental health evaluation (unless contact with a patient's current mental health provider is possible and alternative safety plan for imminent risk is established).
- ☐ **Further evaluation of risk is necessary:** Review the safety plan and send home with a mental health referral as soon as patient can get an appointment (preferably within 72 hours).
- ☐ **Patient might benefit from non-urgent mental health follow-up:** Review the safety plan and send home with a mental health referral.
- ☐ **No further intervention is necessary at this time.**

*For all positive screens, follow up with patient at next appointment.*

## 6 Provide resources to all patients

- 24/7 National Suicide Prevention Lifeline 1-800-273-TALK (8255) En Español: 1-888-628-9454
- 24/7 Crisis Text Line: Text "HOME" to 741-741

# Risk factors for increased suicidal behavior

- Past history of suicide attempts
- History of chronic SI and/or self injury
- Psychiatric Disorders
- New or worsening impulsivity, substance use, aggression, poor sleep
- Hopelessness
- Social isolation
- History of trauma
- Family history of suicidal behavior
- Being in a marginalized community

# Suicidality as a Spectrum

- Wish for death
  - Thoughts around, “not waking up” if I die tomorrow, i wouldn’t be upset. No active idea of what they will do about it
- Suicidal Ideation (non specific)
  - ”I want to kill myself”
- Suicidal Ideation with method
  - Some ideas of how they might end their life, not a specific plan, unrealistic methods
- Suicidal ideation with intent
  - I really want to follow through
- Suicidal ideation with intent and plan
  - Now has a plan or idea of how they will do it, or get the materials they need
- Suicidal Behavior
  - Actually following through

# Interventions in Suicide Prevention

- Safety planning
  - Evidence based to reduce suicide risk
  - Time consuming
  - Safety Plan Templates available through the AAP
    - <https://suicidesafetyplan.com/forms/>
  - "Contracting" for safety is NOT effective and may be dangerous or give a false sense of security
- Lethal Means Safety Counseling
  - Firearms- 1/2 of youth suicides
  - Medications, including OTC, supplements
  - Alcohol, Knives, Razors, Household cleaners/poison, Antifreeze, Inhalants High windows, Balcony, Ropes, Belts, Plastic Bags

# Safety Planning

- Complete safety plan and give them a copy
  - Take a picture on their phone
- Basic components
  - Make your space safe
    - Removal of lethal means
    - Make sure coping skills and strategies are accessible
  - Red flags or warning signs/triggers
  - Things I can do on my own
  - People or places that help distract me
  - Adults I can ask for help
  - Phone Number + Local Crisis Resource + 988 (text/call)

# Safety Planning

- Identify triggers, coping, social support, emergency resources (988) and deterrents/protective factors
- What makes your life worth living? pet, family, faith, belief system, sibling, teams, friends, talent
- Involving parents?
  - Meet with the child alone first
  - Need to disclose to parents?
    - Determine level of risk
    - Are you following up regularly
    - Parent-child dynamic?
    - Discuss ways to make the environment safe

# STANLEY - BROWN SAFETY PLAN

## STEP 1: WARNING SIGNS:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## STEP 2: INTERNAL COPING STRATEGIES – THINGS I CAN DO TO TAKE MY MIND OFF MY PROBLEMS WITHOUT CONTACTING ANOTHER PERSON:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## STEP 3: PEOPLE AND SOCIAL SETTINGS THAT PROVIDE DISTRACTION:

- |                 |                 |
|-----------------|-----------------|
| 1. Name: _____  | Contact: _____  |
| 2. Name: _____  | Contact: _____  |
| 3. Place: _____ | 4. Place: _____ |

## STEP 4: PEOPLE WHOM I CAN ASK FOR HELP DURING A CRISIS:

- |                |                |
|----------------|----------------|
| 1. Name: _____ | Contact: _____ |
| 2. Name: _____ | Contact: _____ |
| 3. Name: _____ | Contact: _____ |

## STEP 5: PROFESSIONALS OR AGENCIES I CAN CONTACT DURING A CRISIS:

- |                                 |              |
|---------------------------------|--------------|
| 1. Clinician/Agency Name: _____ | Phone: _____ |
| Emergency Contact : _____       |              |
| 2. Clinician/Agency Name: _____ | Phone: _____ |
| Emergency Contact : _____       |              |

# Treatment for Depression in Autism Spectrum Disorder

- No Data!
- Behavioral therapy
- Consider Shorter half life SSRIs (sertraline or citalopram)
- Bupropion? Mirtazapine? Vortioxetine?
- Lamotrigine (if activated with antidepressants)
- Bright light therapy (seasonal)
- Omega 3 Fatty Acids

# Take Home Points

- Depression is common in the pediatric population
- Clinical interview is the gold standard- screenings are helpful
- Treatment- SSRIs first+ second line. Alternatives/Augmentation strategies are an option- SNRI/Bupropion/Mirtazapine
- Treatment resistance is as high as 40% with first SSRI
- CBT/Psychotherapy/Family involvement is a major part of treatment
- Suicidality- discuss openly
- Safety planning and lethal means removal can help with suicide prevention

# Thank you!

- Questions?