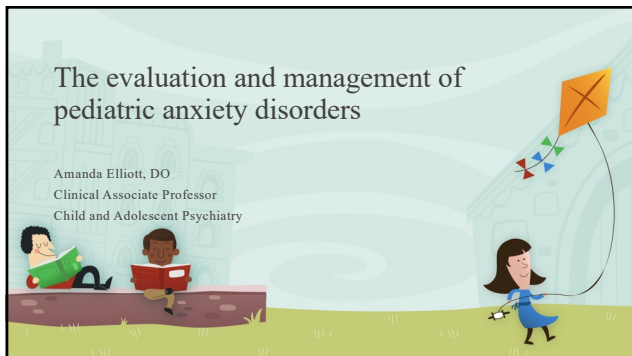


The evaluation and management of pediatric anxiety disorders

Amanda Elliott, DO
Clinical Associate Professor
Child and Adolescent Psychiatry



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Disclosures



No financial relationships to disclose

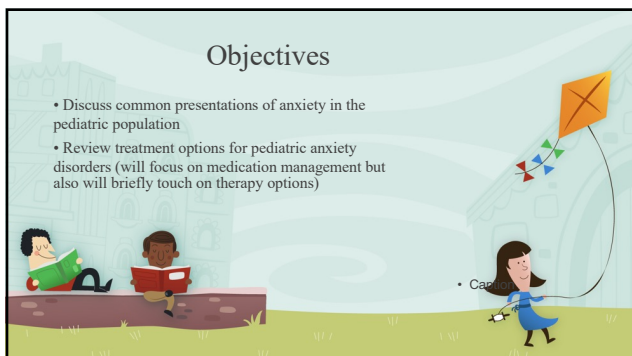
Will discuss off label use of medications given limited FDA approved medications for anxiety in children.



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Objectives

- Discuss common presentations of anxiety in the pediatric population
- Review treatment options for pediatric anxiety disorders (will focus on medication management but also will briefly touch on therapy options)



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Why is this important to primary care providers?

- https://www.aacap.org/AACAP/Advocacy/Federal_and_State_Initiatives/Workforce_Maps/Home.aspx

AACAP Workforce Maps are best viewed on desktop.
Download PDF version

Practicing Child and Adolescent Psychiatrists		Date	*Year to Date Data	County Location
(Use the filter menu to the left to narrow with this dataset)		10/1/2022	*Based on 2021 Data	Florida
Total CAPs	64	Number of Children < 18	728,737	7
				Average CAP Age
				52

State Map
Ready, Refresh, Export, Filter, Legend, Settings, Help, About

County Map
Ready, Refresh, Export, Filter, Legend, Settings, Help, About

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Most kids will present to PCP first
Stomach aches, headaches, fatigue, insomnia, or chief complaint of anxiety

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Background Information

- Prevalence rates of 6-20% of at least 1 anxiety disorder in childhood
 - Separation anxiety (~5 % lifetime prevalence)
 - Social phobia (~7% in general pop, 20-50% of clinical referrals)
 - Generalized anxiety disorder (~3-5 % prevalence)
 - Specific Phobia
 - Obsessive Compulsive Disorder (~2-4% prevalence)
 - Selective Mutism (0.5-1% prevalence)
 - Panic Disorder (2-5% prevalence)
 - Post Traumatic Stress Disorder (up to 15% of children who experience trauma)

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Developmental factors


- Infants – developmentally normal stages of anxiety related to strangers
- Toddlers – normal fears of imaginary creatures and separation anxiety
- School Age – bad things happening, performance, health
- Some degree of anxiety is normal, biologic and protective process
- Becomes problematic when it causes impairment



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Basics of Evaluation

- Screening can include measures such as GAD 7 – general questions about impairment (treatment is more dependent on degree of impairment rather than number of symptoms)
- Screen for Child Anxiety Related Disorders (SCARED) – available online and has parent and child report forms (41 questions each) – screens for Panic, GAD, Separation Anxiety, School Avoidance and Social anxiety
 - *Not a validated instrument, but can be used easily in clinics
 - [SCARED Youth DS](https://www.hopkinsmedicine.org/community_physicians/patient_information/docs/form_SCAREDscreening.pdf) https://www.hopkinsmedicine.org/community_physicians/patient_information/docs/form_SCAREDscreening.pdf (031612) (hopkinsmedicine.org)
- Multidimensional Anxiety Scale for Children (thorough but not free)



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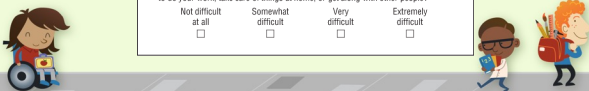
GAD 7

GAD-7				
Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score = Add Columns

If you checked off any problems, 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

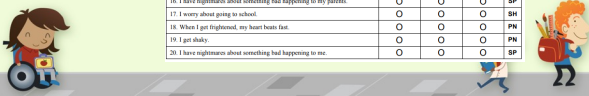


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SCARED

- 41 questions


	0	1	2	
	Not True or Hardly Ever True	Sometimes True or Sometimes True	Very True or Often True	
1. When I get frightened, it is hard to breathe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
2. I get headaches when I am at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
3. I don't like to be with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
4. I get scared if I sleep away from home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
5. I worry about other people liking me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
6. When I get frightened, I feel like passing out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
7. I am nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
8. I follow my mother or father wherever they go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
9. People tell me that I look nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
10. I feel nervous with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
11. I get irritable/at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
12. When I get frightened, I feel like I am going crazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
13. I worry about sleeping alone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
14. I worry about being as good as other kids.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
15. When I get frightened, I feel like things are not real.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
16. I have nightmares about something bad happening to my parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
17. I worry about going to school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
18. When I get frightened, my heart beats fast.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
19. I get shaky.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
20. I have nightmares about something bad happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP



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Treatment

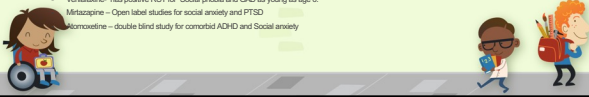
- First line treatment for all anxiety diagnoses (that are mild to moderate in terms of impairment) is **therapy**.
- Best evidence support for Cognitive Behavioral therapy (or CBT)
- Avoid reinforcing avoidance at all costs!
 - If school avoidant – primary treatment is going to school
 - For OCD – mainstay of treatment is exposure and response prevention
 - All anxiety therapies revolve around learning coping skills to build confidence to engage the things that make you anxious head on, and decrease distress.
 - *****No Benzos*****
 - AACAP speaks against this in practice parameters



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Pharmacologic Interventions

- FDA Indicated Treatments
 - Fluoxetine (Prozac) –indicated for OCD in ages 7+ – recommended dose 10-60 mg
 - Sertraline (Zoloft) indicated for OCD in ages 6+ and GAD in ages 7+ - dose 25-200 in age 6-12 years and 50-300 mg in the 13-17 year group
 - Fluvoxamine (Luvox) – indicated for OCD in ages 8+ - dose 50-200 mg in age 8-12; 50-300 mg in ages 13-17
 - Clomipramine has indication for OCD in age 10+ - recommended dose 25-100 mg daily
 - Venlafaxine - FDA indication for GAD in adolescents- recommended starting dose of 37.5 mg daily
 - Paroxetine – indicated for OCD in ages 7+ and Social phobia in ages 8+ (not recommended) – 10-50 mg daily
- Non FDA but evidence based
 - Sertraline – RCT for Social phobia and GAD, open label for Panic
 - Fluoxetine – RCT for GAD and Social phobia; Open label for Panic
 - Venlafaxine- has positive RCT for Social phobia and GAD as young as age 6.
 - Mirtazapine – Open label studies for social anxiety and PTSD
 - Atomoxetine – double blind study for comorbid ADHD and Social anxiety



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Name	Starting Dose	Titration	FDA Tested Range	Reality (Clinical) Dosing
Citalopram (Celexa)	10 mg daily (5 mg young or sensitive)	10 mg x 1 week then 20 mg	n/a	10-40 mg daily
Escitalopram (Lexapro)	5 mg daily	5 mg x 1 week then 10 mg daily	10-20 mg daily	10-20 mg daily
Fluoxetine (Prozac)	10 mg daily (5 mg young or sensitive)	10 mg x 1 week then 20 mg	10-20 mg for MDD 20-60 mg for OCD	10-80 mg daily
Fluvoxamine (Luvox)	25 mg daily	25 mg x 1 week then 50 mg daily	50-200 mg for kids 50-300 mg for adol	50-300 mg daily
Sertraline (Zoloft)	25 mg daily (12.5 mg young or sensitive)	25 mg x 1 week then 50 mg daily	25-200 mg daily	25-200 mg daily
Paroxetine	10 mg daily		10-50 mg daily (mean dose 26.5 mg)	
Mirtazapine (Remeron)	7.5-15 mg QHS			15-45 mg QHS
Venlafaxine (Effexor)	37.5 mg daily		Weight based Under 45kg: max 112.5 mg 40-50 kg: max 150 mg Over 50 mg: max 225 mg	75-225 mg daily

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What about that pesky Black box warning?

Efficacy vs. Suicidal Risk of Antidepressants in Pediatric Patients

*Meta-analysis of 27 trials of pediatric major depression


Number Needed to Treat	10
Number Needed to Harm	112

Suicidal Ideation/Attempts

Antidepressants	3%
Placebo	2%

Bridge et al. JAMA. 2007;297:1883-1894.

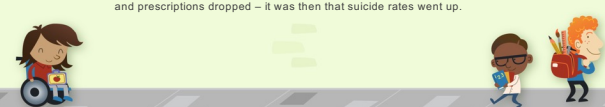
BMJ article in 2014 discusses trend in decreased prescribing of antidepressants after BBW in 2008 and subsequent increase in suicide attempts and deaths from suicide.



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Medication Pointers


- Start low and go slow – initial dose then titrate after 1 week if tolerated; then if limited improvement after 4-6 weeks, dose can be further increased.
- Common side effects: GI (nausea, vomiting, diarrhea); headache; sleep changes, activation (restless or anxious feeling); sweating, dry mouth, sexual dysfunction
- Rare Side effects: Serotonin Syndrome, hypomania, or suicidal ideation
 - Slight increased risk of Suicidal ideation from ~2% to about 4% (in thoughts, no attempts or completions); in the mid 2000s when black box warning came out and prescriptions dropped – it was then that suicide rates went up.



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What about newer meds? (this data from depression studies)


- Vortioxetine (Trintellix) – Serotonin multi (6 different 5HT proposed activities)
 - No current efficacy studies in children or adolescents (FDA approved for adult depression only)
 - Efficacy of 2017 based pharmacokinetics of vortioxetine concentration proportional to dose in young patients (ages 7-17), but no clear clinical outcomes have been shown
- Vilazodone (Viibryd) – SSRI and partial agonist
 - Not FDA approved (FDA approval for adult depression only)
 - Findings from phase 3 DB Placebo Controlled Study for Adolescents with MDD: safe and well tolerated (similar to adult studies with regard to adverse effects); no significant changes in CANS or COT between either dose or placebo arms of the trial
- Levomilnacipran (Fetzima) – SNRI
 - Clinical Trials.gov indicates study done in 2019 (DB Placebo controlled) - Studying Ages 12-17 on varying doses for 10 weeks.
 - No published outcome data – high number of withdrawn participants due to AE (high dose arm)
 - Not FDA approved (FDA approved for adult depression only)



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Key Studies


- AACAP has published practice parameters for Anxiety disorders (overview, PTSD, and OCD)
 - [Practice Parameters: \[https://www.aacap.org/AACAP/Resources_for_Primary_Care/Practice_Parameters_and_Resource_Centers/Practice_Parameters.aspx\]\(https://www.aacap.org/AACAP/Resources_for_Primary_Care/Practice_Parameters_and_Resource_Centers/Practice_Parameters.aspx\)](https://www.aacap.org/AACAP/Resources_for_Primary_Care/Practice_Parameters_and_Resource_Centers/Practice_Parameters.aspx)
- CAMS (Child/Adolescent Anxiety Multimodal Study)
 - Multiple articles (study design, initial and follow up efficacy studies; Extended follow up study going by CAMELS – CAMS Extended Long Term study)
- POTS – Pediatric OCD Treatment study



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Therapy Modalities

- CBT – Cognitive Behavioral Therapy
 - Address relationship between feelings, thoughts and behaviors
- ERP – Exposure and Response Prevention
 - Key treatment modality for OCD
- DBT – Dialectical Behavior Therapy
 - Targets mood, anxiety, suicide/self harm, relationship conflict
 - Emotion regulation skills
- ACT – Acceptance and Commitment Therapy
 - Acceptance - Decrease battle against anxious thoughts
 - Commitment – make choices in line with core values



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References

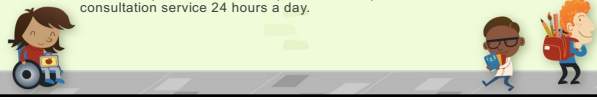
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Questions?

- Email: Amanda-Elliott@uiowa.edu
- Resources from AACAP:
- Facts for families:
 - https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-guide-FF-guide-facts-for-families.aspx
- Practice Parameters:
 - https://www.aacap.org/aacap/Resources_for_Primary_Care/Practice_Parameters_and_Resource_Centers/Practice_Parameters.aspx
- UI Consult provides a toll-free (800-322-8442) referral and consultation service 24 hours a day.



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