MaineHealth

Operation Access Autism and ADHD, Anxiety, Depression, and Challenging Behaviors Identification and Treatment

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Monitoring response to medication

- Identify specific target symptoms
- Important to track changes from baseline, by gathering data before and after the medication is started
- Start low and go slow, try to only make one change at a time
- Monitor side effects carefully
- Gather information from multiple sources if possible, encourage family to write down thoughts (with dates, medication notebook)
- Trial must be long enough but if no response at reasonable need another trial
- Consider starting on a weekend (so can see effect/side effects)
- Choice can be affected by taste, ability to swallow pill, crushed pills often easier than liquids

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ADHD and ASD

- At least half of children with ASDs have significant ADHD symptoms warranting a diagnosis
- Impairment in functioning (academic, activities of daily living, social, safety) may be due in part to ADHD symptoms and executive dysfunction, as well as to autism
- If possible, should have ADHD assessment with standardized questionnaires (eg Conners or Vanderbilt) esp. if higher functioning
- Take developmental level into account
- Need to consider context of behavior- may not be paying attention because has no interest in topic…hyperactivity may be sensory in nature

Treatment of ADHD symptoms in children with ASDs

- Consider classroom placement/supports
- Consider sleep patterns
- Collect data before and after starting medication from teachers Vanderbilt forms or Clinical Attention Problem Scales https://www.draronsonramos.com/wp-content/uploads/2017/02/ClinicalAttentionScaleAMPM1.pdf
- Best evidence for stimulants, atomoxetine, alpha-agonists
- One of the things that often tips me over to treating in a very young child is impulsivity that is dangerous

Attention-Deficit/Hyperactivity Disorder (ADHD)

1. Start Low and Go Slow
2. Monitoring Matters
3. One Size Does Not Fit All
4. Back to the Basics

Prior to considering medication:

Complete the Vanderbilt ADHD Diagnostic Rating Scale or comparable scale.

Assess and address potential contributing factors:

- Side effects from current medications
- Sleep disturbances
- Unrecognized pain/discomfort
- Other neuropsychiatric conditions
- Environmental considerations

Consider behavioral and therapeutic options (see ADHD Treatment section)

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If interfering symptoms persist, consider medication following this pathway until an effective treatment outcome is achieved or referral is appropriate/necessary:

Is there co-occuring anxiety, sleep disturbance or tics?

YES

NO

Does the patient have significant behavioral or emotional dysregulation beyond ADHD symptoms and/or medical contraindications to stimulants?

NO

YES

methylphenidate
dexmethylphenidate

amphetamine salts
lisdexamfetamine

guanfacine *
clonidine
atomoxetine

+Sleep Disturbance: *
clonidine

+Anxiety:
See anxiety decision tree, or
atomoxetine
viloxazine

+Tic Disorder:
guanfacine
clonidine

*If safe and appropriate, consider supplementing partial responses to a non-stimulant with a low dose stimulant.

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Stimulants

- About 50% of children with ASDs and ADHD symptoms showed positive clinical responses (lower than non-autistic children with ADHD)
- Overall, increased chance of side effects compared to children with ADHD without autism
- Start with stimulants for more “straight forward” ADHD unless contraindications (glaucoma, substance abuse, poor growth)
- Studies in ASD to date have focused on MPH based and not amphetamine based but we do use both

Stimulant use: side effects

Side effects of stimulants

- Appetite suppression possible growth implications
- Sleep disruption
- Headaches and stomach aches
- Tics (1% to 3% transiently)
- Irritability and sadness (up to 20%)
- Mild elevations of Heart rate and blood pressure
- Rebound symptoms afternoon or end day
- Theoretic lowering of seizure threshold, but several studies have shown no worsening of seizures by stimulant use in children with well-controlled seizure disorders

Guanfacine (Tenex)

- Typically start with ½ mg twice per day, AM and midafternoon
- Side effect: low blood pressure, dizziness, headache, **sedation**, sleep disruption, constipation, stomachache, nausea, decreased appetite, dry mouth
- Can improve hyperactivity, impulsivity, aggression, inattention, cognition, social behavior and tics
- May not see full effect until 4-6 week after starting
- Useful as an adjunct to stimulants for afternoon use, or if there is problematic appetite suppression on stimulants
- Intuniv/guanfacine ER: long-acting form of guanfacine, lasts 24 hours, have to be able to swallow

Clonidine

- Similar to guanfacine, but has more side effects, chiefly sedation, so is used more for sleep than for daytime symptoms
- Useful for ADHD with comorbid tic disorders, PTSD, aggression or difficulty sleeping
- Side effects: constipation, sleepiness, low , hypotension, bradycardia, weight gain, irritability, depression, nightmares, dry mouth

Other non-stimulant ADHD medications

- Atomoxetine/Strattera
  - RCT, 2012 97 children , less of an effect than ADHD without ASD but still positive
  - Less effect on appetite and sleep than stimulants
  - Side effects are common: mood swings, irritability, headache, stomach upset, constipation, dizziness, sleepiness, early morning wakings, priapism, black box warning
  - Also may have some positive effect on anxiety
- Viloxazine/Qelbree
  - no studies ASD, we have used and helpful for some patients, do not have to swallow whole, approved for ADHD 6 and above
  - Dosing 100-400 for less than 12 years, 100 to start, can titrated weekly (although often we give a bit longer than that prior to increase)

Anxiety

- Children with ASDs generally prefer predictability, and can be quite rigid, with high levels of anxiety
- 40-80% of youth with ASD have clinically significant anxiety
- Causes of anxiety
  - Change in routine
  - Not getting a demand met
  - Sensory overload
  - Social situations
  - Specific phobias: bugs, fire-alarms
  - Remember this with “oppositional” behavior

Addressing anxiety

- Advance warning of upcoming events or schedule changes
  - Visual schedules
  - Social stories http://www.thegraycenter.org/
  - Sensory supports
- Allow downtime (? time for self-stim)
- Balance need for structure with practicing flexibility
- Cognitive Behavioral Therapy
- Omega 3 fatty acids?
- Medication

Medication used for anxiety

- SSRIs (Selective Serotonin Uptake Inhibitors)
  - Paper I referenced for ADHD and sleep discounted SSRIs because many of early studies actually focused on repetitive and stim behaviors instead of other signs of anxiety and they had concerns activation- not our experience
  - Most commonly used, non-addictive
  - Generally safe: side effects usually mild- most commonly include agitation, irritability, giddiness, increase impulsivity, appetite increase or decrease, sleep disruption, increased bruising and nose bleeds, increased urination
  - SSRIs continue to have a “Black Box Warning” so always discussed
  - Serotonin Syndrome: rare, fever, rigidity, mental status changes, avoid concurrent DM cold medicine use (eg dextromethoraphan)

SSRIs

- **Sertraline (Zoloft)** 12.5 mg – 200 mg, liquid hard to tolerate, often start dosing at night due to some GI complaints, tiredness initially, potentially better for anxiety
- **Fluoxetine (Prozac)-**long-lasting, minimal chance of suicidal thinking, better for mood, can be more activating, can do liquid form for smaller starting dose and titrations, otherwise tend to start with 5-10 mg depending on age/size
- **Fluvoxamine (Luvox)** 25 mg- 200 mg, can be less disinhibiting, however, above 50 mg need to divide dose, does have longer acting but less flexibility in dosing
- Mirtazepine – only RCT in ASD for anxiety, not significant but trending towards positive, 30 pts 5-17 years, sedation, weight gain, irritability

Buspirone/Buspar

- 5-HT receptor partial agonist and D2 antagonist
- FDA approved for anxiety in adults
- Studies in children mixed
- One retrospective open label ASD study, more verbal children 41% marked response, 32% moderate response (22 children total)
- Dosing 5-30 mg divided across 2-3 administrations
- Side effects- drowsiness, dizziness, headache, blurred vision, tinnitus, diarrhea, nausea but side effects in general tend to be low

Hydroxyzine

- Antihistamine
- Can use 10 mg p to three times per day acutely (but really prior to known stressful event)
- Chronic anxiety- 10 mg twice per day, younger than 6 yrs 25 mg BID max, 6-12 yrs 25 mg QID max 12+ max 50 mg QID
- Longer term studies have not been done
- Side effects- drowsiness, dry mouth common, dizziness, blurred vision, constipation can happen
- Disclosure, I have limited experience with this medication to date, and no good longer-term- studies of older adults with "brain fog" and dementia of use of antihistamines gives me caution – specifically says many places that long term use is not recommended

Benzodiazepines

- Ativan (lorazepam)
- Klonopin (clonazepam)
- Valium (diazepam)

- Addictive potential limits use, I use very rarely other than short-term basis (eg dentist, airplane- need to trial prior)
- Side effects: sedation, dizziness, mood changes, low blood pressure, respiratory depression

What if you have both ADHD and anxiety symptoms? Which is actually quite likely?

- Try to determine which side of ADHD or anxiety is largest factor in challenging behavior and/or affecting progress
- Great reason to consider guanfacine (of clonidine) as first line
- Remember that one can be affecting the other- if I am anxious, I may not be able to focus and if I am not able to do what needs to get done or if I am constantly being redirected for impulsive behavior it may make me more anxious
- It has happened that I have treated one and the other gets better also

Obsessive compulsive disorder versus autism

- Compulsive behavior in OCD is driven by obsessions: eg fear of germs, need to check locks, while repetitive behaviors in autism are more automatic and unconscious
- People with OCD feel distressed by their obsessions (though less true in children) while people with ASDs may find comfort in their repetitive behaviors
- Counting, touching and sameness behaviors are more common with ASDs, while washing and checking are more common in OCD

Depression and mood disorders

- Common in older and higher-functioning children- diagnosis can be difficult due to flat affect, little expression of emotion
- Consider family history
- Look for a change from baseline or significant change in functioning, distinguish from catetonia
- Consider stressors
- Consider seasonal affective issues
- Counseling if higher-functioning
- Medication: SSRIs, wellbutrin, possibly tricyclics or atypical neuroleptics

Aggression, Self-injurious, and Disruptive Behaviors

Out of the blue?

When is it time to refer with ASD and behavior concerns?

- When behaviors are severe
- When you have tried your bag of tricks and still concerns
- Where to refer?
  - Our division can currently take referrals for children with diagnosis ASD and significant behavioral concerns you are not comfortable managing- again purpose of collaborative is to help leave the hierarchy of services available
  - Glickman Lauder Center of Excellence for similar reasons but typically at least 5 and older
  - Both groups want original and current testing and concerns to be able to triage appropriately – GLCOE does require the original evaluation – which can be yours!

What is aggression?

- An overt behavior that can result in harm to self or others
- It can be common developmentally in the first several
- years of life, but typically decreases by the time children
- start school and further decreases over time
- Disruptive behaviors including aggression are one of the most common reasons for childhood behavioral health referrals as well as being expelled from preschool or daycare
- Maladaptive childhood aggression can put youth at risk for poorer psychosocial outcomes and mental health issues as adults
- **Aggression is a symptom not its own disorder**

Other behaviors of concern

- Self-Injurious Behavior
  - Any action an individual engages in that results in physical harm to their own body
  - Need to distinguish from self-stimulatory behavior
  - Examples- scratching self, banging head, hitting self
- Elopement
- High pitched noises/screaming

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Rule out potential medical causes

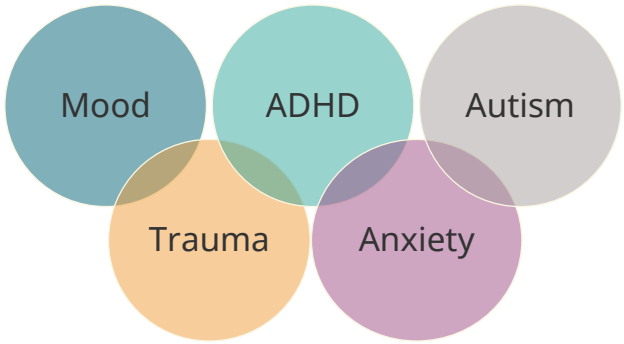
DENTAL

GI- GERD, CONSTIPATION, OTHER GI PROCESS

ALLERGIES/ECZEMA

HEADACHE/INCREASED ICP

Determining underlying causes can help guide intervention



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Detective work:
Consider the Function of the behavior

- Behavior is Communication
- Common functions of behavior:
  - Expression of emotion (e.g., frustration, anger, excitement, fear)
  - To get attention- reaction positive or negative
  - To get something- an object, basic needs
  - Escape or Avoidance (e.g., of a difficult task, an uncomfortable emotion)

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Information-gathering

Get details of the behavior itself –what exactly happens

Consider context- antecedents, where, with/against whom, time of day, how often? Gather information from school as well

Consider sensory things that may impact behavior

Ask parents what they think is going on or reasons for the behavior- sometimes they must take their own "data" to determine

Ask how they respond when the behavior occurs

Try to identify how often they "give in" being careful to not judge

Consider developmental level and developmental profile of the child

How does the child do in different settings- home, relatives' homes, school, aftercare, etc

Does media play a role? sleep quality?

When/where does the behavior not occur?

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The ABCs of Behavior

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Intervention

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Samples from a clinic week

- 6 yo (functionally non-verbal) kindergartener, parents report aggression at school daily, several times per day- after feedback from school it turns out he is actually hitting other students to gain their attention, turns out sister does this to him at home, school plans to work on alternate strategies to gain attention of peers
- 5 yo (verbal) in office, screeching loudly frequently during our visit- function of screech appears to be gaining attention of his mother as well as shortening the visit- I set timer for visit ending time and we also identify alternate means to get attention
- 3 yo (functionally nonverbal) has been eloping down the driveway, when he runs down his parents chase – he giggles when they catch him, appears to be a game of chase- plan work to work to create communication card to request game of chase (in an area other than the driveway)
- 10 yo (functionally nonverbal) with self-injurious behavior at home and at school, family notes that the only time he does not do this is when he has electronics and/or certain foods, mother reports that she feels she does not “give in”, father seen on telehealth visit slipping behind mom to give him his device when he initiates behavior “I just wanted him to stop” – will be a longer time for solution as first have to have father participate in visits

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Parent management training online tools

- Autism Distance Education Parent Training (ADEPT) https://health.ucdavis.edu/mind-institute/centers/cedd/adept
  - Positive behavior strategies for children with autism- online modules
- Glickman Lauder Center of Excellence- again excellent webinars for parents and clinicians https://www.mainehealth.org/care-services/behavioral-health-care/developmental-disorder-care-mainehealth-behavioral-health/developmental-disorder-webinars-mainehealth-behavioral-health
- Watch parties?
- Attend app program through state using RUBI program https://www.attendbehavior.com/maine

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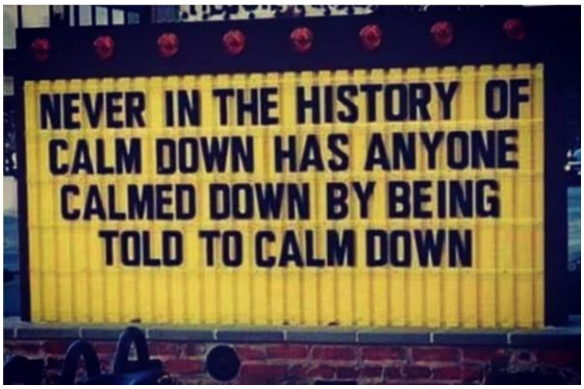
How the Caregivers Speak to the Child Matters

- Encourage parents to think about their own self-regulation, model calmness (take a breath, etc)- they don't have to match the intensity of the child- co-regulation
- Provide clear direction appropriate to developmental level
- Use certain prompts consistently "First..then..."
- Make sure instructions emphasize what a child should do, rather than what a child should not do
- Reserving "no" for urgent situations
- Provide instruction in a neutral manner
- Have all caregivers on board
- Consider sensory triggers
- Recognizing that transitions can be challenging- visual (picture schedule), verbal (song) and auditory (timer) cues can help



Visual and other supports

- Visual Timer- I often use my smart watch timer in a visit for kids wanting to "escape" the appointment
- First.. Then.. board
- Visual schedule- low tech as well as apps Choice Works, Octopus watch
  - Balance of structure and flexibility – adding some novel activities
  - Think for a minute if you could not see your patient schedule written or at all…I had a hard enough time when they stopped printing my weekly schedule for highlighting purposes

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Functional Communication Training

- As a PCP not expecting that you would do- but important to understand what might be helpful

- Starting concept with motivating item- example requesting swinging or preferred toy
- Want to match communication responses to the function maintaining the problem behavior
- Response should require less effort than the problem behavior
- Reinforce every response initially so that they understand that it is working- practice required!
- Ex. – touch card requesting break, Picture Exchange Communication System, device

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Differential reinforcement of Alternative Behavior (DRA)

- Reinforces occurrences of a desirable alternative to the problem behavior and withholds reinforcement for the problem behavior
- Example- patient's younger sister tends to pull on him or lightly hit him on arm to request to play. He starts to pull on and hit his peers at school to request to play- want to work towards replacing with a more appropriate behavior to request play – picture, words with stock phrase "play please" if verbal,

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Reinforcement Fading

- Once they match have to make clear that it cannot always get child what they are requesting
- First this then that language
- Multiple schedules- green or red light to know when it is available- gradually shifted to a doable schedule- sample of requesting the iPad
- Chained schedule- adding things in that they have to do over time before they can request the preferred item
- Time delay (I often use my watch timer in the office)

Aggression in School only

- Get the feedback from the school- narrative teacher questionnaire, if have a release can ask a clinical staff person in the office to contact if do not have time
- If preschool age and CDS not involved refer to CDS and Maine Early Childhood Consultation Partnership (ECCP)
- If child already has an IEP and aggression still occurring despite supports family should request (in writing) IEP meeting and discuss having a Functional Behavioral Analysis (FBA) completed and putting a Positive Behavior Support Plan in place
- If child does not have an IEP and aggression felt to be interfering with academic progress family should request (in writing) a meeting to discuss evaluating for an IEP and an FBA may be part of that evaluation along with evaluation for possible underlying cause of aggression (learning challenges, anxiety, ADHD, ASD, cognitive challenges)

Self-injurious behavior (SIB) possible causes

- Needs to be distinguished from stim behavior that is not harmful to self or other
- Lack of environmental stimulation (boredom)
- Reinforced by social attention, access to preferred items, or avoidance or escape from undesired activities
- May provide sensory input (provide endogenous endorphins)
- Medical concerns- examples hitting head with headache or toothache, hitting chest with GERD, hitting stomach with constipation, picking and/or scratching eczema, a tic disorder that becomes distressing for a patient (also can result in aggression or dysregulation)
- Similar behavioral strategies
- Protective equipment: can serve as extinction for sensory input

When to try medication for these behaviors?

Ideally after all other behavioral and environmental interventions have been tried

Cannot treat social or communication deficits with medication- educational and behavioral interventions are the mainstays of treatment- challenging with limited services

Medication options

- **Guanfacine (Tenex/intuniv)** again often start ½ mg BID, similar to ADHD
- **Clonidine** can be sedating so less often used during day but can
- **Risperidone**
  - Approved for irritability in ASD children ages 5 to 16 years
  - Typically last resort
  - Starting dose 0.25 mg, max 2 mg in 2-4 divided doses
  - Need baseline labs, fasting lipids and HgA1c
  - Side effects- weight gain, sleepiness, constipation, dry mouth
  - Risk of movement disorders- tremor vs. dystonia vs. tardive dyskinesia- latter can be permanent, can monitor with AIMS exam

Other atypical neuroleptics

- Aripriprazole (Abilify)
  - Possibly less risk of weight gain
  - Risk of activation or agitation approx 25%
  - Akathisia can also be a concern, although less common in children, could be part of “activation”
  - Movement disorder risk as well- need to monitor
- While there are other therapeutic options, even with atypicals the hope would be for some input from specialist (if not management) at this point
- To put it in perspective I currently have less than 20 patients taking atypicals

Thank you!!!!

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