

# ADHD and Learning difficulty in NF1

## NF Family Day

Children's National Hospital  
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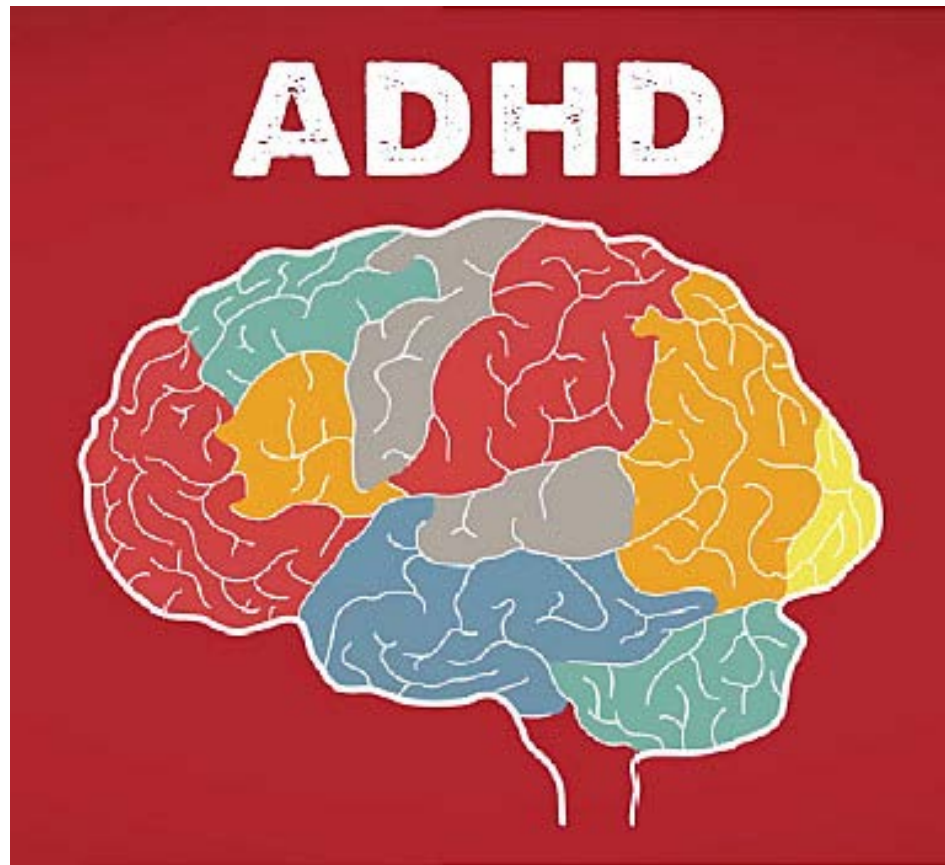
# Outline

- What is ADHD
- How is it diagnosed?
- Treatments / Interventions
- When to consider medication?
  
- What is learning difficulty / disability?
- Interventions
  
- Tips and resources on ADHD, Learning during Covid-19

# Learning disabilities & inattention

- common & challenging complication in NF1
- 60 - 75% - experience learning difficulties, inattention and academic underachievement

# Attention / Hyperactivity (ADHD)



- Appearing “inattentive” is **NOT** always ADHD
- Conditions that may also present as “inattentive” and/or “hyperactive”:
  - Learning disability
  - Language disorder
  - Developmental delay
  - Anxiety / depression / stress
  - Cognitive impairment / ID
  - Developmental delay
  - Hearing / vision problems
  - **Tantrums / Oppositional defiant behaviors**
  - Sleep problems
  - Medical conditions – hypothyroidism, seizure



# Tantrums

- Emotional explosions – to express displeasure
- Behavior usually associated with emotional distress
- Behavior that attempts to manipulate others towards a desired end



# Why do kids throw tantrums?

- Frustrated with task (trying to develop independence skills)
- To get what they want (tangible, attention)
- To get out of what they don't want to do (escape)
- Hungry, Sleepy, Not feeling well ?
- Sensory issues? poor emotional regulation?

# Diagnostic criteria for ADHD



- 1) Persistent pattern – symptoms present for >6 months
- 2) Several inattention and/or hyperactivity symptoms
- 3) Symptoms have been present before 12 years old
- 4) Symptoms present in 2 or more settings (home, school, public)
- 5) Clear evidence that symptoms interfere with day to day functioning



# ADHD

- Trouble with skills involved in problem-solving (Executive Functioning)
  - Working memory
  - Planning (organizing)
  - Response inhibition (suppress distractions)
  - Cognitive flexibility
  - Execution



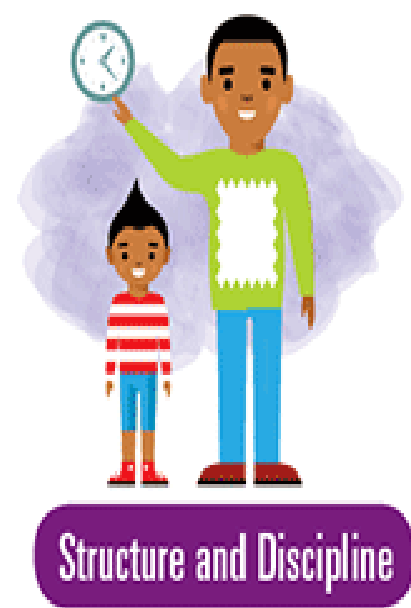
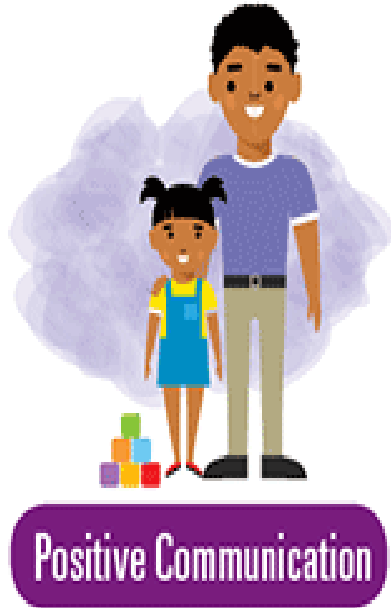
# How do we manage / treat ADHD?

- Non- medication interventions
- Medication

# Non-pharmacologic Interventions:

- 1.) Parent Training (a.k.a. Behavior Management Training for Parents)
  - PARENTS (not kids!)
  - Play therapy, talk therapy in young children – ineffective for ADHD
  - Behavior therapy, given to parents is effective treatment for ADHD in young children.

## What parents learn when trained in behavior therapy



Behavior therapy, given by parents, teaches children to better control their own behavior, leading to improved functioning at school, home and in relationships. Learning and practicing behavior therapy requires time and effort, but it has lasting benefits for the child.

- *“Only therapy that focuses on training parents is recommended because **young children are not mature enough to change their own behavior without their parents’ help.**”*

# Non-pharmacologic Interventions:

- 2.) Psychoeducational interventions (school and classroom accommodations and supports)
- Adolescents – work on specific strategies targeting academic improvement:
  - # Understanding ADHD and its impact on school performance
  - # Behavioral management strategies
  - # Time management (Balancing between tasks “I have to do” and tasks “I want to do.”)
  - # Organizational strategies
  - # Study skills
  - # Reducing stress for both the adolescent and parent
  - # Improving the relationship between the adolescent and parent

# When should medication be considered?

- Non-pharmacologic supports and interventions are ineffective AND ..
- When behavior is significantly impacting:
  - Safety, Health
  - Academic performance, learning
  - Progress with therapies
  - Relationship with family members / community / school



## BENEFITS

## RISKS

TAKING MEDICATION

**Behavior might improve**

**Overall functioning may improve at home, in school / work, in community**

**Improvement in social interactions / with others / social opportunities**

**Feeling that you are doing everything you can to help your child**

**Side Effects / Long term effects**

**Medication may not work**

**Medication may worsen other behavior**

**Feeling that it is the "easy way out", you are not helping your child to learn to regulate behavior on their own**

**Costs / Appointments**

**Lab draws / Monitoring distressful**

NOT TAKING MEDICATION

**Avoid side effects and cost**

**Avoid worries of side effects**

**You may find other treatments / supports to help the problem**

**If behaviors continue to be a problem, you can consider them later**

**Behavior can continue to cause problems / stress for patient, in family, in school / work setting**

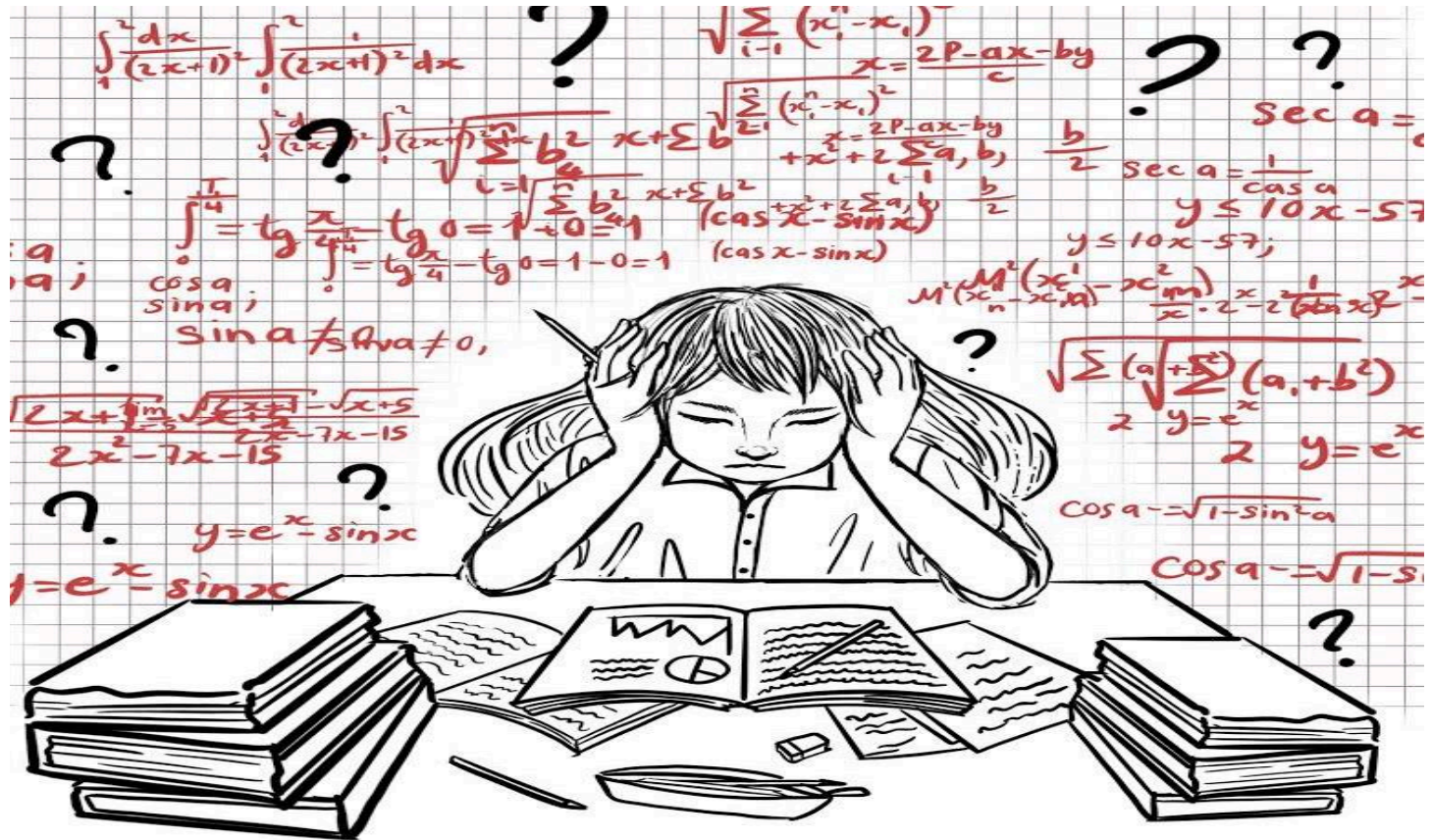
**Behavior may get worse**

**Behavior may limit opportunities**

**Behavior may limit progress in school / therapies**

**Behavior may cause health / safety problems**

# Learning





# Learning disability / disorder

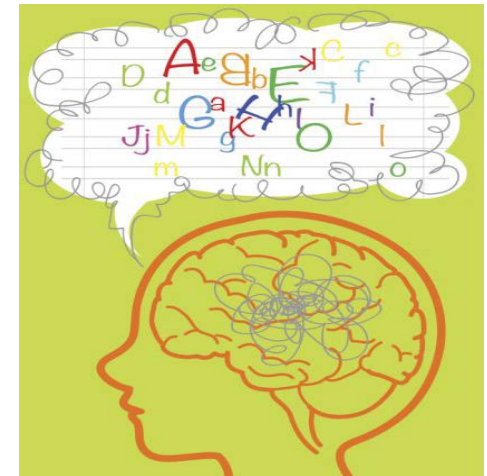
- Trouble learning (how brain process information) and using certain skills:
  - Reading
  - Writing / written expression
  - Math
  - Reasoning



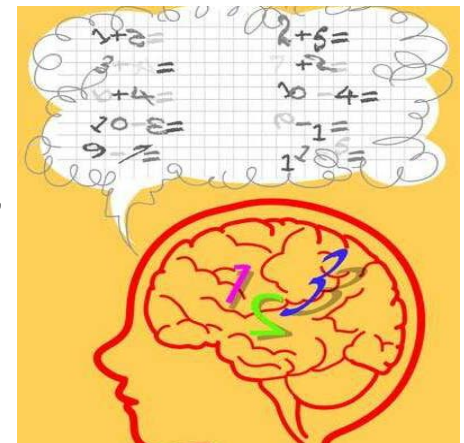
# Early red flags:



- Difficulty with letter recognition
- Sounding out letters / phonics
- Blending and segmenting sounds
- Whole word recognition (sight words)



- Difficulty with number sense, remembering basic facts/ operations, difficulty counting backwards



# Intervention for LD

- There is no cure – specialized education is the only successful remedy (accommodations, supports)
- Build on individual's strengths – build confidence



# Dyslexia / Specific Reading Disability

Successful program have 3 characteristics:

1. Sound/symbol based - breaking down words into their smallest visual components - letters and the sounds associated with them.
2. Multi-sensory - attempt to form and strengthen mental associations among visual, auditory, and kinesthetic channels of stimulation.
3. Highly structured - Repetitive drill and practice serve to form necessary sound-symbol associations.

# Interventions for LD

Reading	Math	Writing
<ul style="list-style-type: none"><li>- Small group, teaching techniques</li><li>- Classroom modifications (extra time, taped tests)</li><li>- Use of technology (audiobooks, word processing programs)</li></ul>	<ul style="list-style-type: none"><li>- Visual techniques (draw pictures of word problems)</li><li>- Memory aids</li><li>- Use of computers, calculators, etc.</li></ul>	<ul style="list-style-type: none"><li>- Special tools (note taker, videotape reports, oral exams)</li><li>- Use of technology (speech to text translation, audio recorders)</li><li>- Reduce need for writing (written notes, outlines, study guides)</li></ul>

# Learning in the time of Covid ...



- Few tips and resources regarding distance learning:
  - Develop a routine, create a schedule
  - Take frequent breaks, add time for fun
  - Set up separate work spaces
  - Stay healthy and manage your stress

# Support for Kids w/ ADHD during Covid

- 1. Communicate with school
- 2. Structure the day
- 3. Alternate activities
- 4. Use attention as a motivator and reward
- 5. Be present when you're present

<https://childmind.org/article/giving-kids-with-adhd-support-and-structure-during-the-coronavirus-crisis/>

# Resources for families:

- Guidance from the Department of Education: [Providing Services to Children with Disabilities During the Coronavirus Disease 2019 Outbreak](#)
- Understood.org: [Coronavirus: Latest Updates and Tips](#)
- Child Mind Institute: [Supporting Families During COVID-19](#)
- National Center for Learning Disabilities: [New ED Fact Sheet: Students with Disabilities and COVID-19](#)
- Common Sense Media: [17 Apps to Help Kids Stay Focused, Top Time-Management Apps](#)
- Inside HigherEd: [So You Want to Temporarily Teach Online](#)
- Remote Learning Tips – CCHMC - [https://blog.cincinnatichildrens.org/10-remote-learning-tips-during-covid-19?\\_ga=2.163471996.132042520.1592239636-1507124545.1592239636](https://blog.cincinnatichildrens.org/10-remote-learning-tips-during-covid-19?_ga=2.163471996.132042520.1592239636-1507124545.1592239636)



Thank you for your time and  
attention!

