

# ADHD

## Nonpharmacological Treatments

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# ADHD KEY ISSUES

## Two-Pronged Disorder

1. Decrease of focus

2. Decrease of regulating emotion and impulses e.g. braking

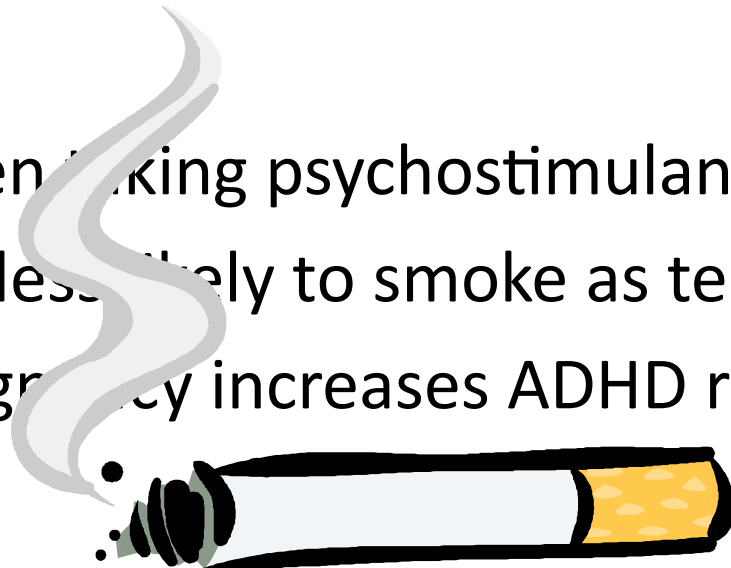
- Dimensional NOT categorical disorder
- Considerable Situational Variability
- Executive Function Disorder e.g. life in the NOW

n

- ***Anticipation** is the key with children with ADHD.*
- planning ahead
- Make them cognizant of the shift in rules (and consequences) that is about to occur
- take a moment to prompt a child to recall the rules of conduct in the upcoming situation,
- repeat them orally
- recall what the rewards and punishments will be in the impending situation **before** entering that activity or situation.

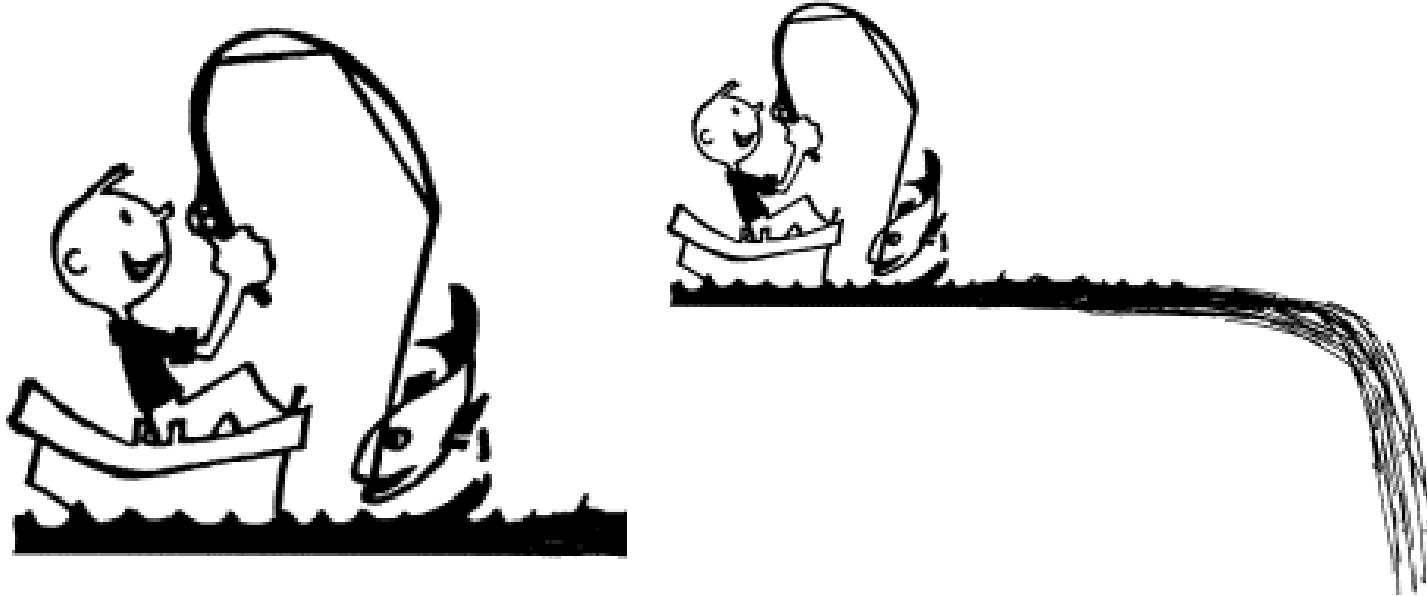
# American ADHD Stats ... [CDC.org](https://www.cdc.org)

- 6.4 million children with ADHD in USA
- 11% of all US children diagnosed with ADHD
  - Compared to 18 % obese, 9% diabetic
  - 13.2% boys, 5.6% girls
  - 6.1% of all US children taking psychostimulants
- 60% of those children taking psychostimulant meds
- Medicated children less likely to smoke as teens
- Smoking during pregnancy increases ADHD risk 2X



# This is what Jack sees

- This is what everybody else notices



- They create a temporal myopia in which the individual's behavior is governed the temporal **NOW** and the immediate context.
  - Russell Barkley

- **THEREFORE MAKE TIME MORE EXTERNALLY REPRESENTED**



# TYPES OF ADHD in DSM-5

- ADHD Predominantly Inattentive Presentation (old ADD)
- ADHD Predominantly Hyperactive-Impulsive Presentation
- ADHD Combined Presentation
- *Onset criterion has been changed from 7 to 12 years*
- *Comorbidity with ASD allowed*

# Predictors of ADHD

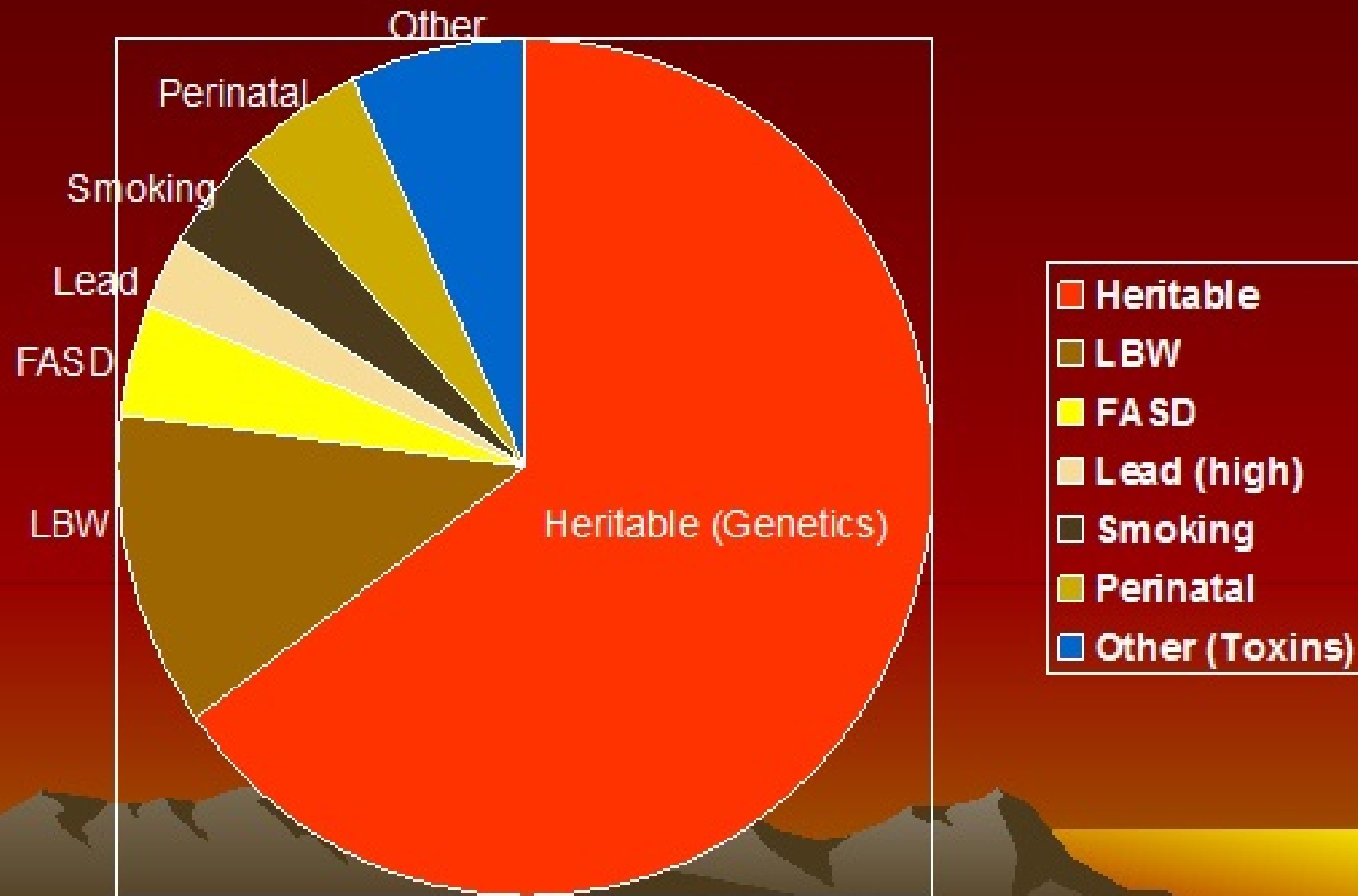
- Family History, large heritability factor (70%)
- Prenatal issues e.g. lead, tobacco, substance abuse, poor prenatal care (20% caused by affecting brain)
- Perinatal issues e.g. anoxia from cord, fetal distress, LBW, prematurity (10% injury)
- Stress and cortisol
- Bad parenting does not cause ADHD





# Etiologies of ADHD

From Joel Nigg (2006), *What Causes ADHD?* New York: Guilford Press.



# IS ADHD INCREASING?

## Over-Diagnosed

- Overactive boys, common behavior problems, poor parenting

## Mis-Diagnosed

- Bipolar<sub>n</sub>, Anxiety, CAPD, ODD, LD, SPD, Sleep\*, PTSD, Slow children, youngest kids in their kindergarten class
- \*2012 JPediatrics/McGill..30 min. sleep improve behavior and reduce restlessness in school...and basketball too

## Under-Diagnosed

- Girls

# ADHD EMOTIONAL FACTORS

- Depression worsens attention functioning
- Anxiety worsens attention functioning
- Early neglect and abuse impact development
- Inaccurate self-image is secondary result
- Negative self-talk further reduces attention

# Anxiety and ADHD

- TWO COMMONALITIES
  - Diminished concentration
  - Fidgetiness
- Therefore misdiagnosis is very common
- One concern: ADHD Meds may make anxiety worse

# Behaviors of Children with Central Auditory

## Processing Deficit:

- Inconsistent responses to auditory stimuli
- Often misunderstands what is said
- Requests that information be repeated
- Poor auditory attention
- Difficulty following oral instructions
- Difficulty listening in the presence of background noise
- Difficulty with phonics and speech sound discrimination
- Poor auditory memory span
- Slow or delayed response to verbal requests and instructions

# OPPOSITIONAL DEFIANT DISORDER

- Throwing repeated [temper tantrums](#)
- Excessively arguing with adults, especially those with authority
- Actively refusing to comply with requests and rules
- Deliberately trying to annoy or upset others, or being easily annoyed by others
- Blaming others for your mistakes
- Having frequent outbursts of anger and resentment
- Being spiteful and seeking revenge
- Swearing or using obscene language
- Saying mean and hateful things when upset
- In addition, many children with ODD are moody, easily frustrated, and have a low self-esteem.

# Lack of **sleep** is known to cause...

- poor attention
- worse grades
- school absences
- poor social interactions
- irritability and crankiness
- increased risk taking behaviors.

# Youngest Children in Kindergarten Class

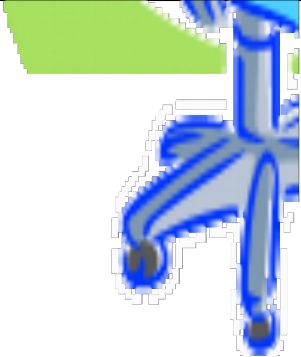



- youngest children were significantly more likely to be diagnosed with ADHD and to be prescribed behavior-modifying stimulants such as Ritalin than their older classmates
- [\*Journal of Health Economics\*](#).  
Dr Todd Elder, assistant professor of economics at Michigan State University
- "If a child is behaving poorly, if he's inattentive, if he can't sit still, it may simply be because he's 5 and the other kids are 6."



# Child must help themselves too

- Organizing their desk.
- **Asking for repetition**
- Role-Playing Questions
- Secret Signal with teacher for repetition
- Watch the teacher and listen to other cues.
- Repeat the directions to yourself over and over again.
- Healthy habits including diet, exercise, and sleep.
- Take notes by key words. *Pulse Pen*
- Preferential Seating

# Ticket System tying school and home via rewards and consequences

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# Parenting the ADHD child

- Natural consequence or Positive Practice
- Avoid Negative Reinforcement
- Work Detail
- Cold Shoulder
- Keep words to a minimum
- Reading about ADHD together

[ADDitudemag.com](http://ADDitudemag.com)

# ADHD CLASSROOM HINTS

[bouncybands.com](http://bouncybands.com)

- Highlighter
- Stand at desk
- Children to earn easel
  - (or stability ball) use.
- Chairs that allow slight rocking
- Gum



## Alternative Therapies for ADHD

### SUPPLEMENTS (in order of evidence)

- Fish Oil- eicosapentaenoic acid (EPA (3X) and docosaahexaenoic (DHA) acid
- Zinc 20 - 100 mg
- Iron 80 mg/day for Elementary age
- Magnesium 6 mg/kg/day
- B-6 1 mg/kg/day for Elementary age
- Thiamine (really B1) Carnitine 100mg/kg
- Pycnogenol 1 mg/kg/day

# High Quality Omega 3 EFA sources

- [Omegabrite.com](http://Omegabrite.com)
- [Zoneliving.com](http://Zoneliving.com)
- [Nordicnaturals.com](http://Nordicnaturals.com)
- [Barleans.com](http://Barleans.com) makers of the Omega Swirl Smoothie
- Coromega from Kirkman

# Diets to treat ADHD

- High-protein, low carbohydrate, sugar-free
- Avoid empty calories
  
- Management of Food Sensitivities in ADHD
  - February 2011 Lancet study first to prove diet effectiveness in ADHD
  - “Effects of the Elimination Diet on ADHD Children”
  - Including Tomatoes, Dairy, Wheat, Eggs

# Food Dyes

- Dyes such as sunset yellow (yellow #6) found in fruity drinks, blue #2, red coloring (#40) in jams and drinks, tartrazine (yellow #5) in lollipops and carbonated drinks
- 2 large British studies show dyes increase ADHD in normals. British banned 6 dyes in 1/2008
  - But above 4 still in use in USA



# Alternative Therapies for ADHD

- Movement (breaks, stretching)
- Meditation <sub>n</sub>
- Exercise
- Nutrition
- Weight (vest and heavy work)
- Working Memory Training
- Biofeedback

# Exercise

- Exercise turns on the attention system
- 2012 Journal of Pediatrics ..20 min. exercise improved math/reading scores, less impulsive
- Improves Endorphins, dopamine, norepinephrine and serotonin levels
- Exergaming improves focus more than cognitively engaging games

# ESSENTIAL OILS FOR ADHD

- Lavender
  - Vetiver
  - Cedarwood
  - Brain Power (includes Frankincense, and Cedarwood)
- 
- Inhaled 3 X per day and dispersed at night
  - 2001 study by Terry Friedmann, M.D.
  - Vetiver improved focus 100 % as shown by TOVA test  
Cedarwood 83%, Lavender 53%

