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Ask the Expert

Evidence-based treatment for ADHD in young children

Mary Margaret Gleason, MD FAAP

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✓ Recording available

✓ Use registration link

https://goto.webcasts.com/starthere.jsp?ei=1101995

✓ CHADD website

www.chadd.org/asktheexpert

✓ Slides available under resources

✓ Twitter feed: #AskADHD

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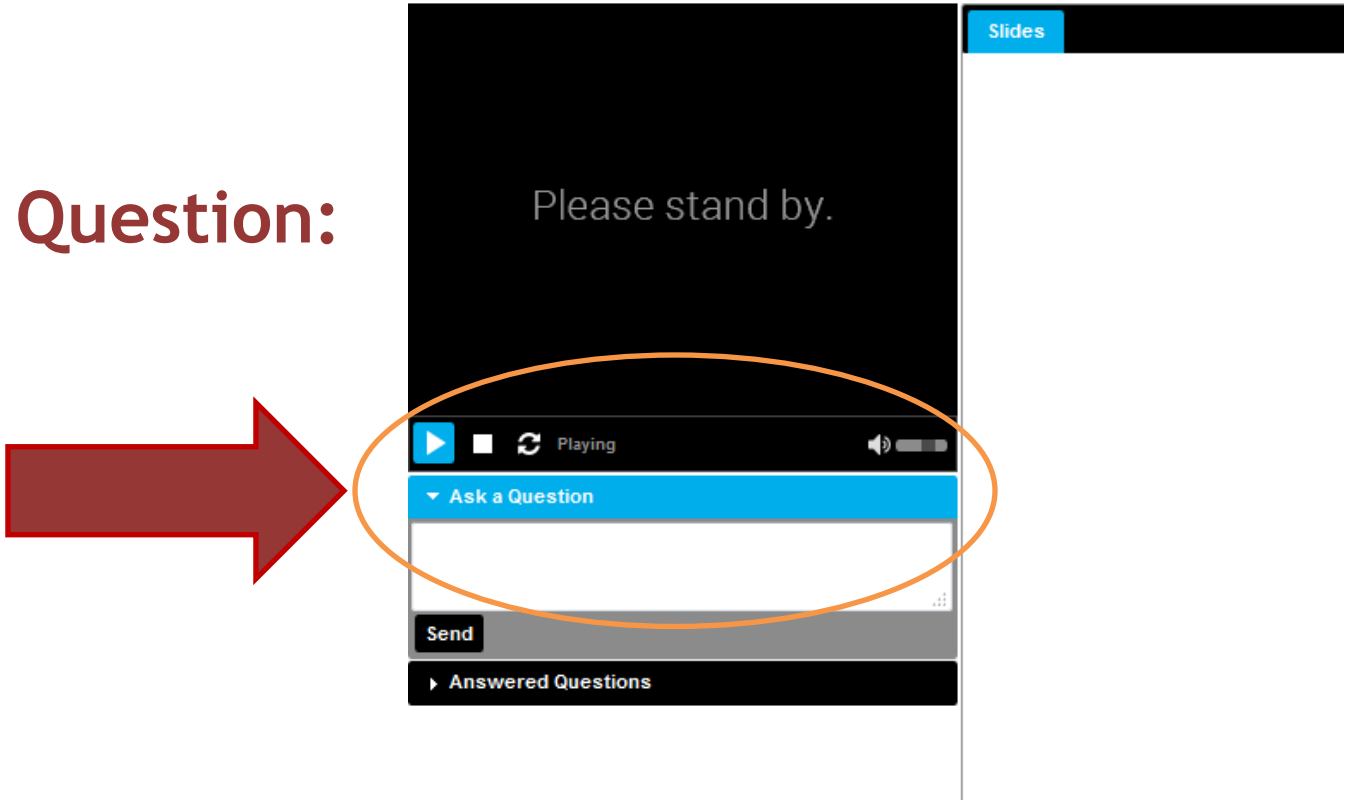

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Tulane University
SCHOOL OF MEDICINE

Evidence-based treatment for ADHD in young children

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Objectives:

- Appreciate the many factors that may influence the presentation of ADHD in young children
- Identify specific evidence-based parent and/or teacher administered behavior therapy options
- Describe the importance of tracking and monitoring patients throughout the treatment process
- Recognize when behavior therapy is not offering improvements
- Identify how to proceed with weighing the option of medication

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Overview

- Assessment and Differential Diagnosis
- Therapy approaches to preschool ADHD
- Treatment monitoring approaches
- Psychopharmacologic approaches to preschool ADHD

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Clinical presentation and Diagnosis

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ADHD DSM 5 Criteria

- 2 settings
- Started before 12 yo
- Developmentally inappropriate
- Causes impairment
- Not solely from ODD

- Hyperactive and impulsive type: 6/9 symptoms
- Inattentive type: 6/9 symptoms
- Combined type: meet criteria for both

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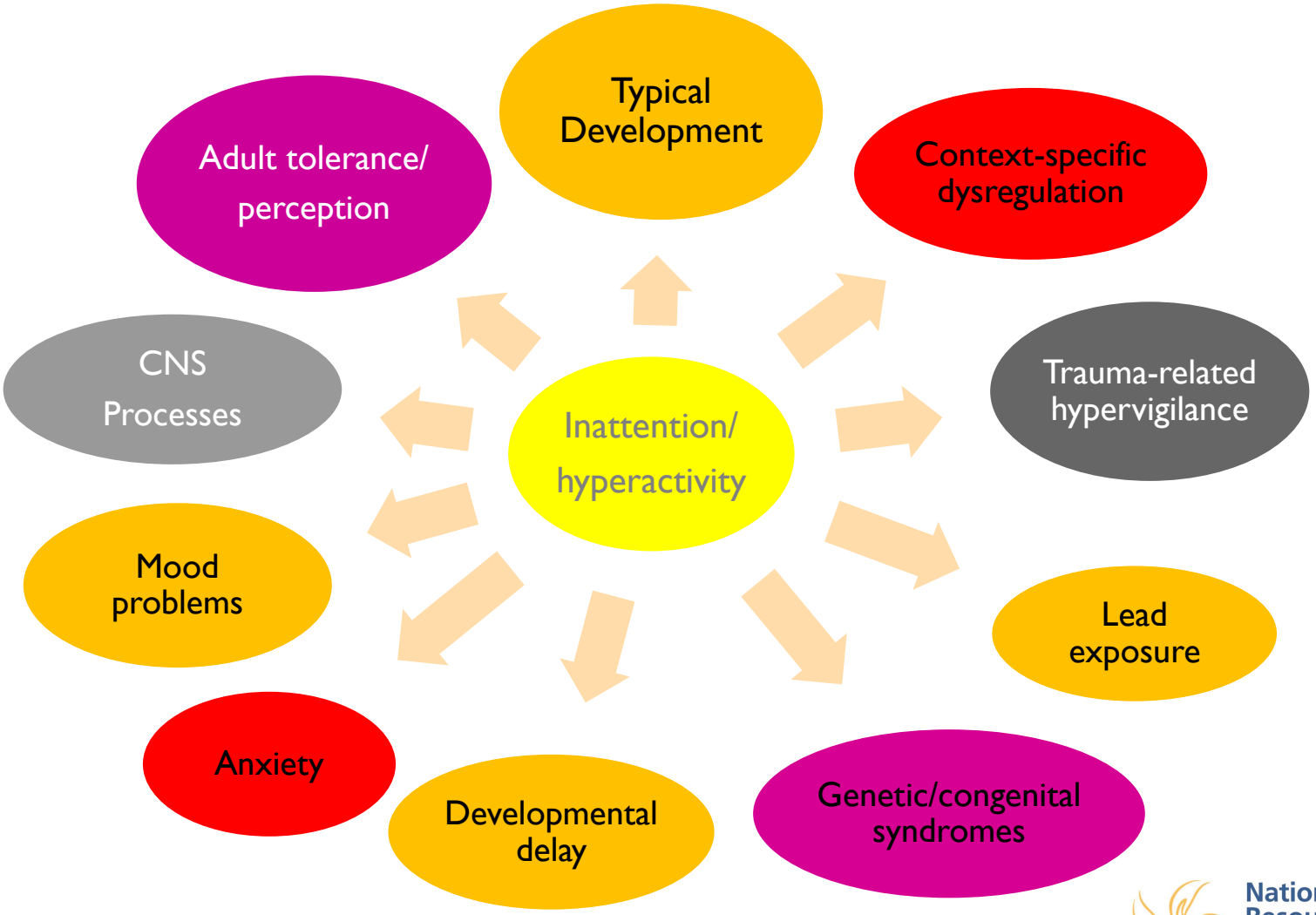
Hyperactivity-Impulsivity (6/9)

- Fidgets or squirms
- Leaves seat
- Runs/climbs (inappropriate)
- Unable to play quietly
- On the go/driven by a motor
- Talks excessively
- Blurts out an answer before a question has been completed
- Difficulty waiting his or her turn
- Often interrupts or intrudes on others

Inattention Symptoms (6/9)

- Fails to give close attention to details or makes careless mistakes
- Difficulty sustaining attention in tasks or play activities
- Does not seem to listen when spoken to directly
- Does not follow through
- Difficulty organizing tasks and activities
- Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
- Often loses things
- Easily distracted
- Forgetful in daily activities

Differential Diagnosis



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Assessment: Taking the History

- Detailed history
- Past medical history
  - Prematurity
  - Lead exposure
  - Head trauma/LOC
  - Other CNS process
- Developmental history
- Social history
  - Trauma exposure
  - School history
- Family history
  - History of ADHD, substance abuse, mood disorder
  - (biological or adopted/foster)

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Assessment: Using a Measure

- Because of broad differential, ADHD-specific screen not recommended
- Use measure to guide further assessment/differential
- More than 1 caregiver!!

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Broad-based Symptom Measures

- Early Childhood Screening Assessment
- Preschool Pediatric Symptom Checklist

- Brief Infant Toddler Social Emotional Assessment (12-36 months) $
- Ages and Stages: Social Emotional ($)
- Child Behavior Checklist 1 ½-5 ($)

http://tulane.edu/som/tecc/mental-health-screening.cfm

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Environmental Measures

- Safe Environment for Every Kid

http://theinstitute.umaryland.edu/seek/resources/SEEK_PQ_English.pdf

- We Care

http://pediatrics.aappublications.org/content/120/3/547

- Caregiver depression
  - PHQ 2, PHQ 9

- Young Child PTSD Checklist

http://www.infantinstitute.org/wp-content/uploads/2014/05/YCPC_v5_23_14.pdf

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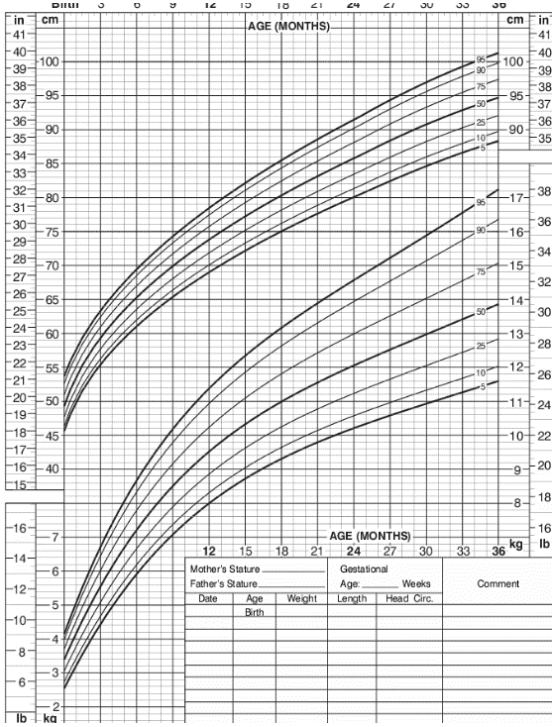
Assessment: Physical examination

- Vital signs
- Dysmorphic features
- Visual acuity and hearing
- Tonsillar hypertrophy
- Thyromegaly
- Evidence of non-accidental injury
- Neuro: tics



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ADHD Assessment (4-18 yo)

AAP 2011

- Parent AND teacher report positive
- Rule out/confirm co-morbidity

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Differential dx

- 3 year 8 mo presenting with “he’s out of control”. Unable to sit, always runs away from mother in supermarkets, hits other people, especially when angry. Has been expelled from multiple child care centers. Does fine in quieter classrooms. + nightmares, + hypervigilance.

- **Med hx:** No prenatal care, 36 weeks g.a.

- **Social hx**: Lives with mother, 4 siblings. Separated from mother x 9 mo at 18 mo after left alone with 7 yo sister. Behaviors started after that.

- **Family history:** Mother: “nerves”; father: incarcerated for domestic violence

Trauma-related symptoms

- Pervasive across settings
- Does not require emotional reactivity

ADHD

- Exacerbation of sx's with triggers/reminders
- High variability of symptoms
- High level of emotional reactivity
- Exposure to adverse childhood events

Trauma-related patterns

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Labs?

- No need for lab tests unless hx or physical suggestive of underlying organic d/o
  - PICA
  - Lead exposure (house built before 1978)
  - Dysmorphic features
  - Clinical pattern suggestive of seizures, OSA, chronic medical condition

Interventions

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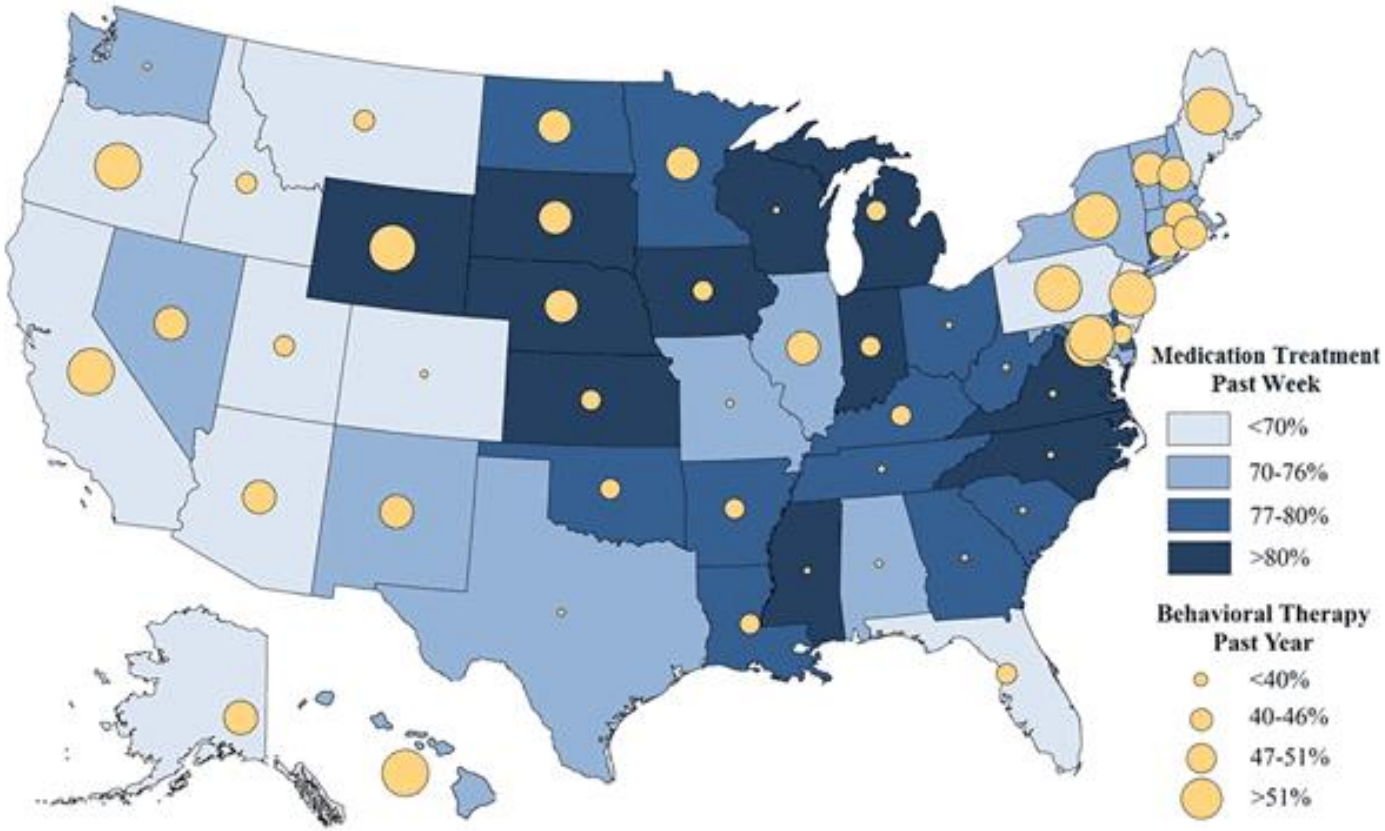
What treatment do children get



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By the numbers

- N=2 million children diagnosed with ADHD 2-5 yo
- 75% received medication
- 45% received therapy
  - No information about model or quality

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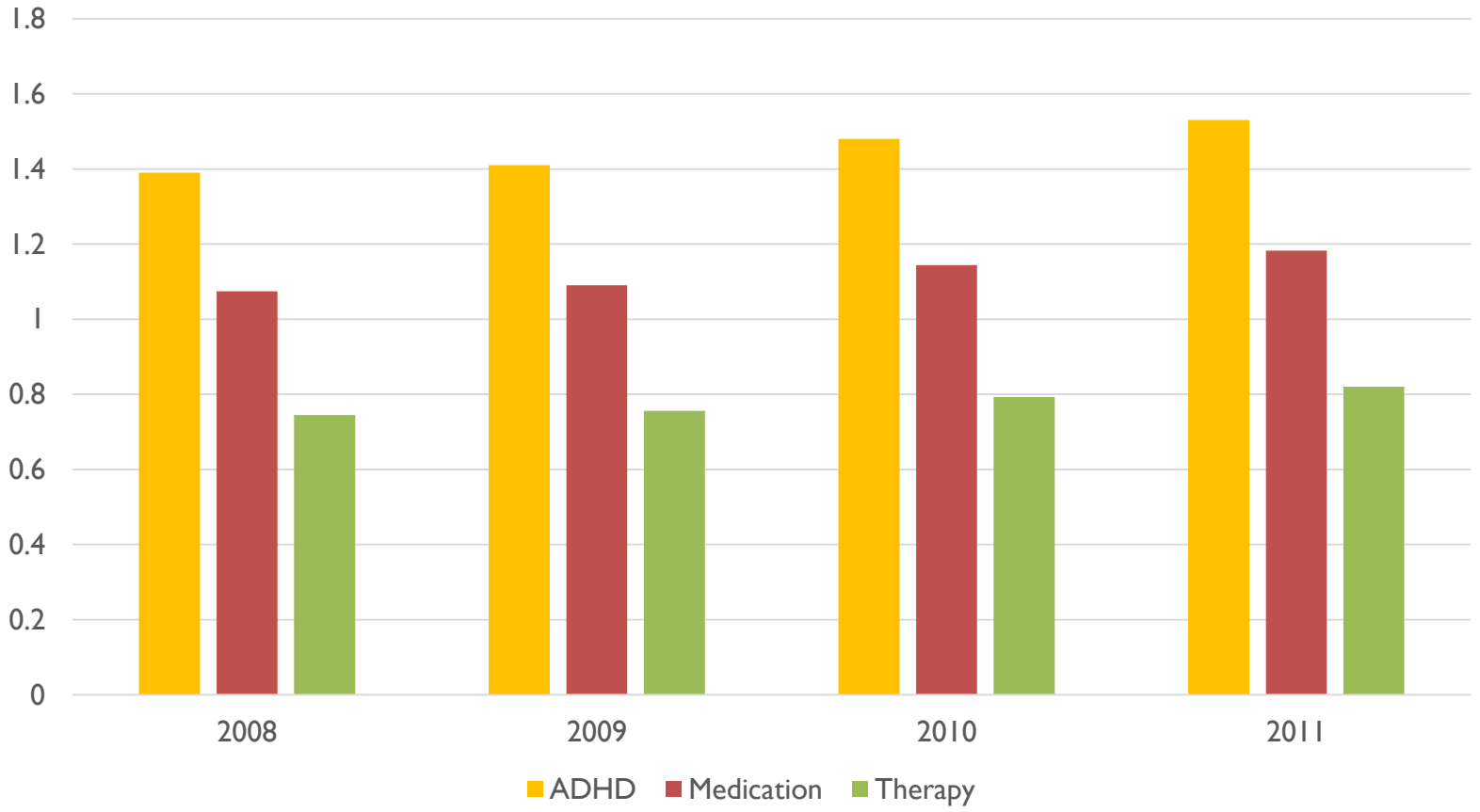
Treatment for children with Medicaid



Visser 2016 MMWR

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First line treatment

- Under 6 yo: Parent management training

http://www.cdc.gov/vitalsigns/adhd/

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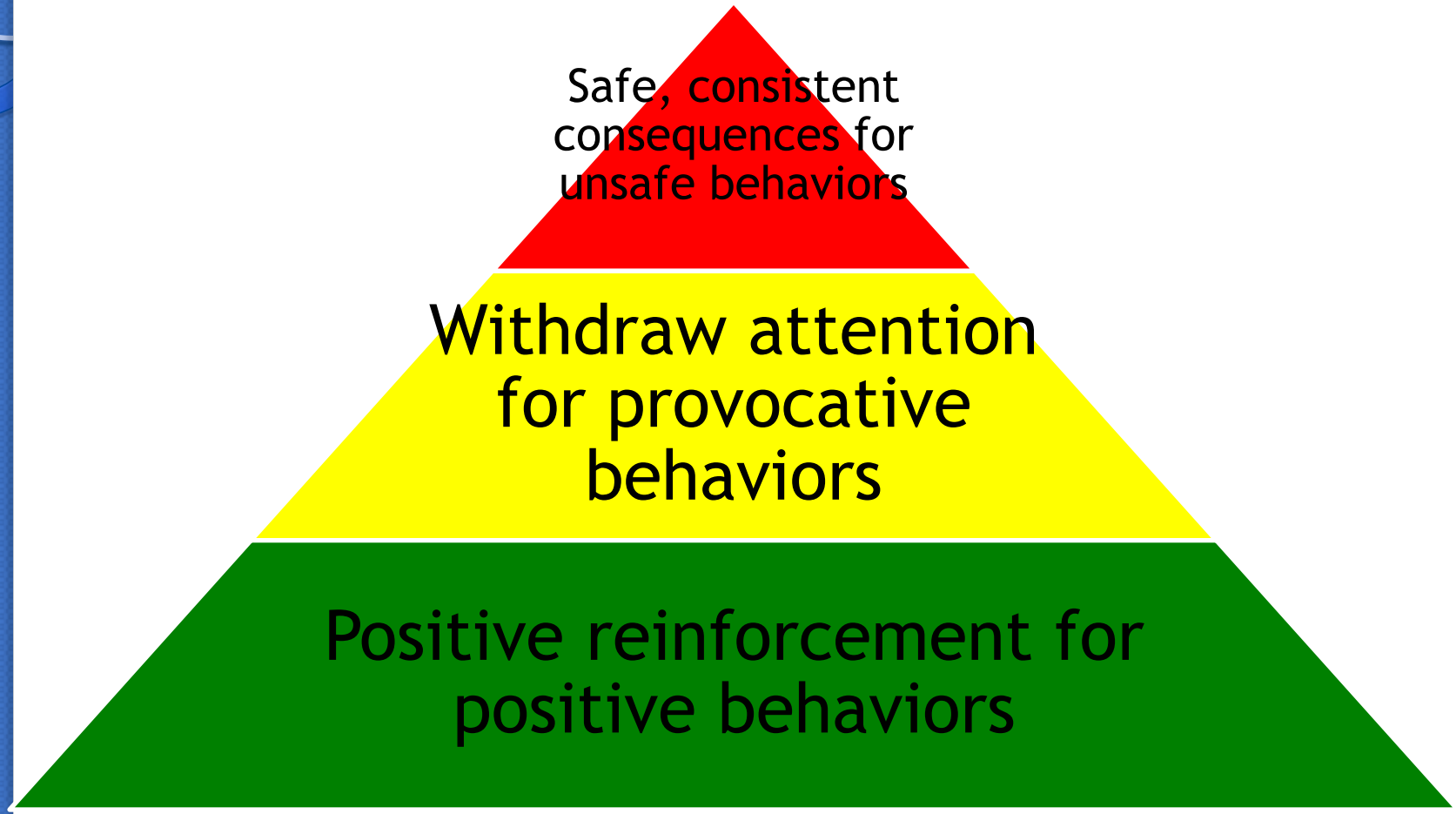
Principles of parent management training



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Specific Models of PMT

- Incredible Years
- Parent Child Interaction Therapy
- Triple P
- New Forrest Programme
- Helping the non-compliant child

incredibleyears.com; pcit.org; http://pcit.ucdavis.edu/training/; Triplep.net;
(http://guidebook.eif.org.uk/programmes-library/new-forest-parenting-programme-nfpp)
http://www.cebc4cw.org/program/helping-the-noncompliant-child/detailed

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Specifics of

- **Parent Child Interaction Therapy**
  - Parents are coached through “bug in ear”
  - Includes homework and observational measurements
- **Incredible Years Series**
  - Group model that uses video vignettes and group discussion
  - Parent, Teacher, Classroom intervention models
- **Triple P**
  - Multi-level, community focused intervention
  - Teaches parents skills through self-directed learning
- **New Forrest Programme**
  - Developed to target ADHD in preschoolers
  - Positive reinforcement for on-task behaviors
- **Helping the non-compliant child**
  - Parents are taught positive reinforcement and practicing commands
  - Homework

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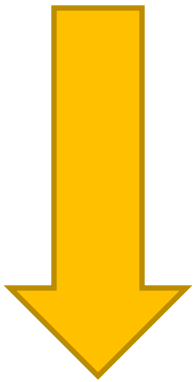
Outcomes of PMT

- Decreased
  - Disruptive behavior patterns
  - ADHD symptoms
  - Coercive parenting
  - Maltreatment recidivism
  - Parental stress/depression (if not clinical range)



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Other targets of PMT

- **Separation Anxiety**
  - Decreased anxiety
  - Decreased behavior problems
- **Maltreating families**
  - Equally effective in treating DBD
  - Decreased maltreatment recidivism
  - Especially powerful with motivational enhancement therapy
- **Emotional dysregulation/depression**
  - Improved emotion identification and decreased depressive symptoms

Choate et al 2005; Luby ; et al, 2008; Chaffin 2008

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Follow-up (PCIT)

- 2 years later
  - Decrease in parent stress re: child

- 6 years later
  - Decrease in parent reported symptoms
  - (still above U.S. mean)
  - Higher parent perception of locus of control (1.29)

Hood & Eyberg 2003

Challenges to participating in PMT

- Access
- Cost/insurance
- Time investment
- Psychological buy-in
- Parental developmental level
- Parental mental health problems

- Retention rate about 60%

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Clinical monitoring with PMT

- Adherence and engagement
- Symptom reports
  - Multiple reporters
- Impairment

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When PMT isn't seeming to help

- Reconsider diagnosis and formulation
- Evaluate engagement/adherence
  - Maslow's hierarchy
  - Parental comprehension
  - Motivational enhancement
- Consider alternative targets of treatment
  - Parental depression

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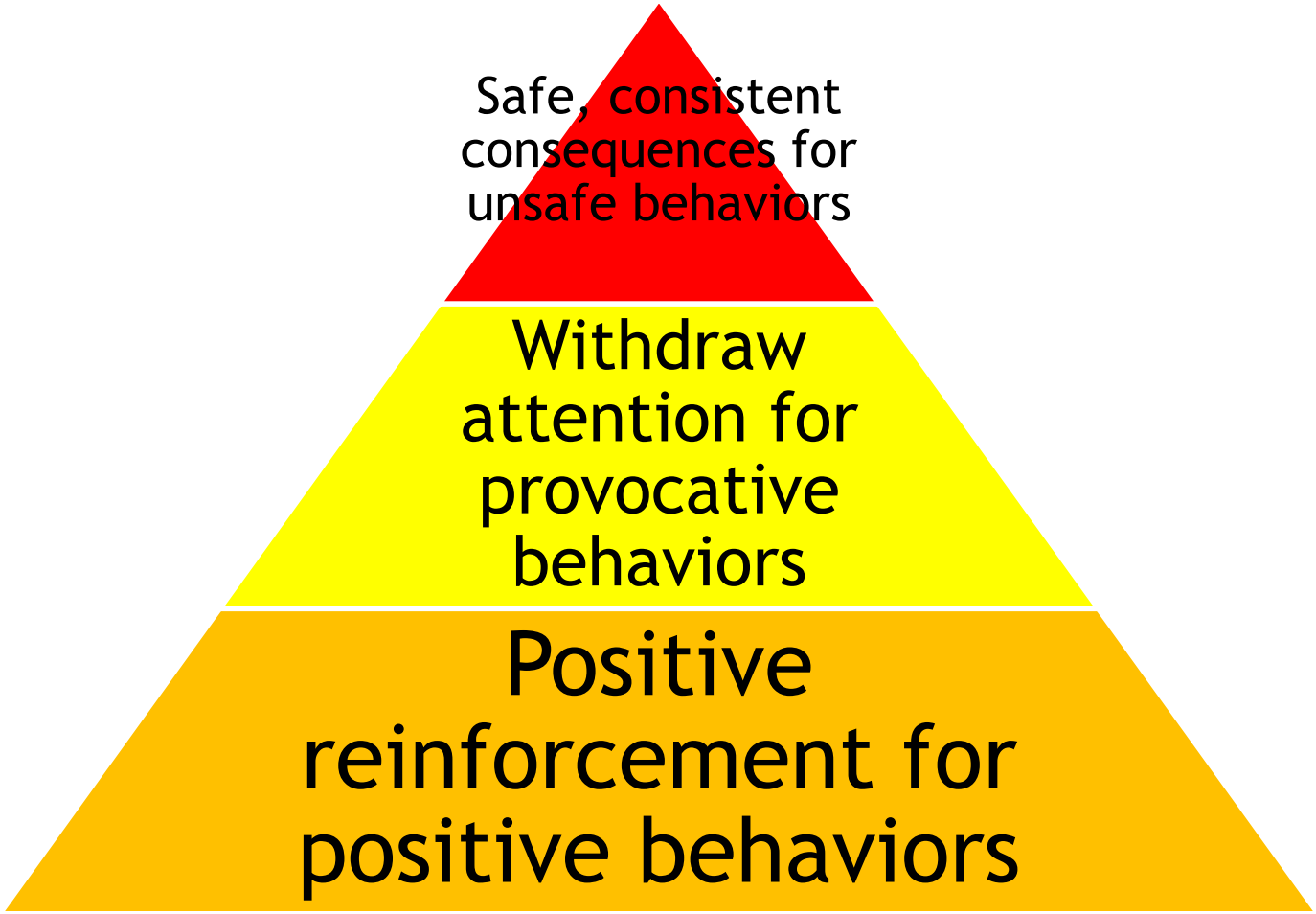
When formal PMT is not available



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Promoting Positive Interactions

- Close follow up for children with special health care needs
- Coaching parents in parenting pyramid, token economy
- Encourage “time in”
- Bibliotherapy
  - Tulane/edu\som\tecc
  - Healthy children.org
  - Triple P online
  - http://csefel.vanderbilt.edu/
  - The Explosive Child by Ross Green
    The Out of Sync Child by Carol Kranowitz

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Healthy Balances

- Limit screen time
- Increase outdoor time
- Healthy nutrition
  - Food
  - Omega 3 FA
- Maximize sleep efficiency
- Advocacy in school setting

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Pharmacologic Overview

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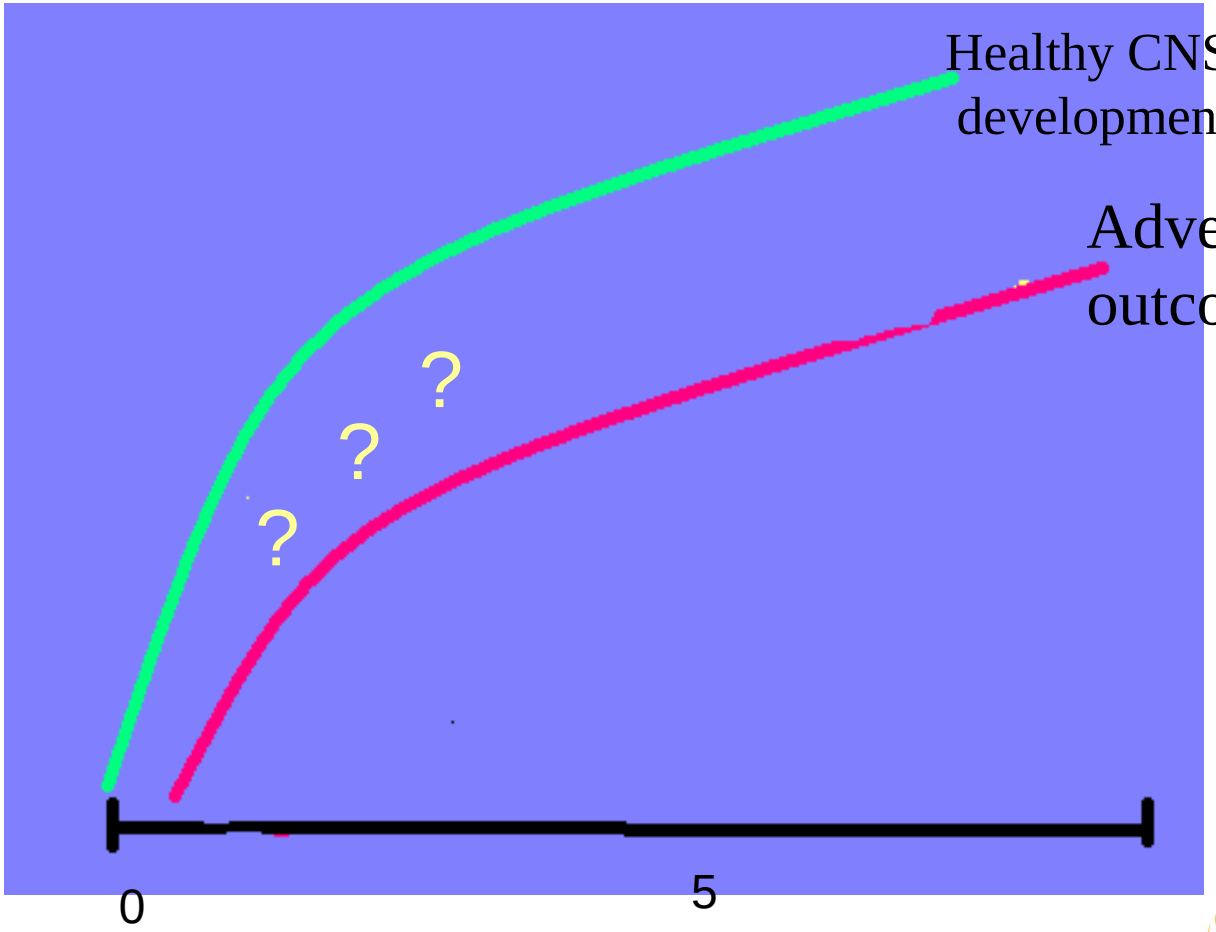
Considering medications

- Completed PMT with ongoing impairment and severe symptoms
- Family psychopathology or circumstances interfere with ability to participate in treatment
- Existing PMT schedule/location not conducive to participation
- No PMT available
- Extreme dangerousness or risk

Neurodevelopment: Preschool Psychopharmacological Treatment



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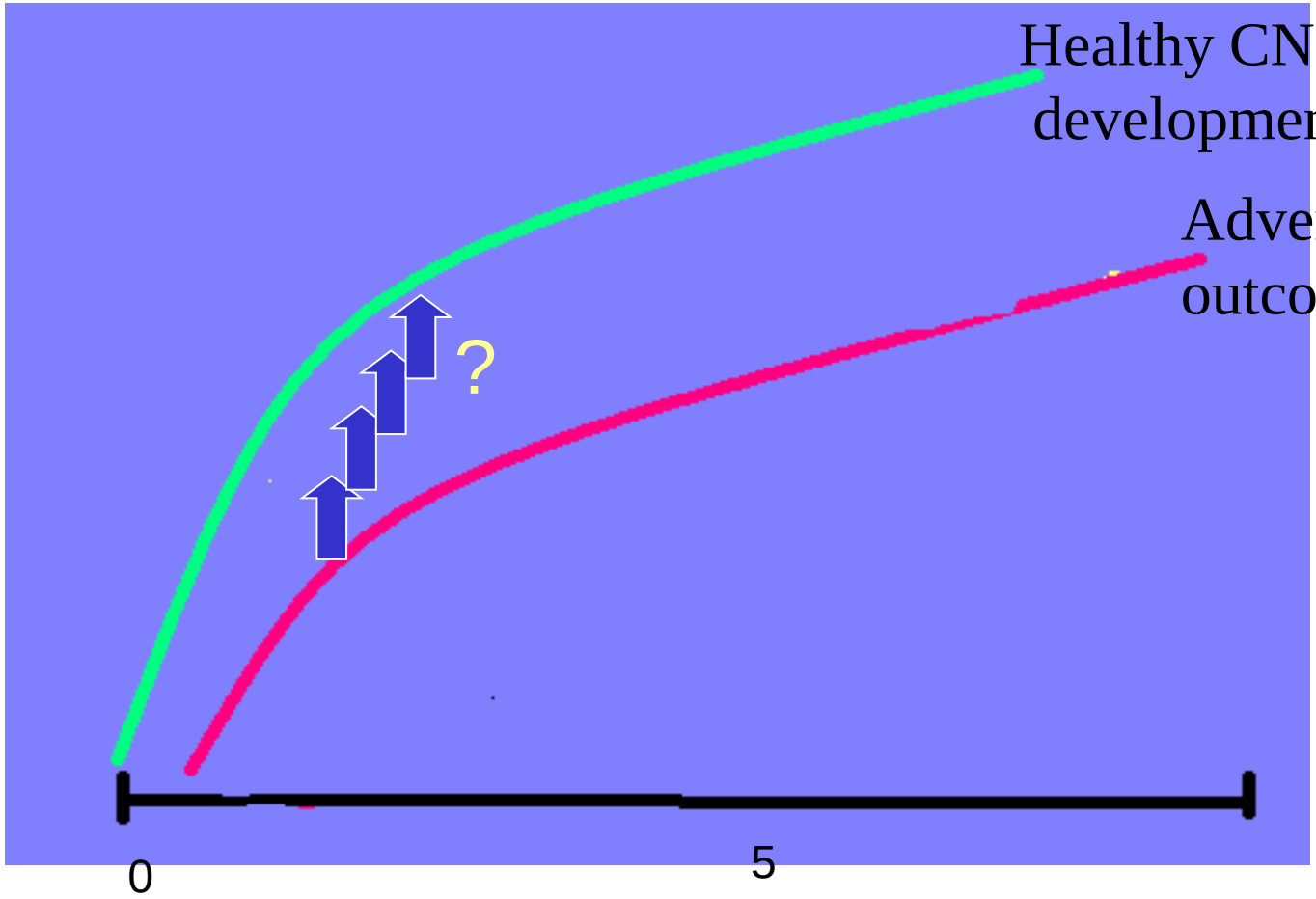
Neurodevelopment: Preschool Psychopharmacological Treatment ??



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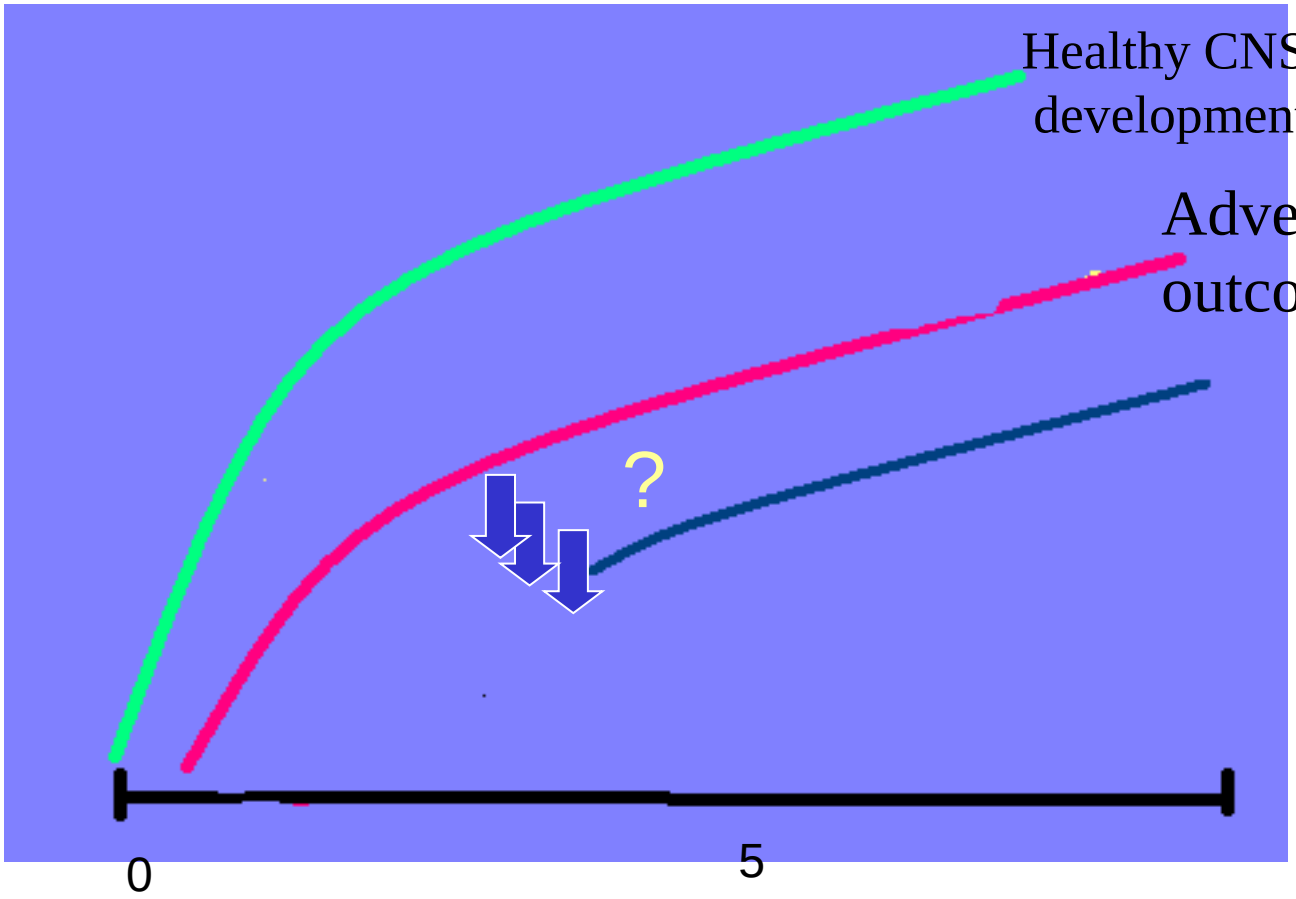
Neurodevelopment: Preschool Psychopharmacological Treatment ?



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Preschool ADHD Treatment Study

- Randomized, double blind, placebo controlled titration phase
- 303 children 3-5.5 years old
  - Moderate-Severe ADHD

(Greenhill et al., 2006)

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Preschool ADHD Treatment Study

- Parent training
- Open label safety trial
- Cross over titration determining optimal dose
- Placebo controlled trial using patient optimal does

- 28% of families showed improvement, declined medication, or did not meet entry criteria after parent training
- 7% withdrew from study due to not wanting medication or toxicity
- 8% withdrew from study as non responder, toxicity or lost to follow up
- 8% lost to study as non-responder, behavioral deterioration or lost to follow up

(Greenhill et al., 2006)

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Preschool ADHD Treatment Study

- Primary outcome
  - MPH > placebo in reducing symptoms of ADHD

(Greenhill et al., 2006)

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Preschool ADHD Treatment Study

(Greenhill et al., 2006)

- Smaller effect size than studies in older children on CLAM

	PATS	MTA *(Greenhill 2001)*
Parents	.35	.52
Teacher	.43	.75

- 21% children achieved remission at optimal dose

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Preschool ADHD Treatment Study

(Greenhill et al., 2006; Wigal et al 2006; Ghuman et al., 2007)

- Dose-related adverse events
  - Appetite loss
  - Sleep difficulties
  - Abdominal pain
  - Social withdrawal
  - Dull/tired/listless

- 11 % Discontinued treatment (11%) because of adverse effects – especially emotionality and irritability
  - (<1% discontinuation due to AE in MTA)

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Preschool ADHD Treatment Study: Preschoolers are Different

(Greenhill et al., 2006, Abikoff et al., 2007; Wigal et al., 2006)

- Metabolism
  - Higher peak serum concentrations than school age children
- Co-morbidity
  - No difference between placebo and MPH if > 3 diagnoses
- Functional impairment
  - No differences between placebo and MPH on parenting stress, social competence, social skills

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PATS Long term outcomes

(Riddle et al 2013)

- 3,4,6 year follow up
- Vast majority of children continued to meet criteria for ADHD
  - Girls fewer signs by teacher report than boys
- Outcomes not related to mph treatment responsiveness
- Worst outcomes for PMT completers who did not complete psychopharm treatment arms
- Concurrent treatment not associated with ADHD symptoms

More ADHD RCT's

- Atomoxetine *(Kratchovil et al., 2011; Ghuman et al., 2009)*
  - 1 RCT
  - 101 participants
  - ~40% much improved or improved
  - 62% still impaired on atomoxetine
  - High rates time-limited mood lability
- MAS *(Short et al., 2004)*
  - Prospective placebo controlled
  - 6 participants
  - MAS > Placebo

ADHD: Other medications

- Alpha agonists
  - No studies focused on ADHD
  - One open trial of 7 children *(Harmon et al., 1996)*
  - 5/7 had decreased impulsivity
- Buproprion
  - No studies in preschoolers
  - (Report of seizure)
- Tricyclic antidepressants
  - Limited data
  - Risk of death with unintentional ingestions

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ADHD Treatment

- Start with 1 stimulant (MPH or MAS*)
  - Family history
  - Your practice preference
  - Formulation (“swallowability”)

- Increase dose weekly until effective or hit adverse effects

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Clinical monitoring with PMT

- Adherence and engagement
- Symptom reports
  - Multiple reporters
- Impairment

- Weight, linear growth
- BP, HR
- Emotionality
- Tics
- Engagement in therapy

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Practical issues related to psychopharmacologic treatment

- Formulation or “Swallowability”
- Limited duration
- Insurance limitations
  - Immediate release vs extended release
- Does not influence risk status
- “Magical expectations”

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Principles of preschool psychopharmacologic treatment

- Use non-pharmacologic interventions as first and second line
- Avoid polypharmacy when possible
- Continue non-pharmacologic interventions
- Use non-pharmacologic approaches to adverse effects
- Reassess when ineffective

ADHD Treatment

- Start with 1 stimulant (MPH or MAS*)
  - Family history
  - Your practice preference
  - Formulation (“swallowability”)
- Increase dose weekly til effective or hit adverse effects
- Continue 6 mo-1 year then trial off (summer)
- If ineffective
  - Reassess
  - Trial second stimulant …
  - Continue same cycle -> alpha agonist or atomoxetine

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Summary

- ADHD is a common chronic disease of childhood
- Symptoms may be non specific, with overlap with other disorders
- Assessment requires input from teachers or other caregivers
- Evidence base for therapy is robust and safety profile is good
- Limited evidence base for psychopharmacologic treatment invites caution
- Close follow up and frequent reassessment necessary

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- The families we serve

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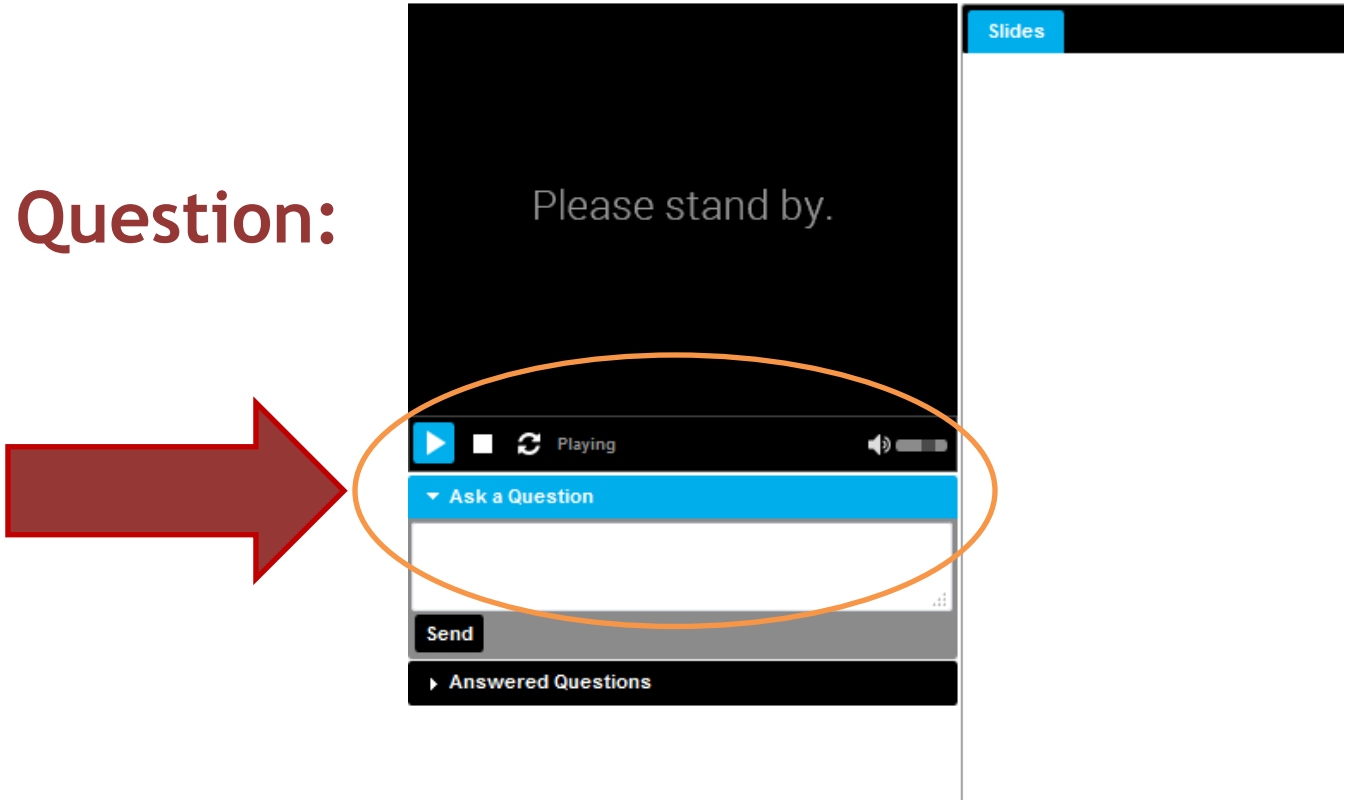

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Wednesday, June 8, 2016 at 2pm ET

Home life when Mom or Dad has ADHD: Succeeding with your family

Guest Expert: Caroline Maguire, ACCG, PCC, M.Ed

Thursday, July 14, 2016 at 2pm ET

Helping your child successfully handle change

Guest Expert: Jeffrey Katz, Ph.D.

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