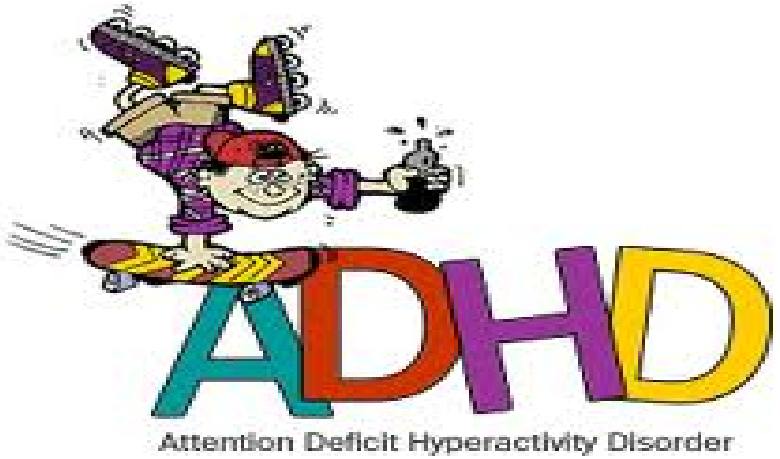
child & family
guidance center

COPING WITH ADHD IN THE TIME OF COVID

ASIF RASHID, M.D
Child Psychiatrist



What is ADHD?

- **Attention Deficit & Hyperactivity Disorder is the most common neurobehavioral disorder in children and adolescents**
- **It is characterized by deficits in attention, concentration, activity level, and impulse control**

Diagnostic Criteria for ADHD DSM-V

Inattention:Six or more of the following symptoms of **inattention** have persisted for at least six months :

1. **Is careless**
2. **Has difficulty sustaining attention in activity**
3. **Does not listen**
4. **Does not follow through with tasks**
5. **Is disorganized**
6. **Avoids/dislikes tasks requiring sustained mental effort**
7. **Loses important items**
8. **Is easily distracted**
9. **Is forgetful in daily activities**

Hyperactivity - impulsivity: Six or more of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months

- **Hyperactivity**
  1. **Squirms and fidgets**
  2. **Cannot stay seated**
  3. **Runs/climbs excessively**
  4. **Cannot play/work quietly**
  5. **Is on the go/driven by a motor**
  6. **Talks excessively**

Impulsivity

7. **Blurts out answers**
8. **Cannot wait turn**
9. **Intrudes/interrupts others**

ADHD

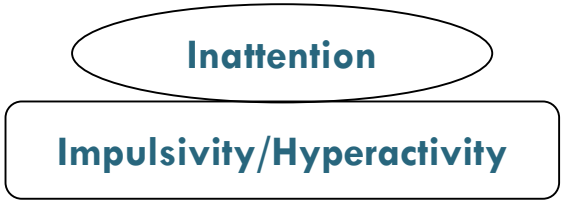
- Onset of symptoms before age 12
- Impairment in 2 or more settings (eg, school, work, home)
- Evidence of clinically significant impairment in social, academic, or occupational functioning
- Symptoms not a result of other disorders (PDD, Schizophrenia, or another psychotic disorder

Based on these criteria, three types of ADHD are identified:

- **ADHD Predominantly Inattentive presentation**
  - Criteria met for inattention but not for impulsivity/hyperactivity

- **ADHD Predominantly Hyperactive-Impulsive presentation**
  - Criteria met for impulsivity/hyperactivity but not for inattention

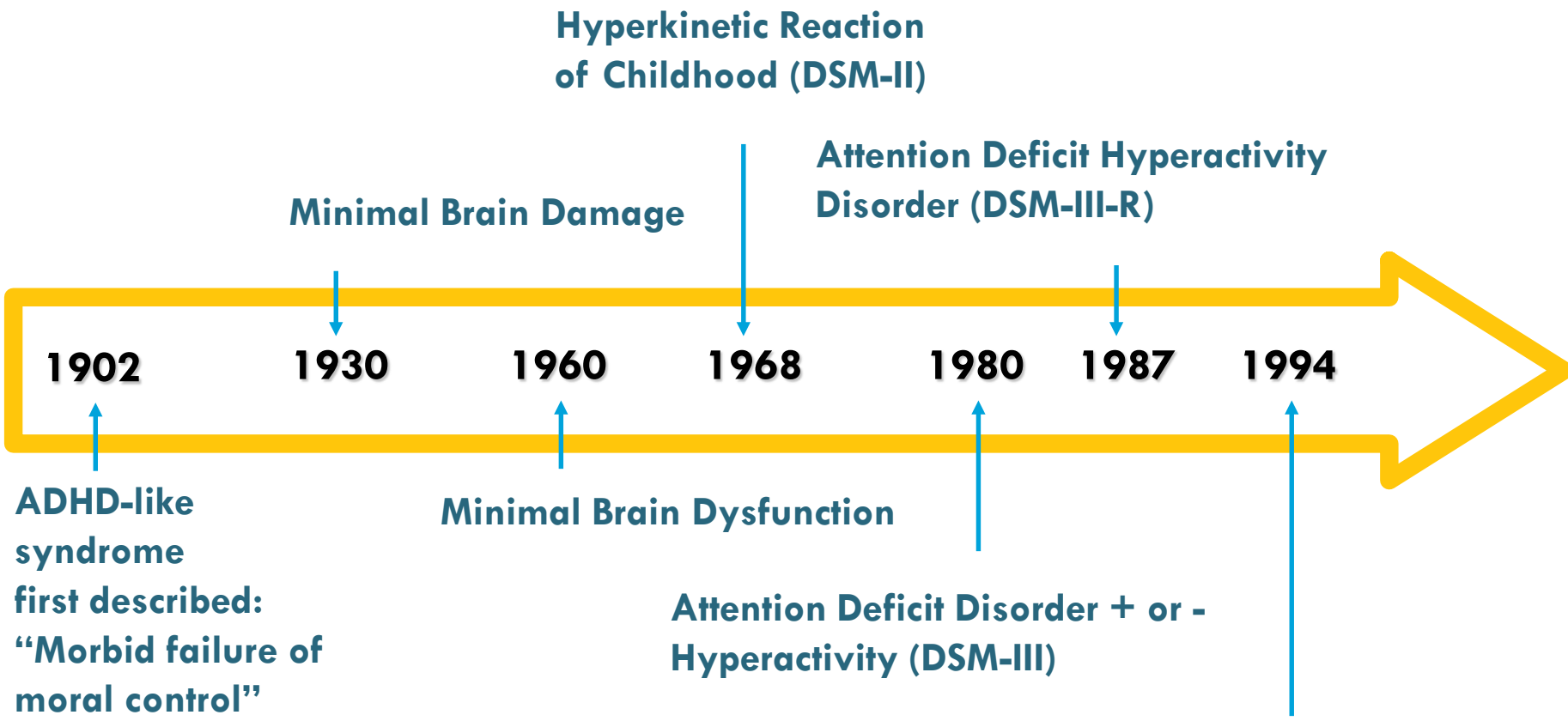
- **ADHD Combined presentation**
  - Criteria are met for both inattention and impulsivity/hyperactivity



ADHD

Is ADHD a new phenomena?

ADHD: Historical Timeline

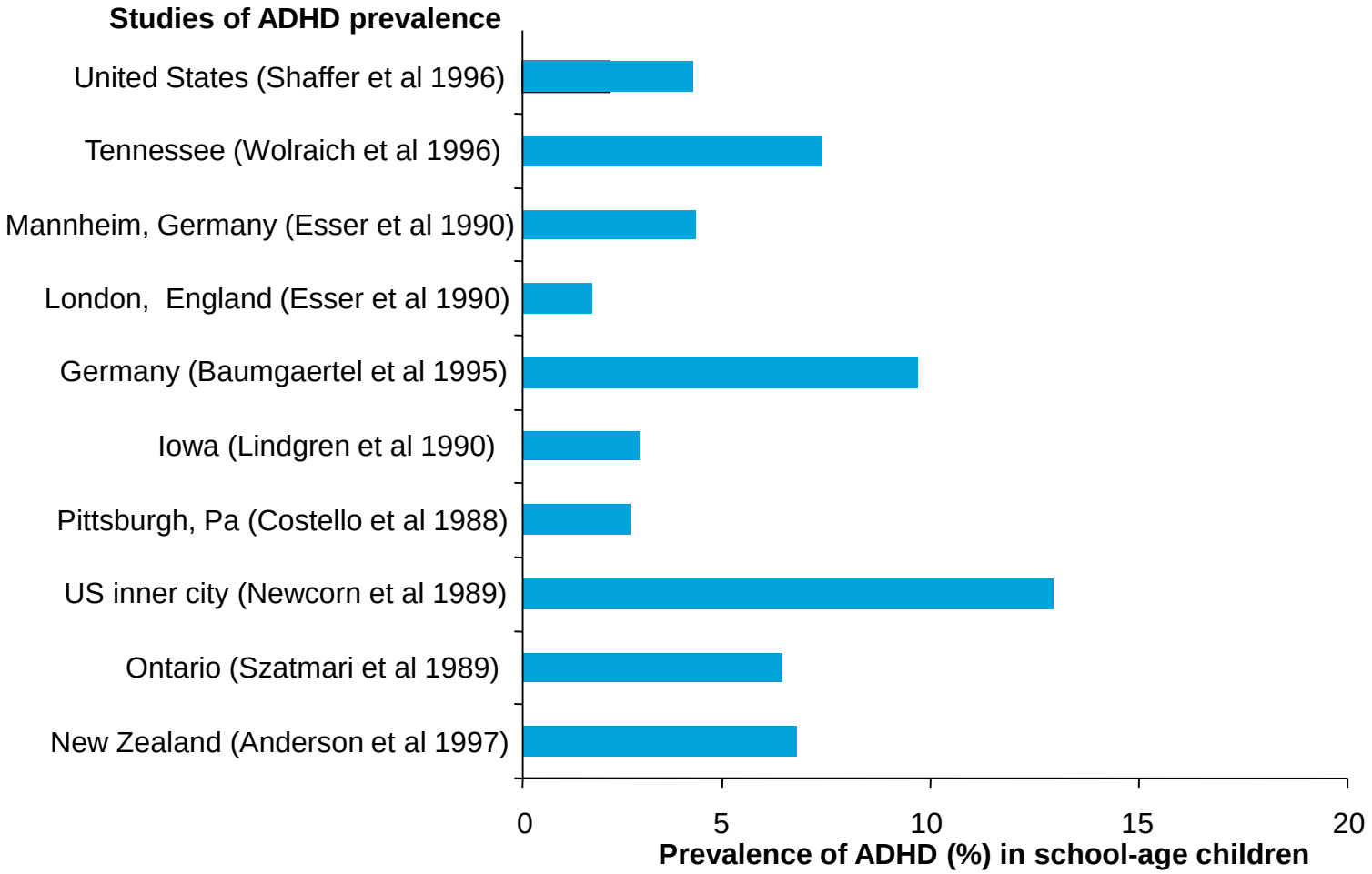


Attention Deficit/Hyperactivity Disorder (DSM-IV)

Epidemiology :

- Occur in 3 % - 7 %
- 16%Al Hamed JH, Taha AZ, Sabra AA, Bella H.2008
- ADHD in the Arab World: A Review of Epidemiologic Studies2009 (similar to other culture)
- Male to female ratio 3 : 1 to 5 : 1
- Symptoms often present by age of 3
- Girls were more likely to have the inattentive subtype of ADHD (Biederman Am J Psych. 2002)

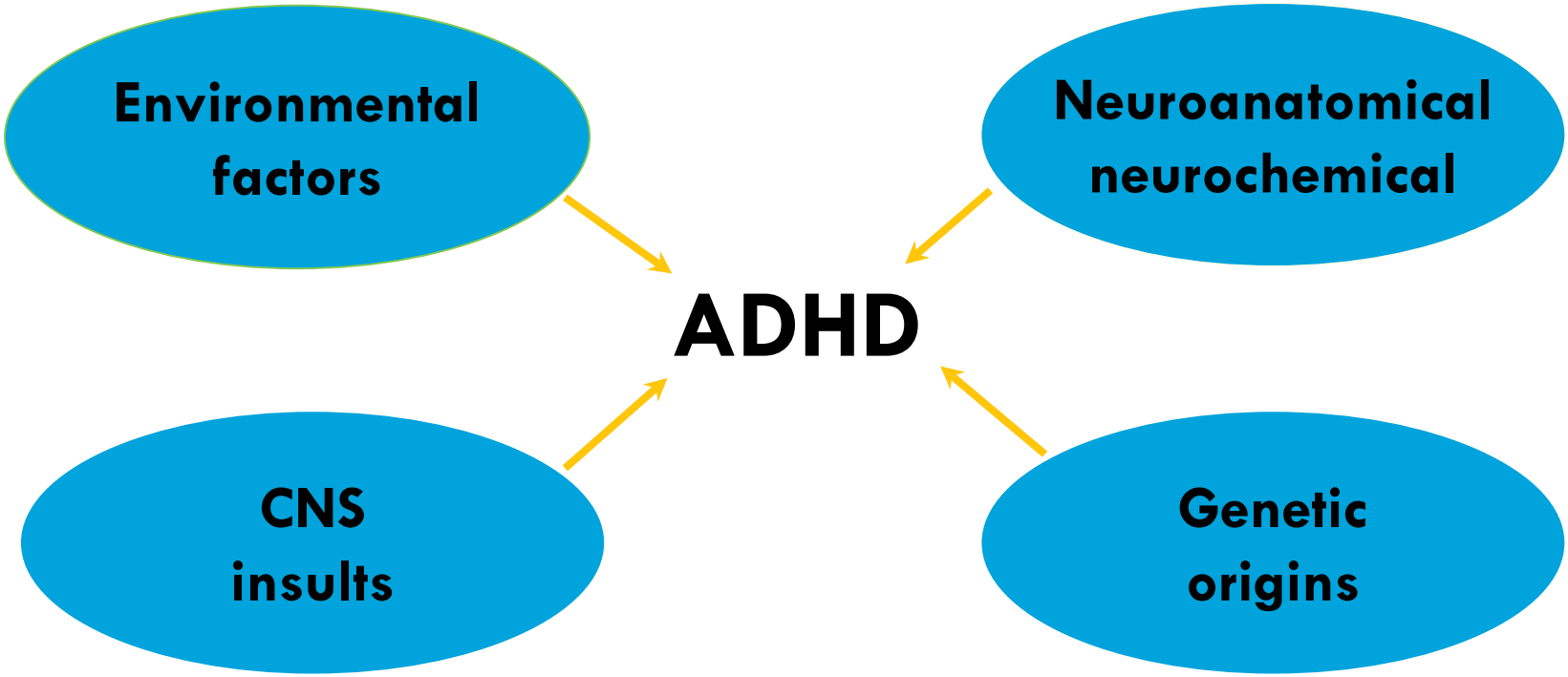
Worldwide Prevalence of ADHD Is 3% to 7%



Goldman, et al. *JAMA*.1998;279:1100-1107.

ADHD: Etiology

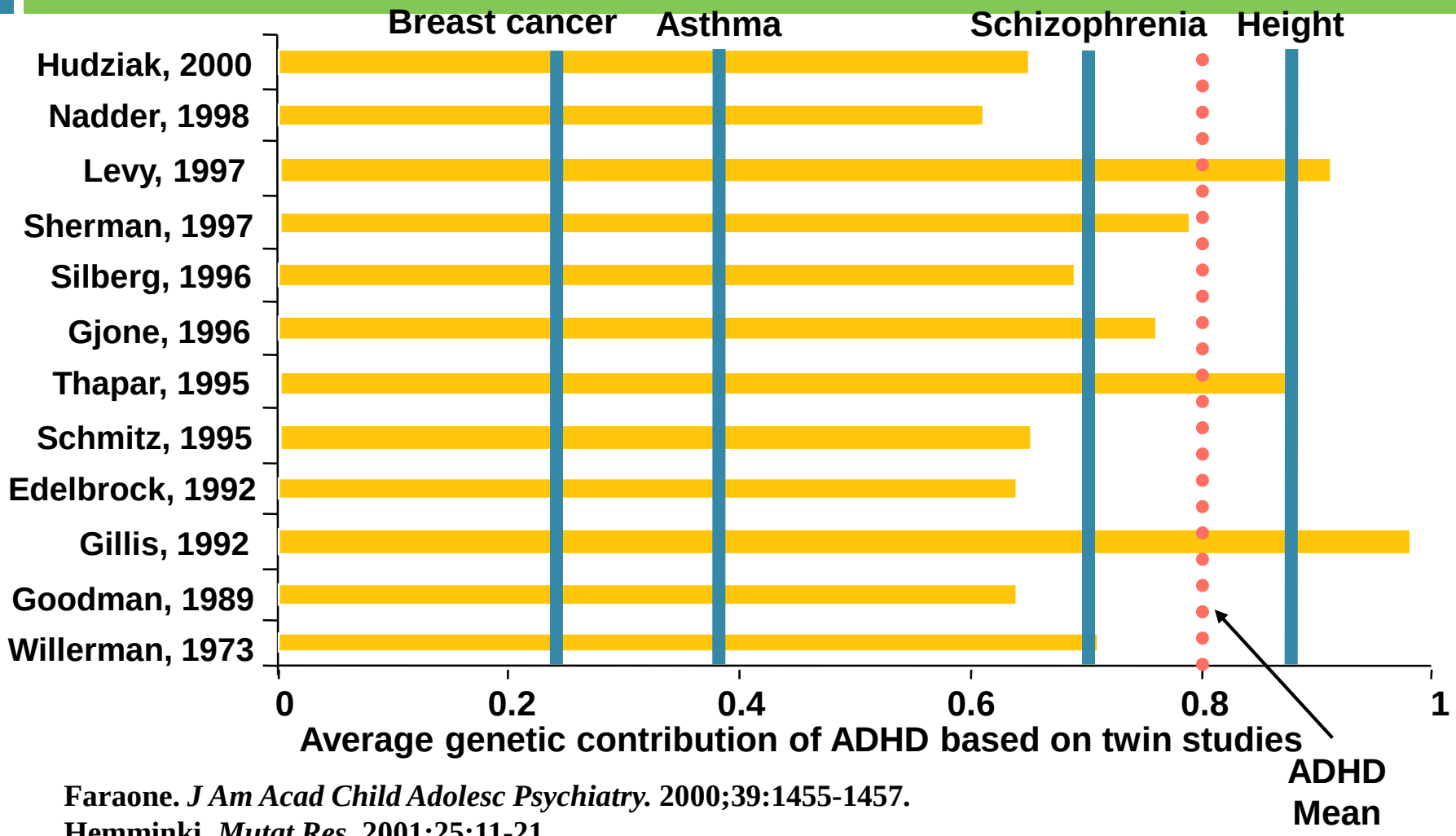
ADHD is a heterogeneous behavioral disorder with multiple possible etiologies



Etiology:

- Genetic Vs Environmental
- Most researchers believe that ADHD is a genetic disorder
- Environmental factors that have been linked to ADHD include:
  - Lead exposure
  - Head trauma
  - Maternal smoking during pregnancy
  - Maternal alcohol use during pregnancy
  - Perinatal difficulties (eg, birth trauma)

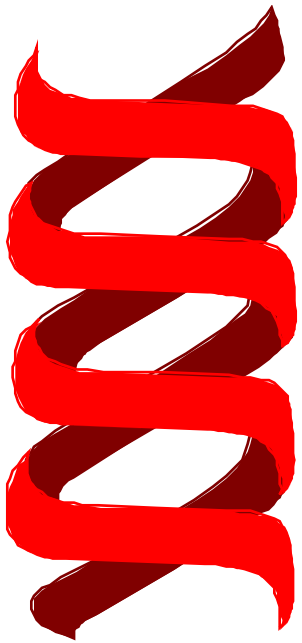
Twin Studies Show ADHD Is a Genetic Disorder



Faraone. *J Am Acad Child Adolesc Psychiatry.* 2000;39:1455-1457.
Hemminki. *Mutat Res.* 2001;25:11-21.
Palmer. *Eur Resp J.* 2001;17:696-702.

Molecular Genetics of ADHD

- Specific genes associated with ADHD
  - Dopamine receptor D4 gene (DRD4) on chromosome 11
  - Dopamine transporter gene (DAT1) on chromosome 5
  - D2 dopamine receptor gene
  - Dopamine-beta-hydroxylase gene
  - Uncertain about the association of noradrenergic genes
- There are several genes involved and their effects are cumulative

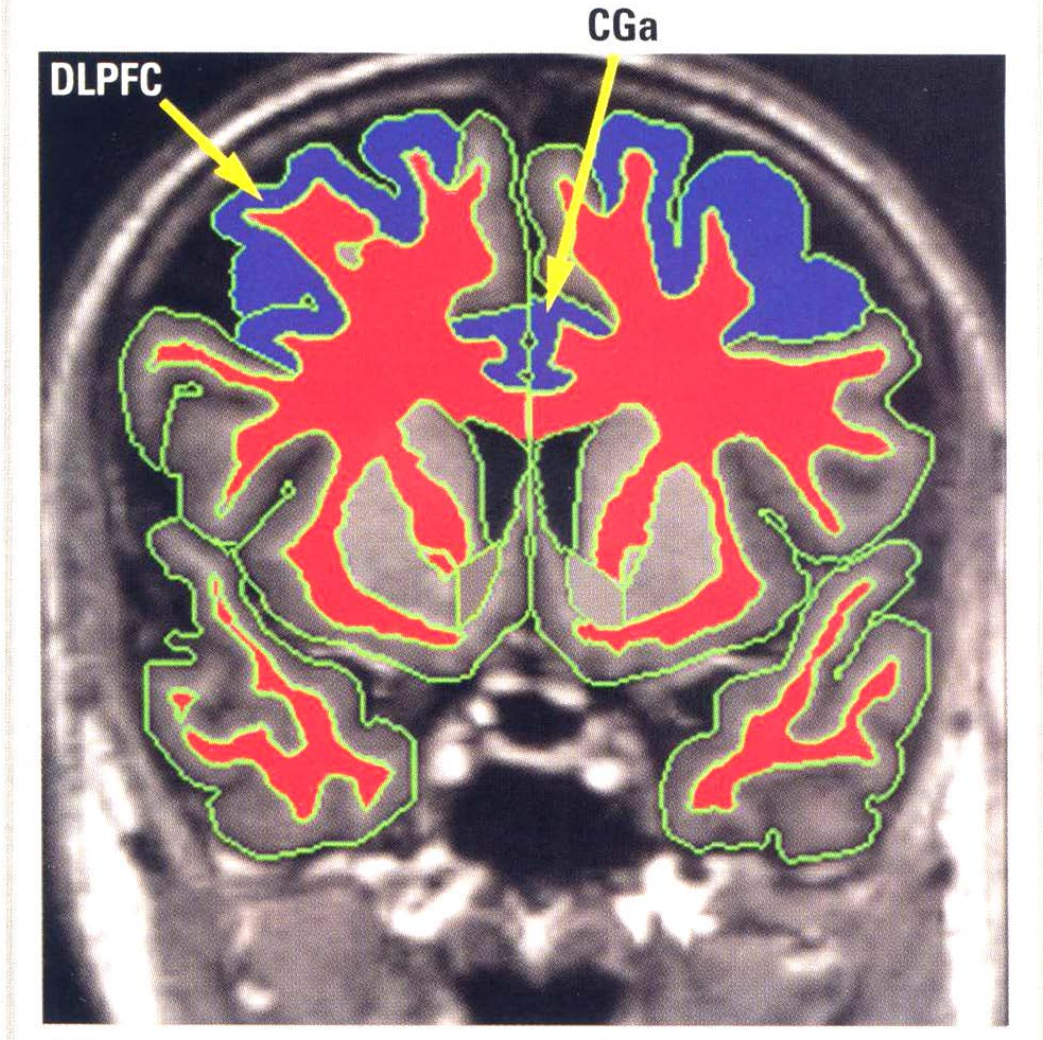


Sunohara G, et al. *J Am Acad Adolesc Psychiatry.* 2000;39:1537-1592.
Giros B, et al. *Nature.* 1996;379:606-612.

Pathophysiology :

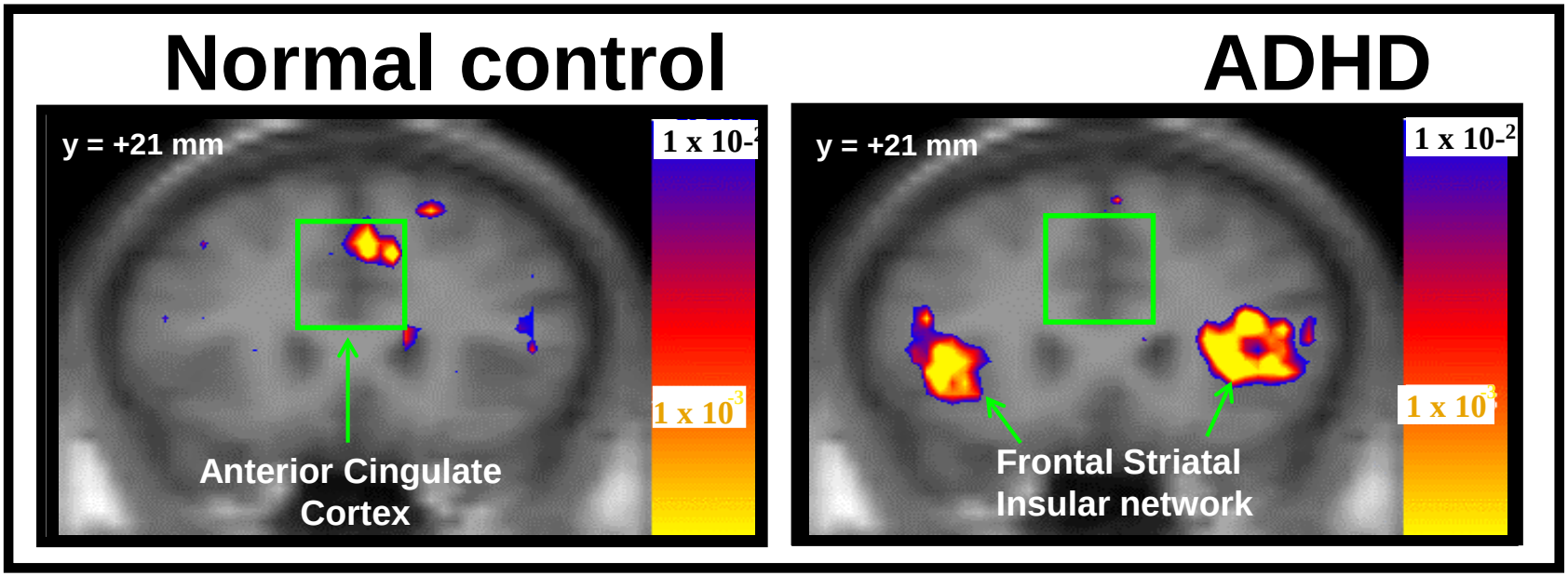
- Neuroimaging has revealed anomalies (both volume and metabolic activity) in the frontal cortex and basal ganglia
  - Dysfunction of prefrontal cortex is fundamental to symptoms of ADHD
- Biochemical basis is not fully known
  - Alterations in cortical-striatal neurotransmission (via dopamine and norepinephrine) have been postulated

MRI Findings in Adults with ADHD



- The DLPFC and CGa are indicated in blue. Volume increase is indicated in red, and volume decrease is indicated in blue.
- MRI = magnetic resonance imaging. ADHD=attention-deficit/hyperactivity disorder; DLPFC=dorsolateral prefrontal cortex; CGa=anterior cingulate gyrus

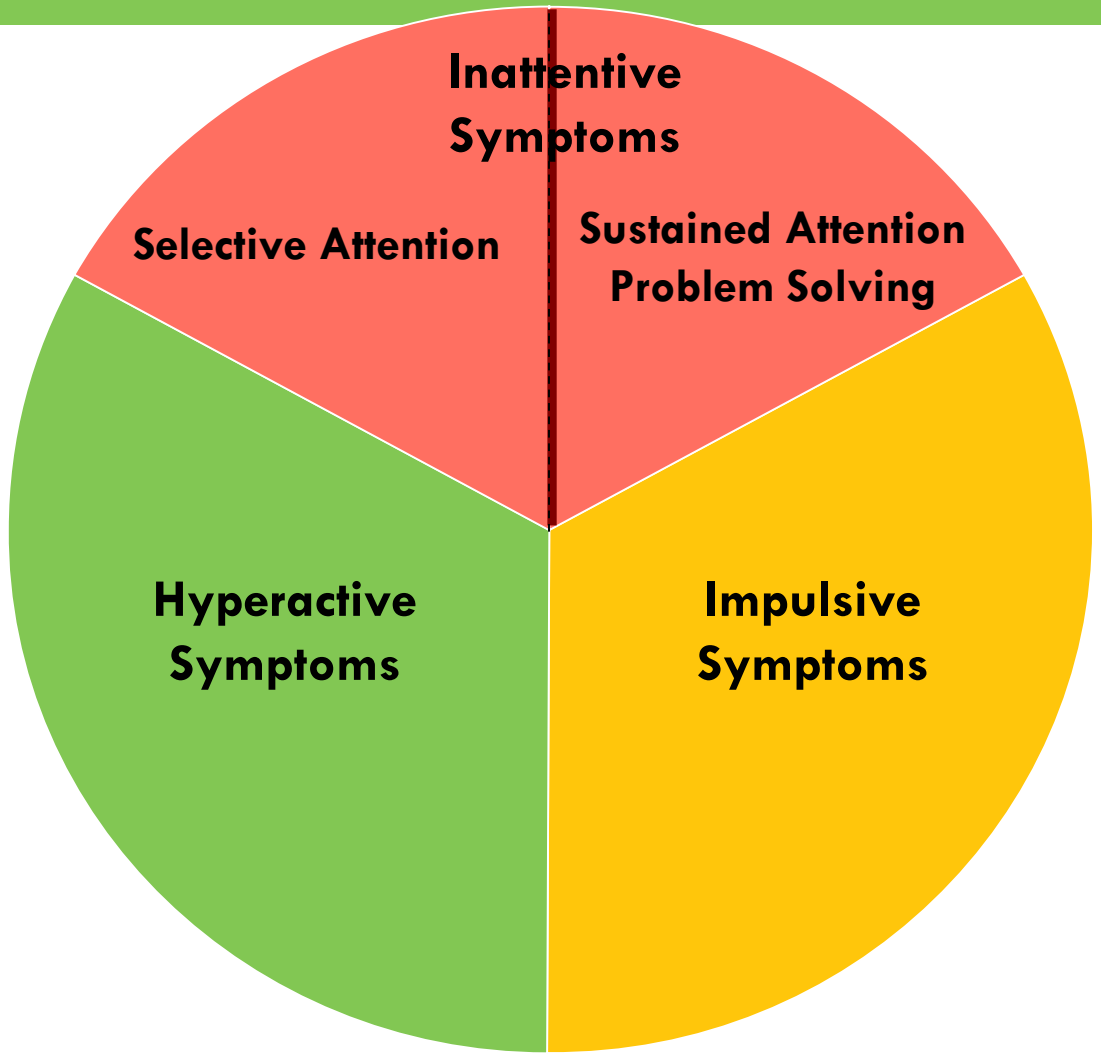
Neuroimaging and ADHD



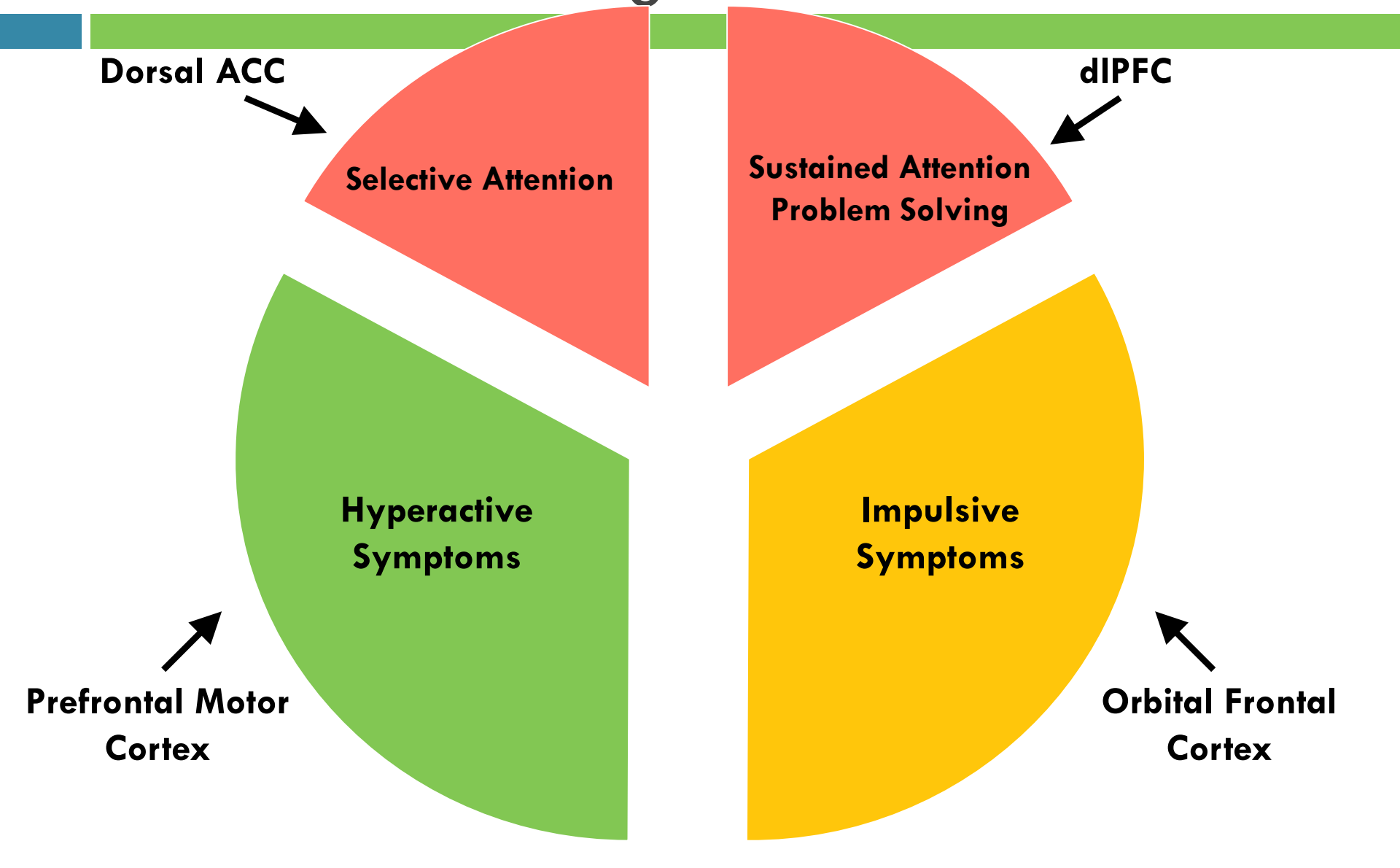
- fMRI shows decreased blood flow to the anterior cingulate and increased flow in the frontal striatum
- PET imaging shows decreased cerebral metabolism in brain areas controlling attention
- SPECT imaging shows increased DAT protein binding

MGH-NMR Center & Harvard-MIT CITP. Adapted from Bush, et al. *Biol Psychiatry.* 1999;45:1542-1552.

ADHD:
Deconstruct the Syndrome into Symptoms



Associate Symptoms With Brain Regions and Circuits That Regulate Them

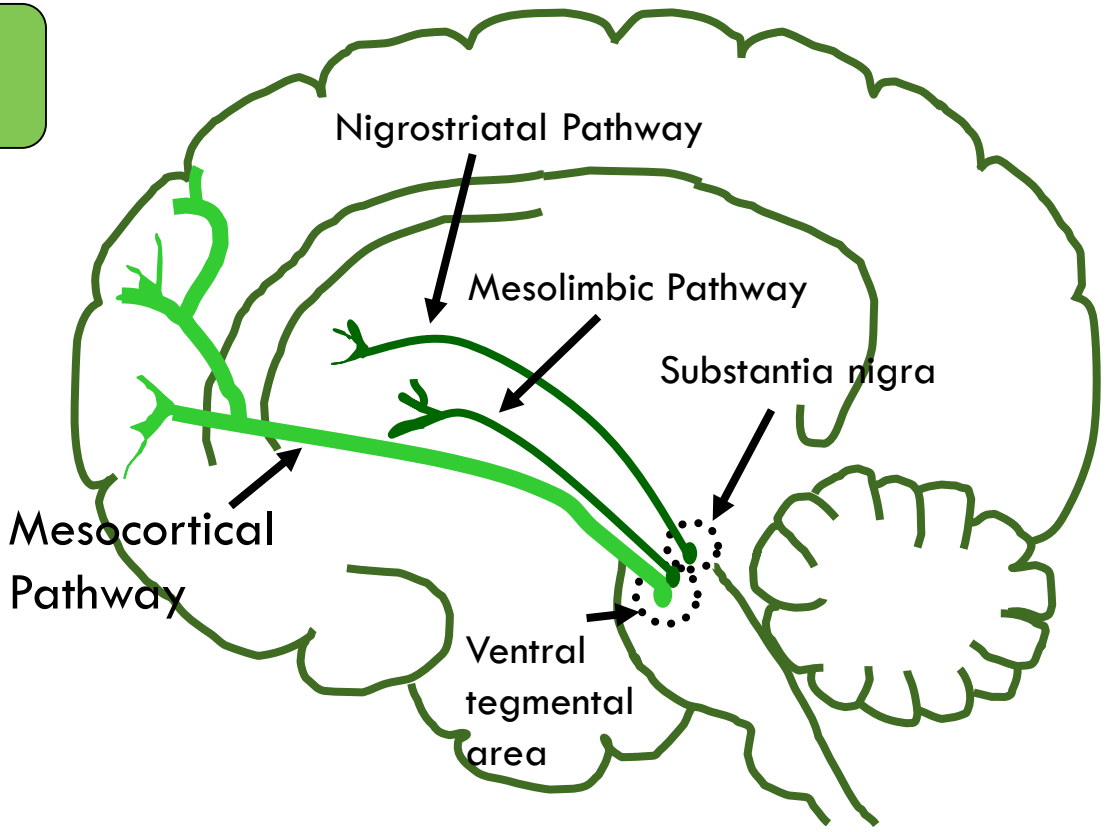


- Both dopaminergic (DA) and noradrenergic (NE) systems are strongly implicated in the pathophysiology of ADHD.
- Maximal effectiveness may be produced by those agents that act on both the DA and the NE neurotransmitter systems.
- Stimulants potentiate the actions of both dopamine and norepinephrine in the synapse.

Dopamine Neurotransmission Relative to ADHD

Dopamine

- **Enhances signal**
- **Improves attention**
  - **Focus**
  - **Vigilance**
  - **On-task behavior**
  - **On-task cognition**

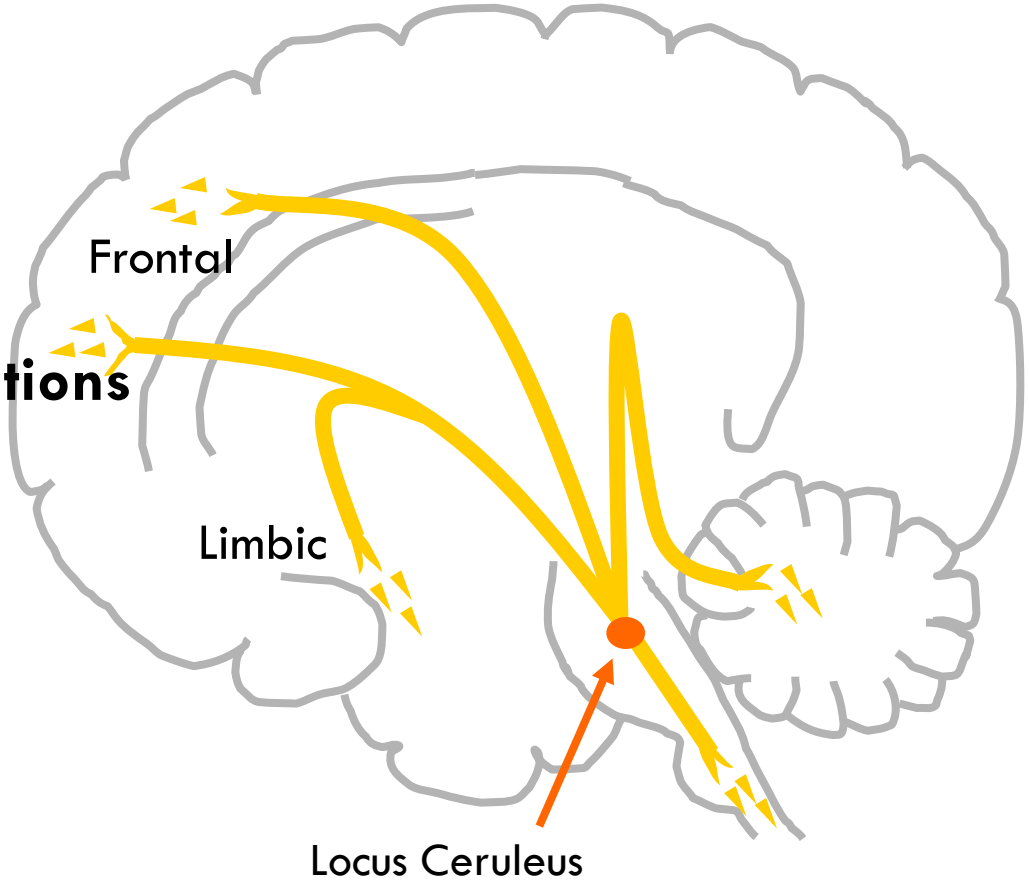


Solanto. *Stimulant Drugs and ADHD*. Oxford; 2001.

Norepinephrine Neurotransmission Relative to ADHD

Norepinephrine

Dampens noise
Enhances executive operations
Increases inhibition



Solanto. *Stimulant Drugs and ADHD*. Oxford; 2001.

Comorbid Conditions in Children with ADHD

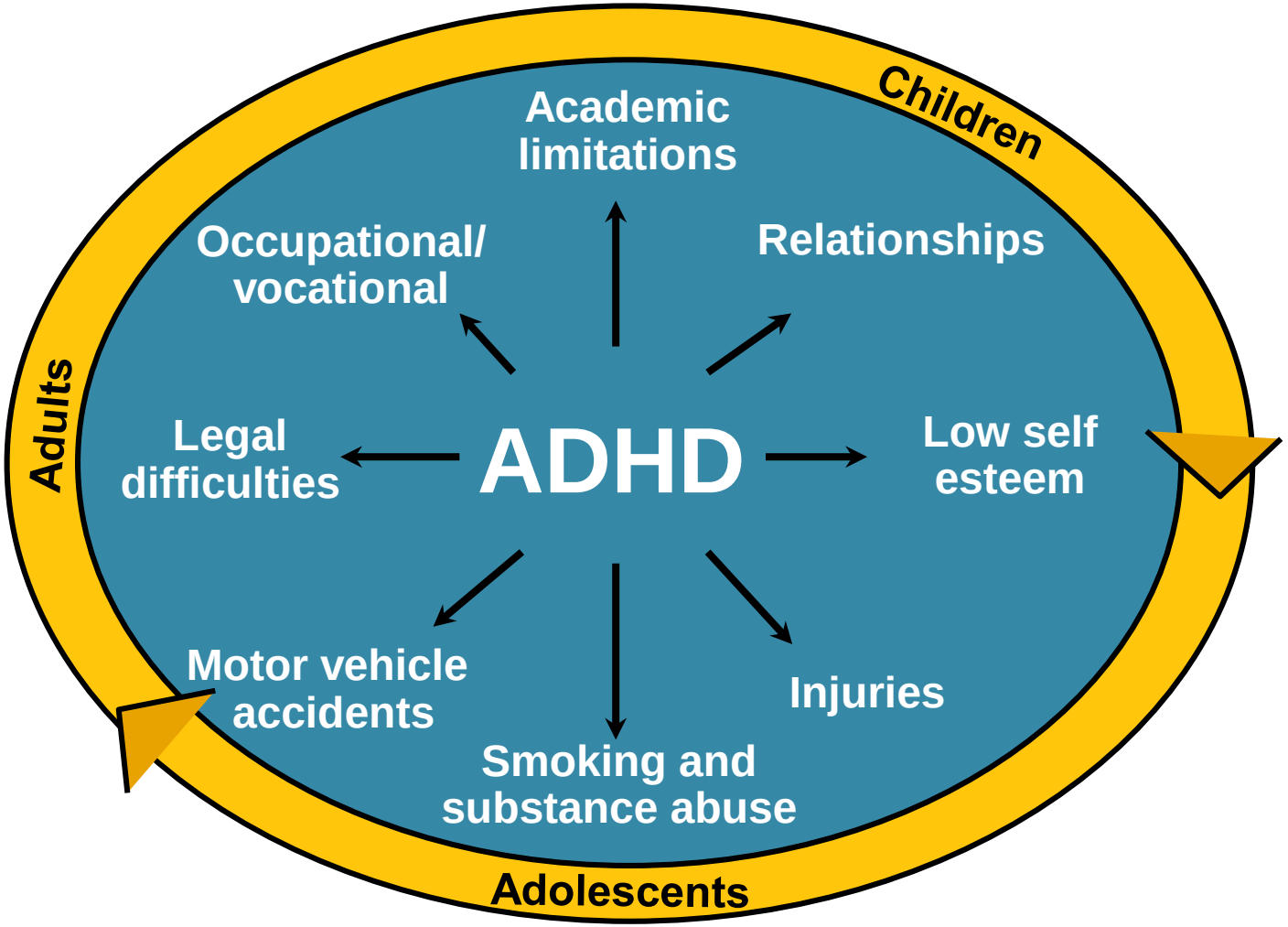
Comorbidities	Range
Anxiety disorder	8% – 30%
Conduct disorder	8% – 25%
Oppositional-defiant disorder	45% – 64%
Affective disorder	15% – 75%
Tic disorder	8% – 34%
Mania/hypomania	0% – 22%
Learning/academic problems	10% – 92%

Spencer TJ, et al. *Pediatr Clin North Am*. 2000;46:915-927.
Biederman J, et al. *Arch Gen Psychiatry*. 1996;53:437-446.

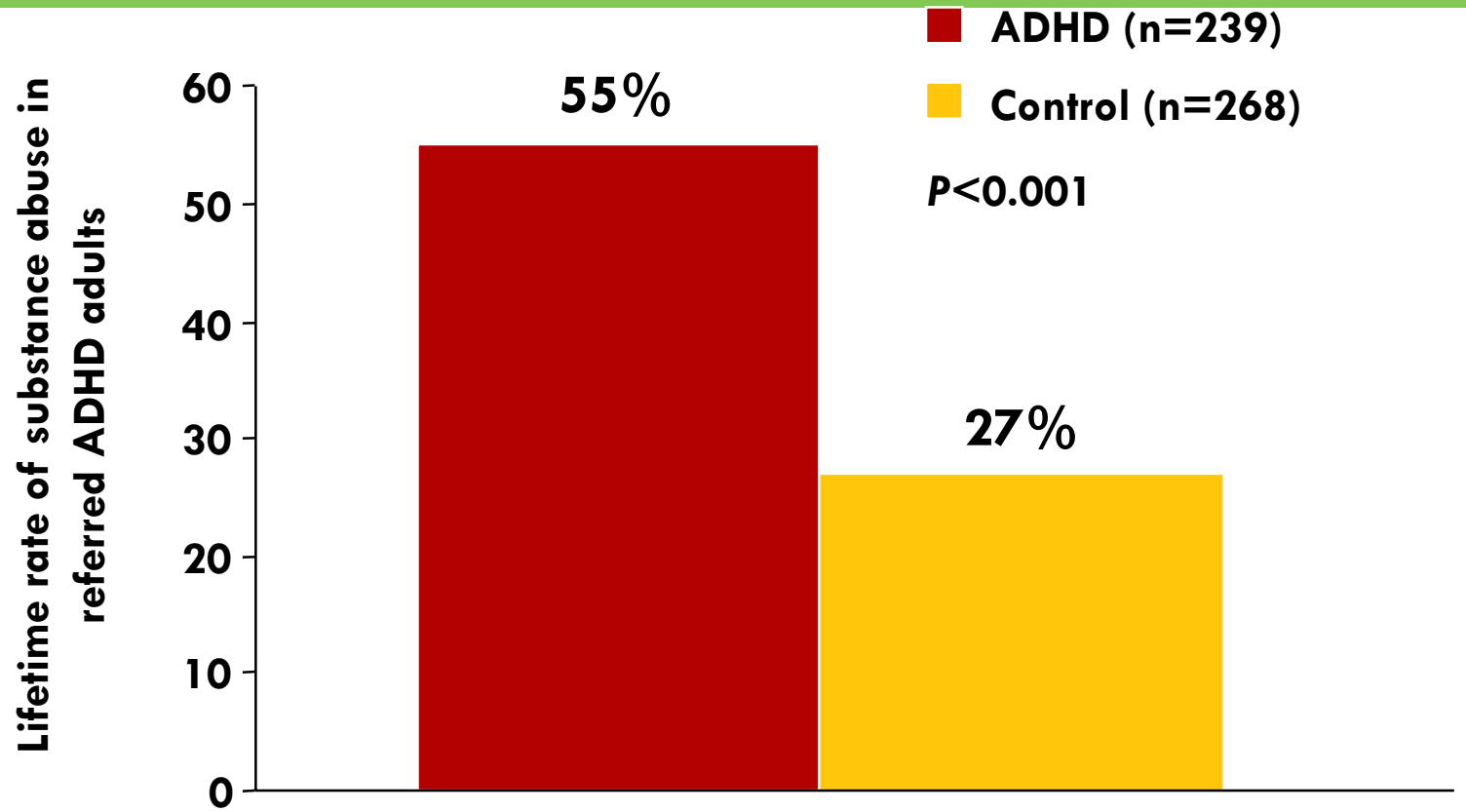
Differential Diagnosis

- **Medical:**
  - **Sleep Apnea**
  - **Substance use disorder**
  - **Use of other medications**
  - **Seizure disorder**
  - **Vision problems**
  - **Generalized resistance to thyroid hormone (GRTH) Hauser 1993**

Potential Areas of Impairment

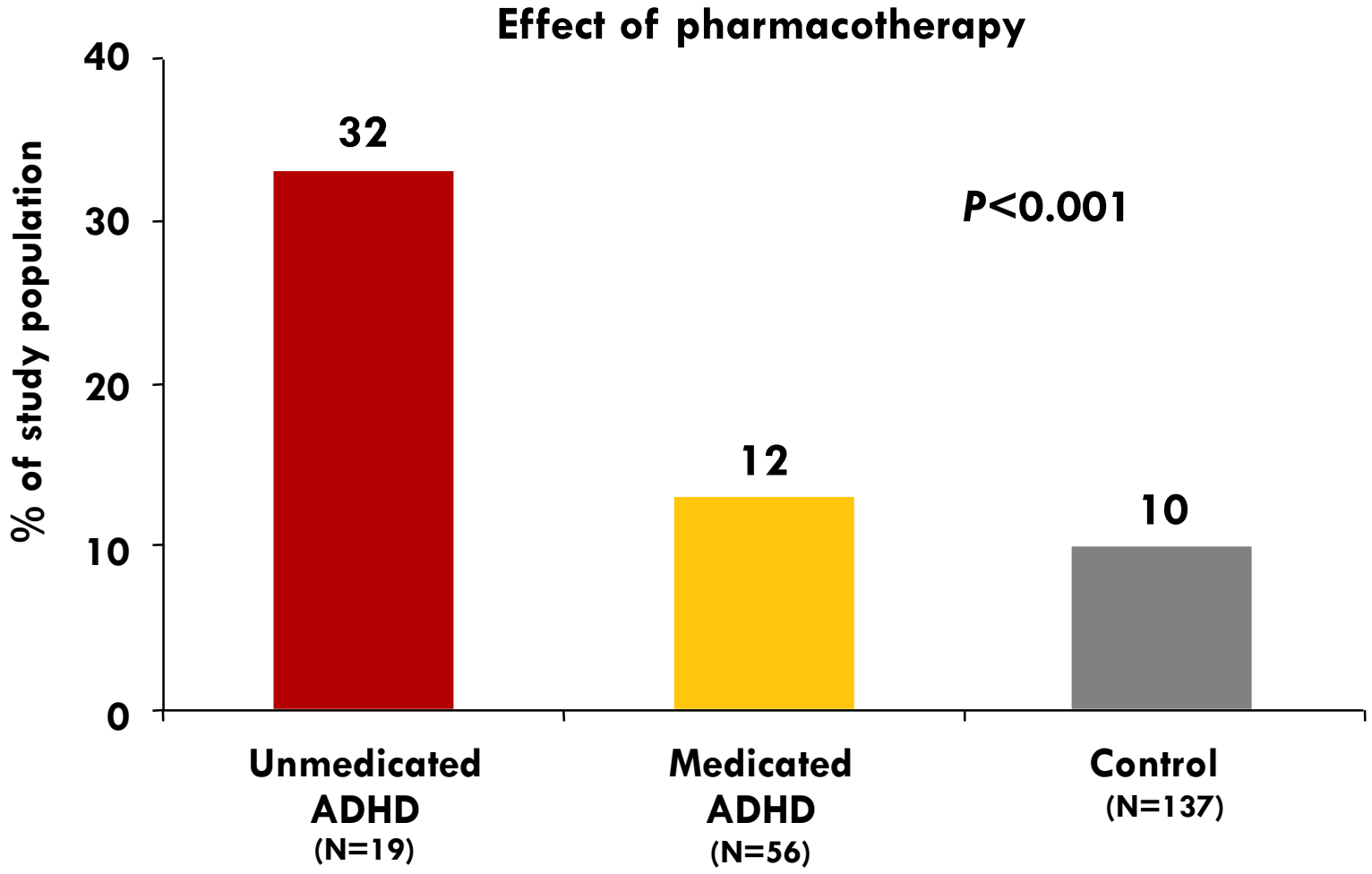


Increased Lifetime Substance Abuse in Untreated Adults with ADHD



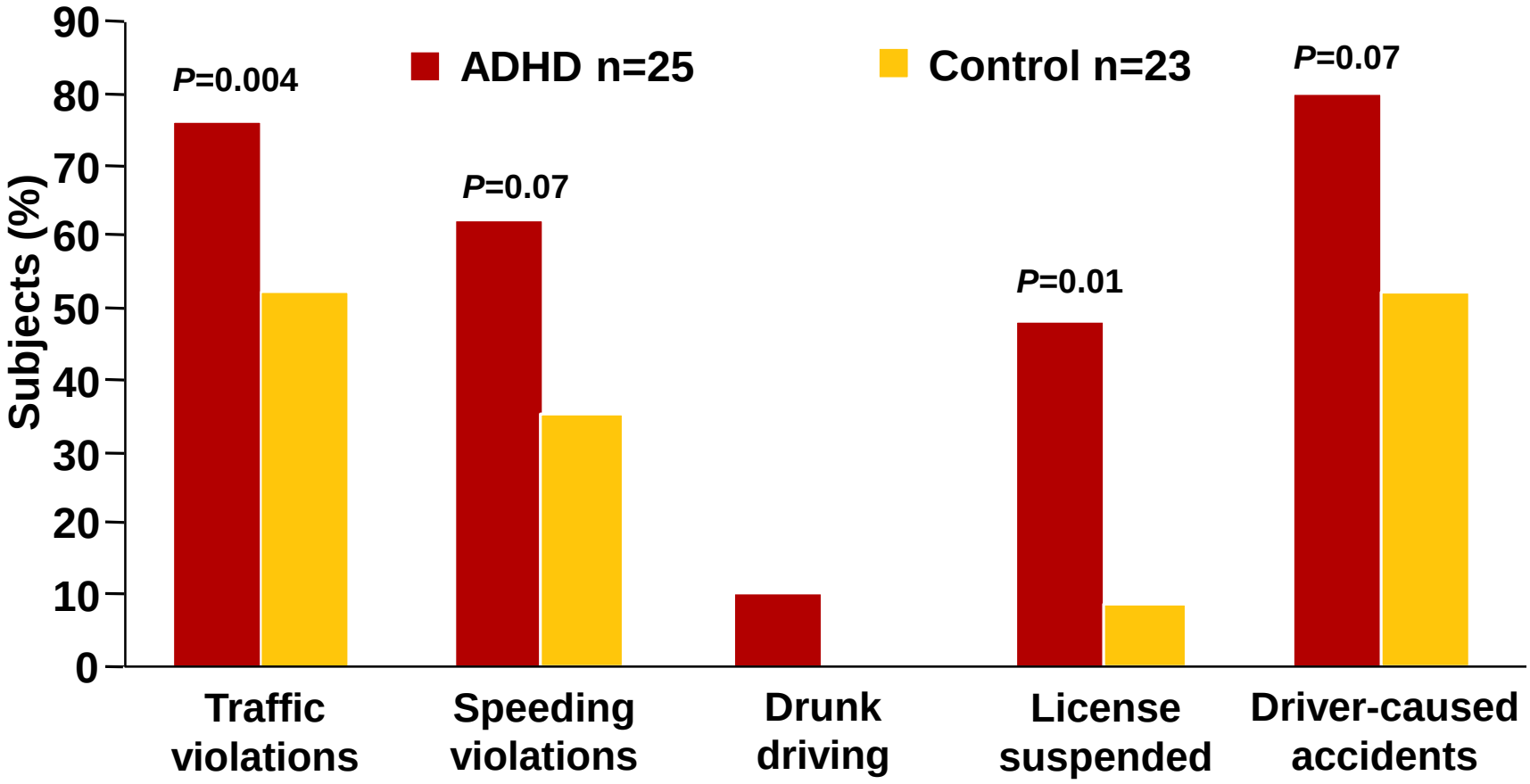
Biederman, et al. *Biol Psychiatry.* 1998;44:269-273.

Pharmacotherapy Significantly Reduces Substance Abuse in Adults with ADHD



Biederman J, et al. *Pediatrics.* 1999;104:e20-e25.

Increased Traffic Violations and Motor Vehicle Accidents in Adolescents and Adults with ADHD



Barkley RA, et al. *Pediatrics.* 1996;98:1089-1095.

ADHD: Impact of Untreated & Under-Treated ADHD

Health Care System

50% ↑ in bike accidents[1]

33% ↑ in ER visits[2]

2-4 x more motor vehicle crashes[3-5]

Patient

Family

3-5x ↑ Parental Divorce or Separation[11,12]

2-4 x ↑ Sibling Fights[13]

School & Occupation

46% Expelled[6]

35% Drop Out[6]

Lower Occupational Status[7]

Society

Substance Use Disorders:

2 X Risk[8]

Earlier Onset[9]

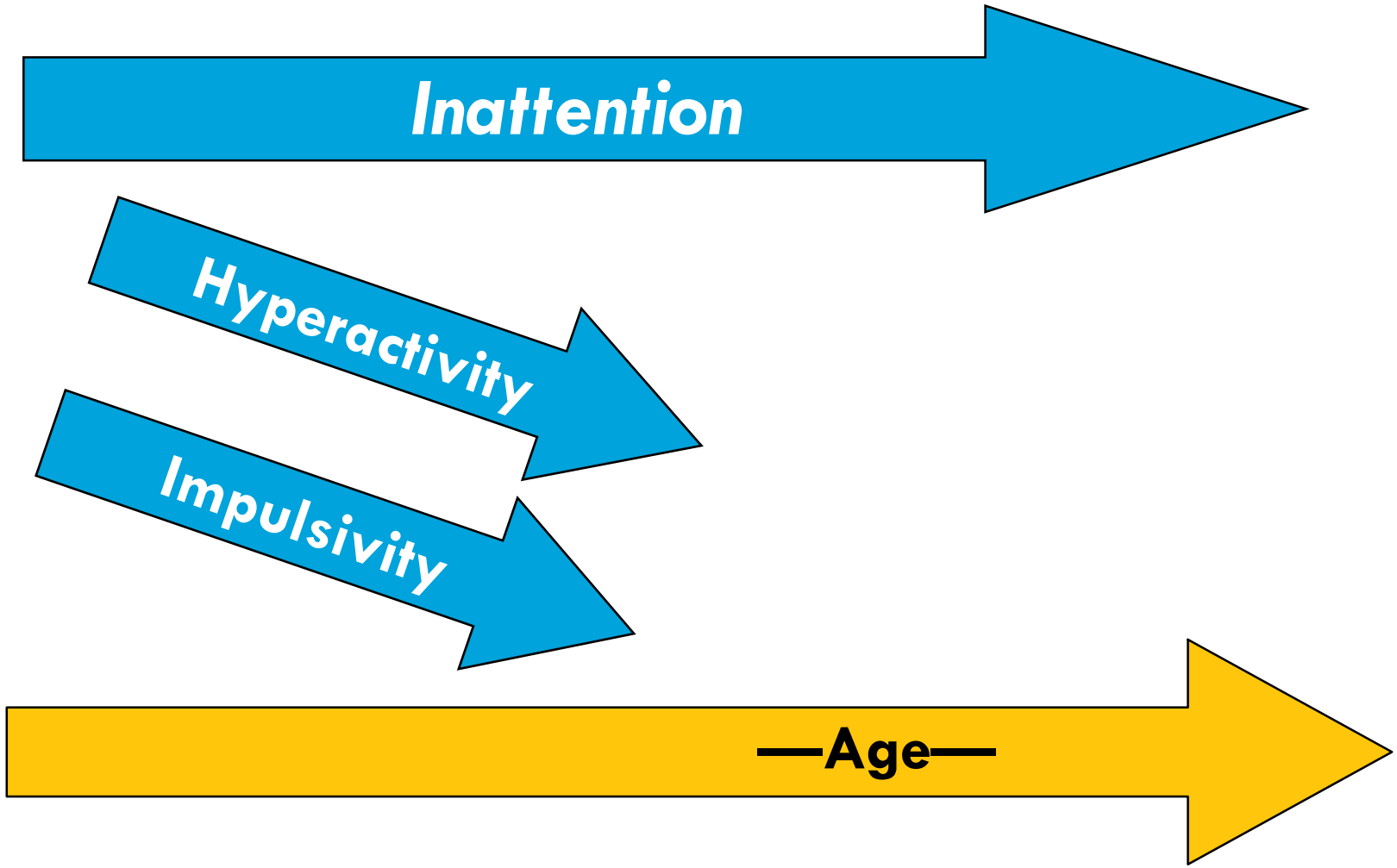
Less Likely to Quit in Adulthood[10]

Employer

↑ Parental Absenteeism[14] and Productivity[14]

1. DiScala et al., 1998.
2. Liebson et al., 2001.
3. NHTSA, 1997.
4-5. Barkley et al., 1993; 1996.
6. Barkley, et al., 1990.
7. Mannuzza et al., 1997.
8. Biederman et al., 1997.
9. Pomerleau et al., 1995.
10. Wilens et al., 1995.
11. Barkley, Fischer et al., 1991.
12. Brown & Pacini, 1989.
13. Mash & Johnston, 1983.
14. Noe et al., 1999.

ADHD: Course of the Disorder Biederman1998



Treatment:

- Education
- Behavioral Therapy
- Psychosocial interventions
- Pharmacotherapeutic interventions

Education of Patients and Family

- Understanding the disorder
  - Medical cause
  - Not due to poor parenting
- Environmental restructuring
  - Classroom changes
  - ADHD-friendly modifications in family, work, leisure activities
  - Structure, lists, delegating
- Parent support groups.

AACAP. *J Am Acad Child Adolesc Psychiatry*. 1997;36:85S-121S.

Behavioral Treatment

- **Goal: Reduce inattention & disruptive behavior**
- **Specific accommodations:**

  Ensure structure & predictable routines

  Employ cost-response token economy systems

  Use daily report cards

  Teach organizational & work/study skills

Psychosocial Interventions in ADHD Treatment

- Parent education
  - Use naturally occurring consequences to teach social skills
  - Reinforce positive behaviors and correct negative behaviors
  - Establish and maintain house rules
- Social skills training
  - Target specific behaviors, ie, playground aggression
  - More effective in groups and natural environments like school or camp
  - Stress conflict-resolution
- Academic skills training
  - Individual or group training
  - Focus on following directions, time management, and study skills

AACAP. *J Am Acad Child Adolesc Psychiatry.* 1997;36:85S-121S.

Pharmacotherapy

- Stimulant
  - Methylphenidate
  - Amphetamine
- Non-stimulant: Atomoxetine (Strattera)
- Antidepressants
  - TCA
  - Bupropion
- Antihypertensive
  - Clonidine
  - Guanfacine

Stimulant :

- block the uptake of the neurotransmitters dopamine and norepinephrine from the synaptic cleft through inhibition of the neurotransmitter reuptake pump
- Additional actions of AMPH include:
  - Activates release from vesicles
  - Increases neurotransmitter output
  - Inhibits reuptake

- Stimulant have been studied as psychotropic medication since 1930
- Side effects are generally mild, short lived & response to dose or time adjustment
- No consistent reports of behavioral rebound, motor tic, or dose related growth delays have been found in controlled studies

Stimulants: Potential Side Effects

- Appetite loss, abdominal pain
- Insomnia
- Nervousness

- Mild increase in pulse, blood pressure
- Psychiatric effects : irritability, dysphoria, and rebound

(Effects occurring in >5% of patients and >placebo)

Controversies: growth deficits, tic exacerbation, seizures, abuse

AACAP Clinical Practice Guidelines. *J Am Acad Child Adolesc Psychiatry*. 1997;36(suppl):85S-121S.

Atomoxetine (Strattera)

- Non-stimulant medication which has been approved for treatment of ADHD in children (>6), adolescents and adults
- Well absorbed after oral administration
- Metabolized primarily by CYP2D6
- Lower potential for abuse
- Long-lasting therapeutic effects and not controlled substance
- Disadvantage: Efficacy is less than that of stimulants (Faraone 2003) Effect size was 0.62 as compared to 0.95 to stimulants

Atomoxetine (Strattera)

- Atomoxetine should be considered as first line treatment especially in children with a h/o substance Abuse or Dependence and with significant Anxiety symptoms (JAACAP 2009)
- Side effects are mostly tolerable
- Starting dosing: <70kg: 0.5 mg/kg/d for 4 days, then 1 mg/kg/d X4 days and then 1.2 mg/kg/d. > 70kg: 40mg/d

Atomoxetine (Strattera)

- Dosing may be started as a split dose or initially given at bed time
- Giving with food may help to decrease the common side effects of nausea or upset stomach
- Initial therapeutic effects are gradual, developing a peak efficacy during 2-6 weeks
- Atomoxetine was found to be safe and well tolerated for children and adolescents with 3 to 4 yrs of treatment (Donnelly, JAACAP 2009)

Modafinil

- Approved for the treatment of Narcolepsy
- Several studies have shown efficacy in improving ADHD symptoms
- Reported case of Steven-Johnson syndrome and as a result did not get FDA approval.
- Has minimum side effects otherwise

Tricyclic antidepressants:

- 1) Longer duration of action (once daily dosing)
- 2) No rebound or insomnia problems

3)Majority of data with desipramine and imipramine

- Cardiovascular concerns with TCAs and other side effects (dry mouth, constipation etc) have limited their use

Bupropion(Wellbutrin)

- It is a dopamine/norepinephrine re-uptake inhibitor
- Limited experience with use in children and adolescents
- May be associated with seizure risk
- May be useful for children with comorbid depression
- Dosing: up to 6 mg/kg /day

Antihypertensive (Alfa-2 Agonists)

- **Clonidine (Catapres) & Guanfacine (Tenex) : alpha2 agonists**
  - **Down regulate the noradrenergic system**
  - **May be effective for hyperactivity, impulsiveness, & aggression**
  - **May be effective for ADHD plus tics**
  - **Side effects: sedation, headaches**
  - **Not useful to control distractibility itself**
  - **Helps sleep if taken in late afternoon**

Multimodal Treatment Study of Children with ADHD

- The multimodal treatment study of children with ADHD (MTA)
  - 14-month clinical trial of treatment strategies
  - 579 children with ADHD age 7 – 9.9 years old
  - Subjects randomized to one of 4 treatment conditions
    - Medication management
    - Behavior management
    - Medication management and behavior management
    - Community-based treatment

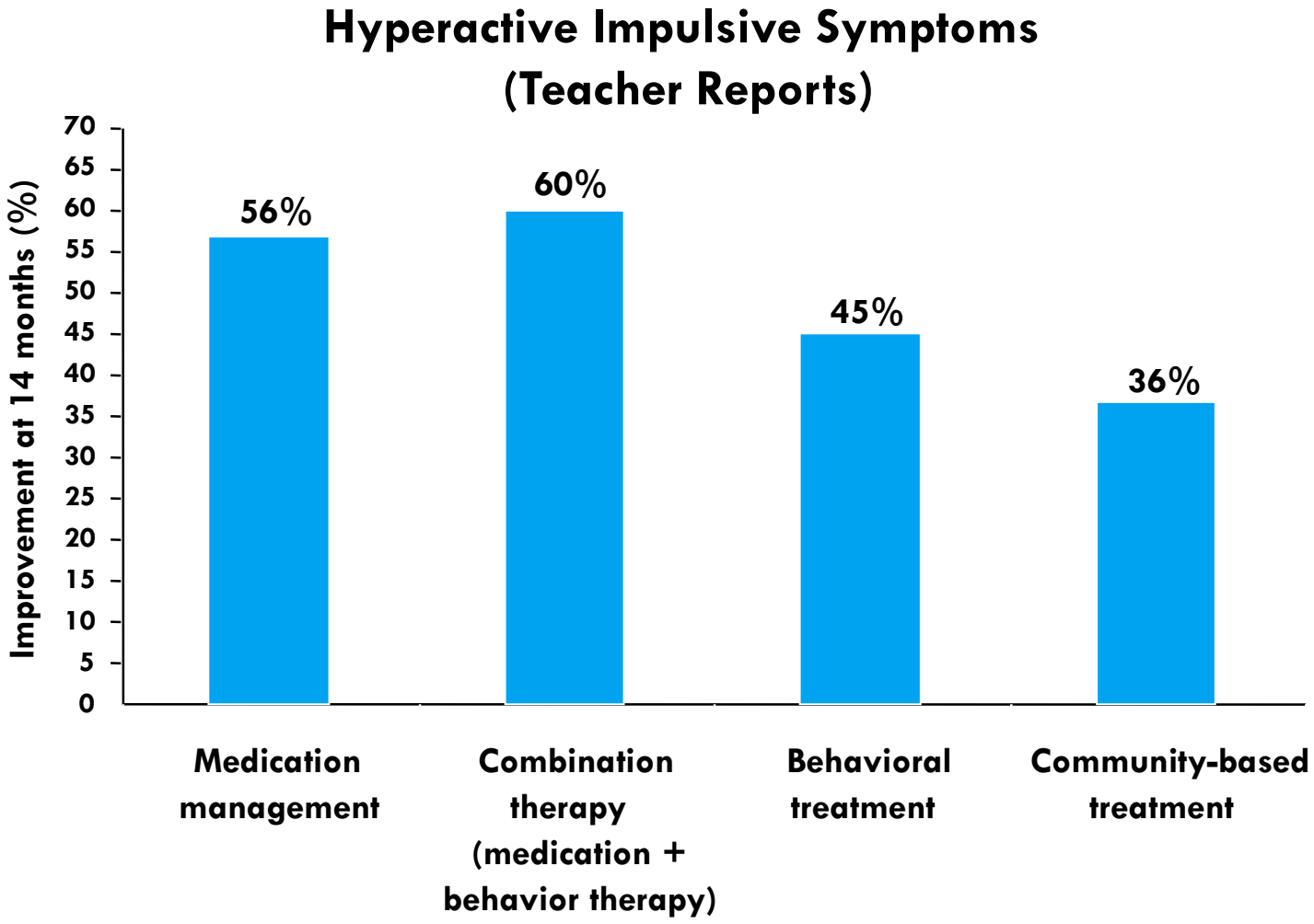
MTA Cooperative Group. *Arch Gen Psych.* 1999;56:1073-1086.

Medication Management or Combination Therapy Is More Effective in the MTA

- All treatment arms improved symptoms on an absolute basis
- Medication management alone or medication management with behavior management for ADHD symptoms were almost equally effective
- Medication management alone or medication management with behavior management were superior to behavior management or community-based treatment

MTA Cooperative Group. *Arch Gen Psych.* 1999;56:1073-1086.

Long-term Outcomes of Therapies for ADHD in the MTA Study



Adult ADHD

- Although (ADHD) starts in childhood, the diagnosis is often delayed until adulthood.
- majority of adults with ADHD struggle with anxiety, depressive disorders, and substance abuse as well as other psychiatric problems
- The behaviour of adults with ADHD directly affects others around them; parenting skills, impulsivity, and overall impatience.[4] Treatment can be helpful in all of these domains of impairment.

Symptoms :

- inattention, distractibility, and impulse dyscontrol
- Many times patients are overwhelmed by the intensity of their symptoms, and frequently this pervasive frustration is Dx Depression or Anxiety
- The diagnosis of ADHD always should be considered when evaluating psychologically distressed nonpsychotic, nondemented individual

Also,

- adults with ADHD are no more compliant with their medication regimen than other patients with chronic disorders; one study found that adults with ADHD take only half the medication prescribed to them(Darredeau C, Barrett SP, Jardin B, Pihl RO. Patterns and predictors of medication compliance, diversion, and misuse in adults prescribed methylphenidate users. Hum Psychopharmacol. 2007;22:529-536

- Long acting Vs Short acting

FDA-Approved Medications for Adult ADHD

Chemical Name	Brand Name	Usual Starting Dose	Duration	Dosage Range
Extended-release mixed amphetamine salts	Adderall XR®	10 mg/morning	8-12 hours	10-30 mg/day
Lisdexamfetamine	Vyvanse™	30 mg/morning	12 hours	20-70 mg/day
OROS methylphenidate	Concerta®	18-36 mg/morning	10-12 hours	18-72 mg/day
Extended-release d-methylphenidate	Focalin® XR	5-10 mg/morning	6-10 hours	10-40 mg/day
Atomoxetine	Strattera®	40 mg/morning	Steady state	40-100 mg/day

Some recent developments

- October 2010, a modified-release formulation of clonidine was approved for use in children and adolescents.
- nor epinephrine reuptake inhibitor (LY2216684) that has not yet been approved for marketing shows significant reductions in parent-rated ADHD symptoms across 6 months
- Meta-analyses and individual candidate gene studies continue to identify potential markers that may be associated with ADHD

- Brain imaging studies continue to develop at a rapid pace. Mapping the connectivity across multiple brain regions has been an important advance and has helped to more precisely define the neural circuitry associated with ADHD and other disorders compared with psychiatrically healthy persons.
- Although still some years away from having direct clinical relevance

Finally:

- **ADHD is a clinical diagnosis**
- **Highly comorbidity**
- **History! History is the only source for the diagnosis**
- **It is not only a child disorder**

Supporting well-being of your child with ADHD during COVID-19- Some Tips…

- Continue Giving Your Child Their ADHD medication

Stopping their medication or decreasing their dose may result in them experiencing increased impulsivity and over-activity.

- Help Your Child To Maintain A Regular Daily Routine

Maintaining consistency and structure, making plans that assist children to visualise the future and allowing for some flexibility and free time, can help them to feel calm and safe. Continue giving your child their ADHD medication as prescribed by their treating paediatrician, psychiatrist or physician. If setting up a daily routine for your children is difficult for you, consider working with an ADHD Coach or other qualified professional who can help. Additional information and resources are also included further in this guide. For example, try to get your child to go to bed and wake up at the same time each day and to follow a structured daily living and/or study routine.

Supporting well-being of your child with ADHD during COVID-19…cont…

- Act Before Your Child Becomes Bored by joining and engaging them in activities that they enjoy. These could include art work, messy play, imaginary play, time outside, reading, dancing, listening to music or one of their hobbies. Set up activity stations (e.g., book area, drawing area, physical activity area) and have your child rotate between them.

- Foster Positive Behavior and promote a sense of physical and emotional safety by creating and maintaining a healthy relationship with your child. Try to intervene before challenges arise and avoid punishing your child for behaviour that is a symptom of their ADHD.

Supporting well-being of your child with ADHD during COVID-19…cont…

- Help your child to process their worries or anxiety s by listening to their concerns, validating their feelings, providing some reassurance and encouraging solution-focused thinking

- Limit Media Exposure to stressful events can have a negative impact on everyone's mental health so try to limit your child's news and social media exposure by setting rules for a set amount of iPad or TV time per day

Supporting well-being of your child with ADHD during COVID-19…cont…

- Stay Connected With Friends And Family On A Daily Basis

Watch a virtual movie with friends via Netflix Party Write to a pen pal Eat lunch with a friend virtually Draw a quarantine rainbow

Play their favourite game online with 2-4 friends such as Uno, Pokemon Go, and Monopololy and Yahtzee via the Pogo app

Draw pictures, take photos or a video for a friend or family member

- Reach Out If You Your Child is Struggling.

Supporting well-being of your child with ADHD during COVID-19…cont…

- Take Care Of You!

Try to get enough rest, practice self-care and stay connected to friends and family. Drop any overly high expectations and allow yourself to do the best you can

- Ensure They Get Enough Sleep

Not getting enough sleep makes everything worse and can increase anxiety and lower mood, and can make it harder for your child to regulate their emotions. Having a set sleep-wake schedule can help to regulate your child's sleep

Supporting well-being of your child with ADHD during COVID-19…cont…

- Encourage Regular Exercise

Some ideas include taking you child for a walk or a bike ride whilst maintaining a social distance of 1.5 meters, following exercise videos that are made for children s

- Incorporate Stress-Relieving Activities Into Their Day

deep breathing exercises, meditation, guided imagery, progressive muscle relaxation (alternately tensing and releasing muscles) or mindful colouring in.


BOYS... TOO MUCH TV CAUSES ATTENTION PROBLEMS.
WHAT WAS THAT ALL ABOUT?
I DON'T REMEMBER.
D'OH!
STAHLER

THANK YOU

childrenandfamilies.org

Here for you. Aquí para ti.


child & family
guidance center

AGENDA

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MENTAL HEALTHCARE

04

ADULT PROGRAMS

05

CHILD & ADOLESCENT PROGRAMS

06

PAYMENT OPTIONS

ABOUT US

- Established in 1896, Child & Family Guidance Center (CFGC) is a registered 501(c)3 not-for-profit corporation.
- The agency is the oldest child guidance center in Texas and 2nd oldest in the nation. CFGC serves over 12,000 individuals a year, including over 7,500 children.
- CFGC is a key provider and referral source for mental health and related services in North Texas.
- 8 locations serving 8 counties in the greater Dallas area

Services include:

- Mental Health Services
- Clinical Assessment
- Psychiatric Evaluation
- Case Management
- Medication Management
- Family Counseling Services
- Rehabilitation Services
- Skills Training Services
- Social Studies
- Individualized Counseling Services

Our services are provided to children, adolescents, AND adults.

OUR SERVICES

Treating the whole person with a tailored treatment plan

Clinical Assessments

A Thorough, Psychosocial

assessment will gather the pertinent information necessary to develop appropriate recovery goals and determine the treatment best suited to meet the individual's needs.

Psychiatric Services

A Board Certified Psychiatrist

conducts an extensive evaluation, identifying a treatment plan suited for the individual's needs, and maintains an ongoing doctor-patient relationship managing their medication.

Counseling

Licensed Counselors Provide

- Individual Therapy
- Family Therapy
- Variety of evidence-based therapeutic modalities including but not limited to CBT, play therapy, and Solution-Focused

Rehabilitation & Skills Training

Community-based, Wrap-around

- Services for children and adults, designed to improve and restore life skills to ultimately increase success in all domains of life functioning.
- Structured and curriculum-based

ACCESSIBLE, QUALITY CARE

OTHER SERVICES

Case Management

Tailored case management ensures

- Each client and family (when applicable) receive necessary psychiatric, social, vocational, educational, and other support essential for achieving stability.
- Medication and diagnostic education are also offered.

Telehealth Services

Comprehensive services

- Our team members meet clients where they are to facilitate remote delivery of physician services.
- This enables clients to receive quality care, a proper diagnosis, and continued treatment in areas lacking mental healthcare professionals.

ACT Program

Assertive Community Treatment

Community-based mental health care for adults living with a serious mental illness that interferes with their ability to live in the community, attend appointments, and manage mental health symptoms.

OCR Program

Outpatient Competency Restoration

Community-based services for adults who have been diagnosed with a chronic, persistent mental illness and deemed incompetent to stand trial.

ADULT PROGRAMS

CHILD AND ADOLESCENT PROGRAMS

Safety Net Program

Substance Use Prevention & Intervention

School & Community-based, youth program serving Dallas, Collin, & Denton counties via drug and alcohol education, goal-setting, stress management, communication skills, and anger management.

YES Waiver Services

Youth Empowerment Services

Family-centered, community-based, program designed to help children and youth, ages 3 to 18, who are at risk of out-of-home placement due to serious mental, emotional, and behavioral difficulties.

PAYMENT OPTIONS

- Private Insurance
- Self-pay
- CHIP
- Medicaid/Medicare
- NorthStar
- Payment plans and sliding scale based on comprehensive assessment of financial need.

LOCATIONS

Principal Location - Dallas
8915 Harry Hines Blvd.
Dallas, TX 75235

Plano
4031 W. Plano Pkwy, #211
Plano, TX 75093

Mesquite
120 W. Main St, #220
Mesquite, TX 75149

Oak Cliff
210 W. 10th St
Dallas, TX 75208

Waxahachie
1305 W. Jefferson, Ste 210
Waxahachie, TX 75165

Kaufman
106 S. Jefferson
Kaufman, TX 75142

Corsicana
319 N. 12th, Ste 1
Corsicana, TX 75110

Greenville
4216 Wesley St. Ste 101
Greenville, TX 75401

Phone #: 214-351-3490
Toll-Free: 1-866-695-3794

QUESTIONS?

We look forward to working with you!

Thank you for your time!

child & family
guidance center

childrenandfamilies.org

Here for you. Aquí para ti.