Behavior management and psychopharmacology in children with autism spectrum disorders

James Coplan, MD
Neurodevelopmental Pediatrics of the Main Line
Rosemont, PA
info@drcoplan.com
www.drcoplan.com

Pediatric Nurse Practitioners

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Disclosures / References

- **Dr. Coplan is author of *Making Sense of Autistic Spectrum Disorders: Create the brightest future for your child with the best treatment options* (Bantam-Dell, 2010), and receives royalties on its sale**

Chapter 12: Behavior management and psychopharmacology

- **This presentation will include a discussion of off-label drug use**

Outline / Basic Premises - 1

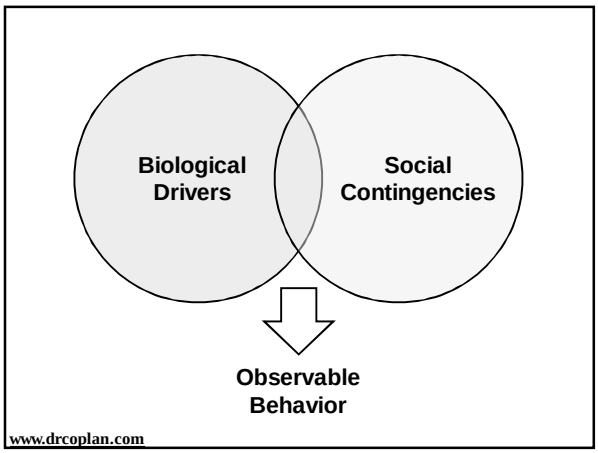
- **Biologically driven behaviors / traits**
  - **Cognitive Rigidity**
  - **Dysregulation of Attention**
  - **Dysregulation of Arousal**
  - **Dysregulation of Sleep**
  - **Dysregulation of Sensory Processing**
- **Occur *irrespective of environmental contingencies***
- ***Do not serve a social function***
- **Specific behaviors / traits are tied to specific neurotransmitters / brain systems**

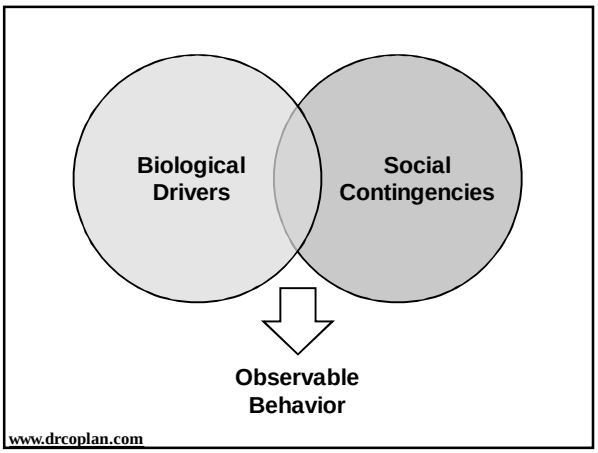
Outline / Basic Premises - 2

- **Socially driven behaviors**
  - **Occur in response to environmental contingencies**
  - **Serve a social function**
    - **Attention**
    - **Access to desired objects or activities**
    - **Escape from undesired activities**
  - **A-B-C Model**
    - **What is the Antecedent to the behavior?**
    - **What is the Behavior itself?**
    - **What are the Consequences for the behavior?**

Outline / Basic Premises - 3

- **Behavior analysis needs to take biological and environmental factors into account:**
  - **Underlying biological traits often provide the child with lots of opportunities to make unfortunate discoveries (viz: Tantrums or SIB are great ways to get attention or escape from tasks)**
- **Intervention often requires both pharmacologic and behavioral measures**


Biological Drivers
Social Contingencies
Observable Behavior
www.drcoplan.com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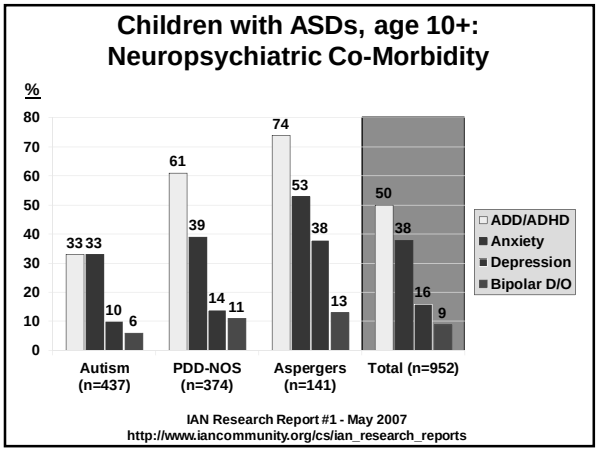
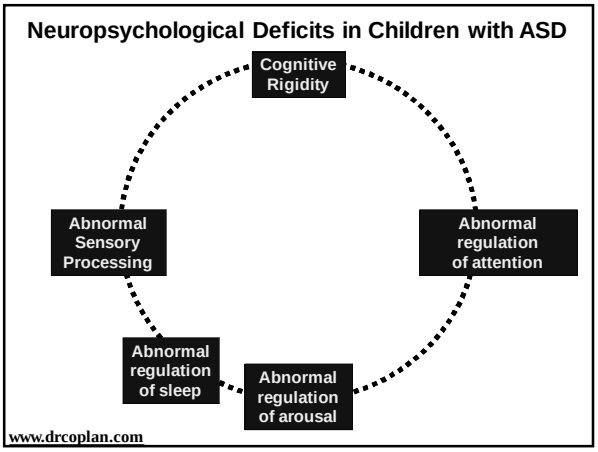
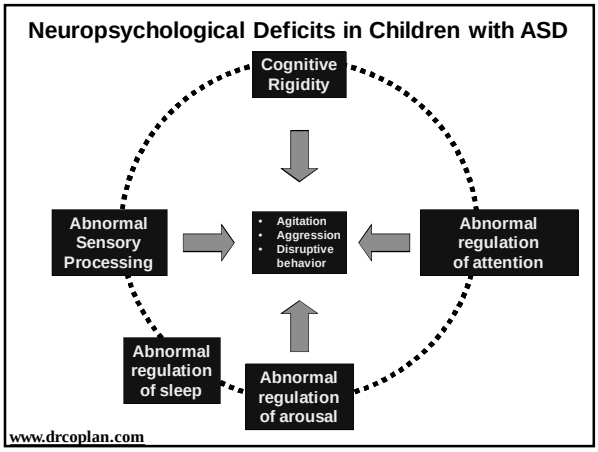

Children with ASDs, age 10+:
Neuropsychiatric Co-Morbidity
%
80
70
60
50
40
30
20
10
0
33 33 10 6
61 39 14 11
74 53 38 13
50 38 16 9
ADD/ADHD
Anxiety
Depression
Bipolar D/O
Autism (n=437)
PDD-NOS (n=374)
Aspergers (n=141)
Total (n=952)
IAN Research Report #1 - May 2007
http://www.iancommunity.org/cs/ian_research_reports


Neuropsychological Deficits in Children with ASD
Cognitive Rigidity
Abnormal Sensory Processing
Abnormal regulation of attention
Abnormal regulation of sleep
Abnormal regulation of arousal
www.drcoplan.com


Neuropsychological Deficits in Children with ASD
Cognitive Rigidity
Abnormal Sensory Processing
Agitation
Aggression
Disruptive behavior
Abnormal regulation of attention
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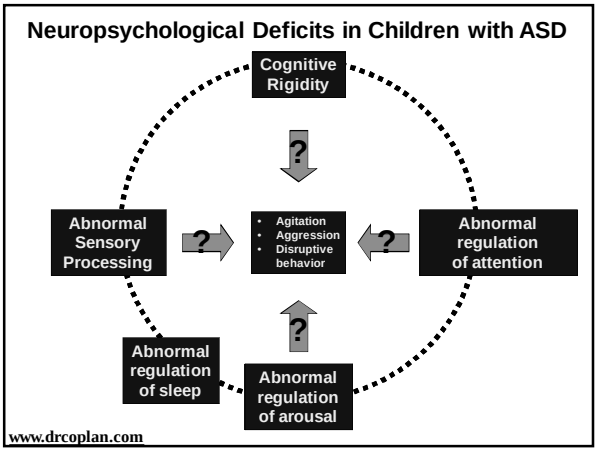
Abnormal regulation of arousal
www.drcoplan.com


Neuropsychological Deficits in Children with ASD
Cognitive Rigidity
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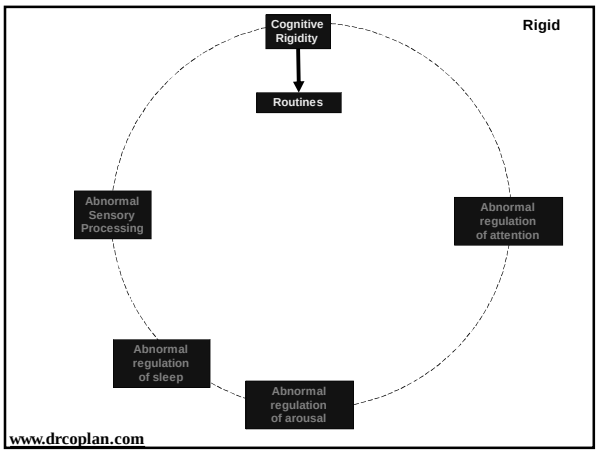

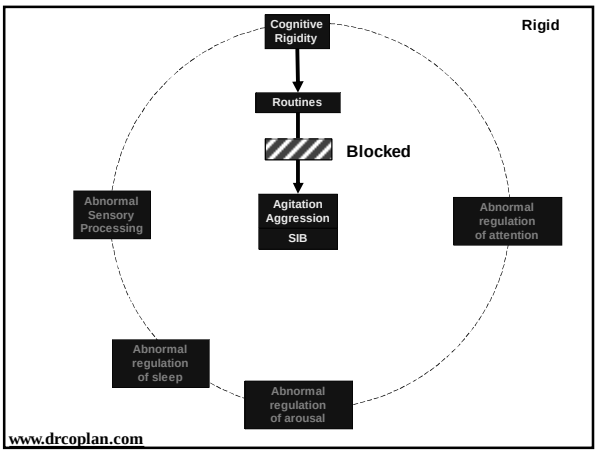

Cognitive Rigidity:
Changes in Routine / Unmet Expectations

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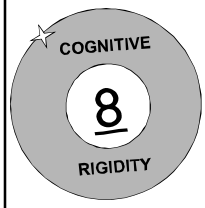
***Rainman*, 1988**

- **Without a doubt**
- **Reply hazy, try again**
- **Signs point to NO**
- **Better not tell you now…**

Cognitive Rigidity
(Difficulty shifting mental sets)



"Externalizing Behaviors"

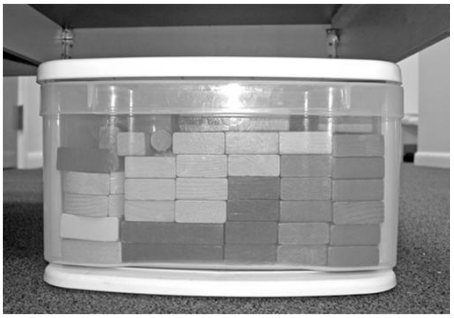
- ***Insistently* repetitious behavior**
- **Difficulty with unmet expectations**
- **Perfectionism**
- **Compulsions**
- **(Aggression, SIB)**

- **Obsessions**
- **(Anxiety)**
- **(Depression)**

"Internalizing Behaviors"

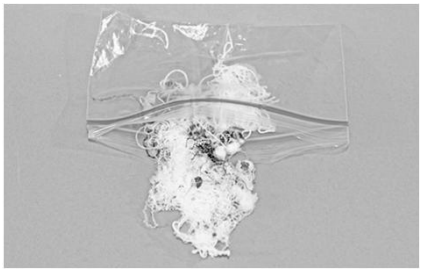
Perfectionism

Perfectionism



Perfectionism

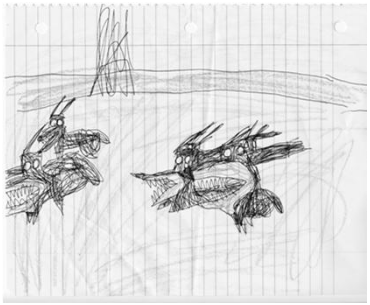
Compulsions



Joseph F: 15 y.o. boy Asperger Syndrome

MRN: 05-0096

Anxiety



RD. 7 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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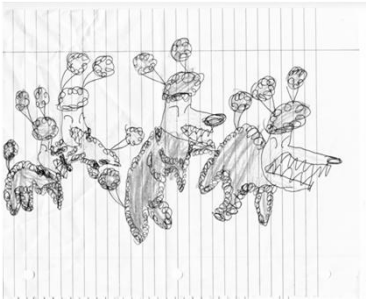
MRN: 07-0427

Anxiety



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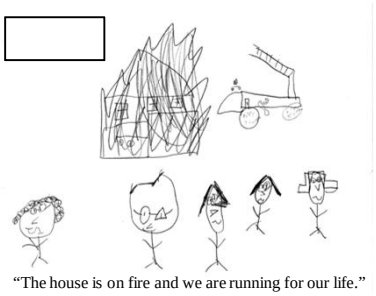


"The house is on fire and we are running for our life."

A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710

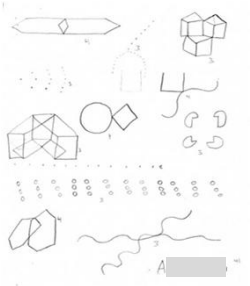
Anxiety

"Standing in the Atlantic Ocean. The ocean has a very high surface, up to their mouth, so they can't breathe." Six year old boy with ASD and Anxiety. BK;MRN 09-0605

Depression

www.drcoplan.com KO; 10 yr old female, PDD-NOS, normal IQ

Anxiety, Perfectionism, and Self-Injurious Behavior



Standard Score: 138

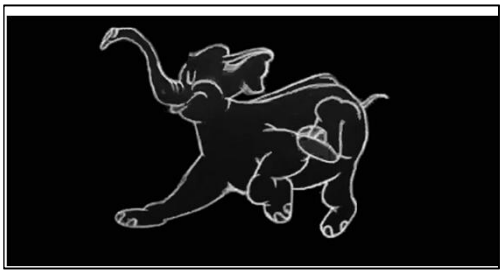
A.D. : 9 y.o. girl with ASD (my MRN: 06-0227)

Throughout the session, "Alice" delivered a steady stream of self-deprecating comments, calling herself "stupid," or perseveratively asking if she was "fat." During the Bender, she anxiously and angrily twisted the eraser off the tip of the pencil, while declaring "Why do I keep making stupid mistakes?" As her stress level rose, she escalated to slapping herself, and then punching herself in the face.

Depression, Anger (mood)

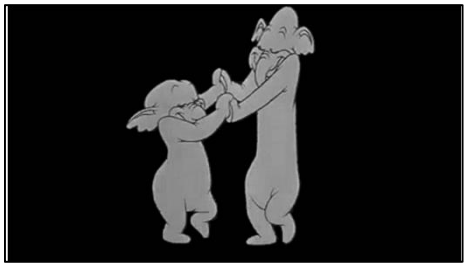
JH; 10 yr old male, PDD-NOS

How do you kill a blue elephant?

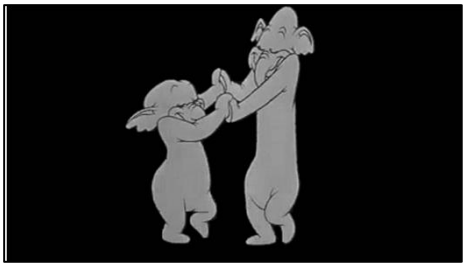


Shoot it with a blue elephant gun.

How do you kill a pink elephant?

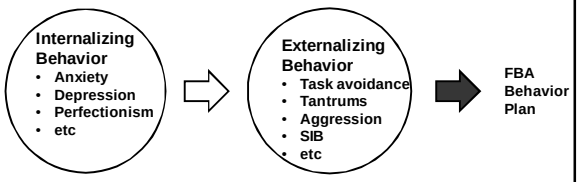


How do you kill a pink elephant?



Hold it by the trunk until it turns blue, then *shoot it with a blue elephant gun*.

Unaddressed internalizing behavior often comes out as externalizing behavior



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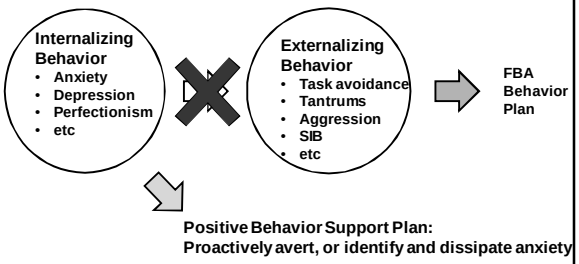
"An ounce of prevention is worth a pound of cure"



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The Story of Billy's Box - 1

(or, why it's important to ID internalizing behavior)

- **8 y.o. boy with ASD and normal Nonverbal IQ**
- **Severe tantrums at school**
- **Antecedents:**
  - **TRANSITIONS**
- **Function?**
  - **Not attention, escape, access**
  - **"Biological" (i.e. "just part of his ASD")?**

The Story of Billy's Box - 2

(or, why it's important to ID internalizing behavior)

Q: "Billy – You're always getting in trouble at school. What's going on?"

A: "I'm afraid that if I hand in my work, I'll never get a chance to go back and make it perfect."

The Story of Billy's Box - 3

(or, why it's important to ID internalizing behavior)

"Put your papers in the box, and we promise you will be able to go back later and work on them some more, if you want to."

Positive Behavior Support Plan for Internalizing Behavior

- **Staff Awareness**
- **Visual Schedules**
  - **What am I supposed to be doing do *now*?**
  - **What am I supposed to do *next*?**
- **Relaxation Techniques**
  - **Mental Imagery**
  - **Isometrics**
  - **Deep Breathing**
  - **"Break" cards**
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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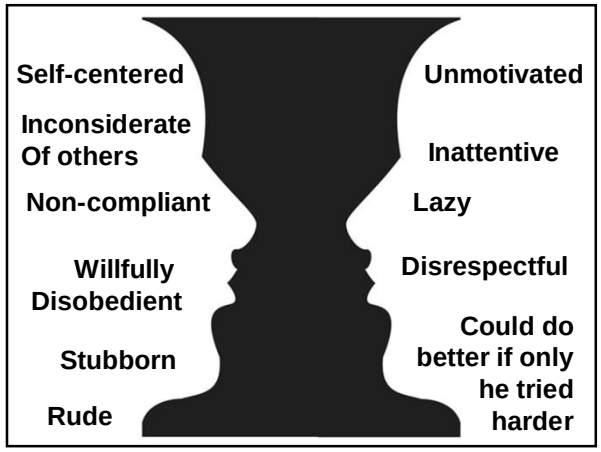

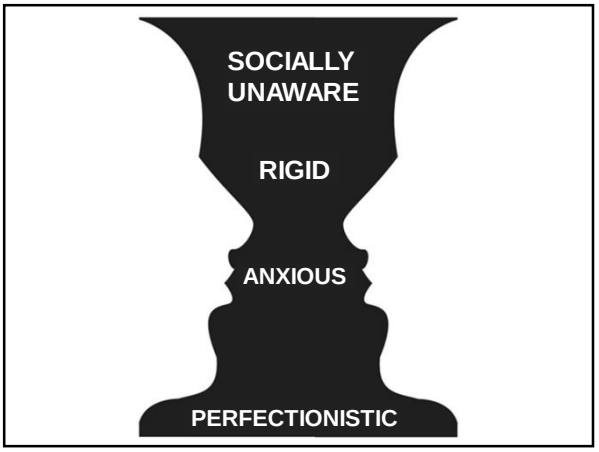

"We caution against the use of the word "stubborn" to characterize Ryan's classroom behavior. Ryan's task avoidance and non-adherence to teacher instruction reflect ***cognitive rigidity and anxiety***, ***rather than "stubborn" behavior***. Re-framing his actions will lead to more appropriate intervention, placing the focus on ***anxiety management and cognitive flexibility***, rather than ***"compliance."***

Positive Behavior Support Plan for Internalizing Behavior

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- **Visual Schedules**
  - **What am I supposed to be doing do *now*?**
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  - **Deep Breathing**
  - **"Break" cards**
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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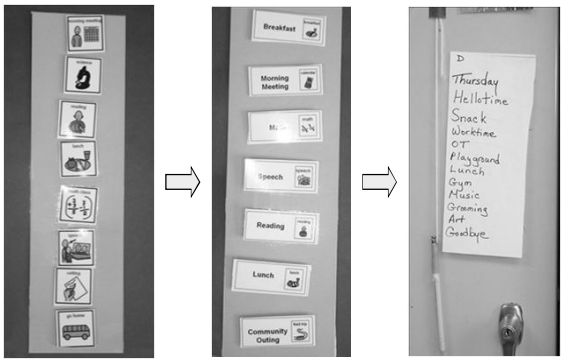

Positive Behavior Support Plan for Internalizing Behavior

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- **SSRIs**

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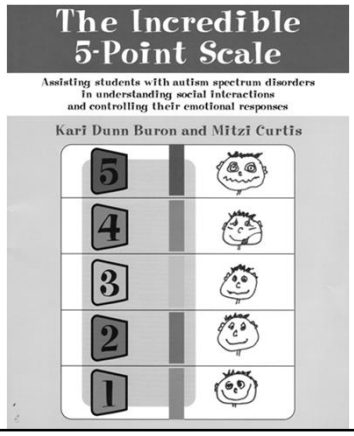

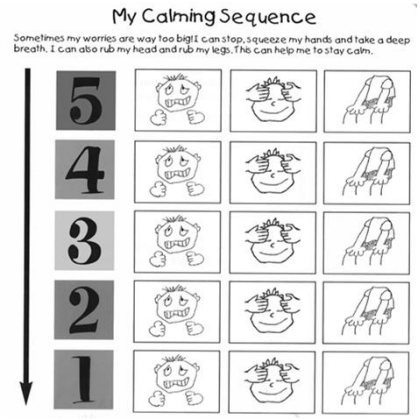

Positive Behavior Support Plan for Internalizing Behavior

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  - **"Break" cards**
- **Cognitive Behavioral Therapy (CBT)**
- **SSRIs**

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Selective Serotonin Reuptake Inhibitors (SSRIs)

- **Primary targets**
  - Cognitive Rigidity
    - Anxiety
    - Obsessions (thoughts)
    - Compulsions (behavior)
    - Perfectionism
  - Depression
  - Stereotypies: Probably not
- **"Downstream" benefit:**
  - ↓ Disruptive Behavior
  - ↑ Quality of Life

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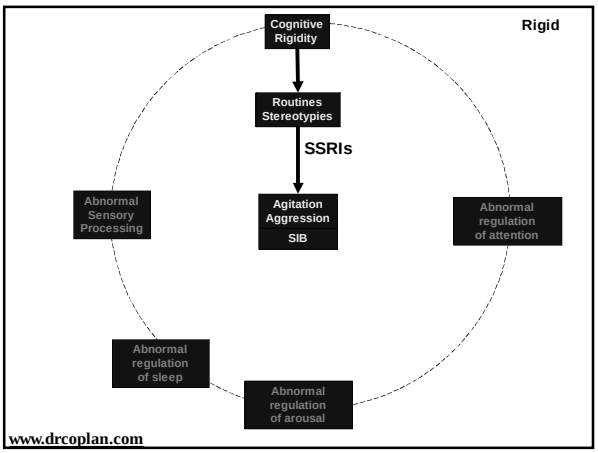

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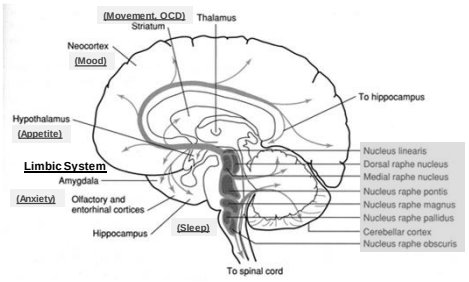
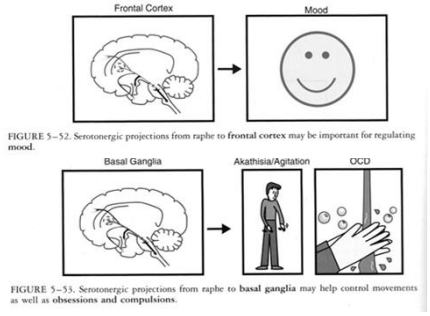
Serotonin (5 HT)



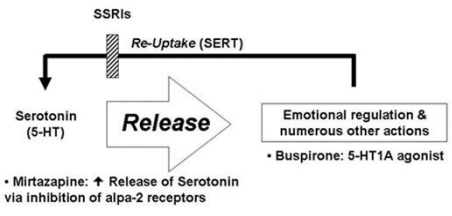
Nestler, *Molecular Neuropharmacology*, Fig 9.3

Serotonin (5 HT) Pathways



Stahl, *Essential Psychopharmacology*, fig 5.52-3

Serotonin-promoting (serotoninergic) drugs



Selective Serotonin Reuptake Inhibitors block the re-uptake of Serotonin

SSRIs in ASDs

- **Side Effects**
  - Activation
    - Hyperactivity
    - Irritability
    - Insomnia
    - Agitation
  - Uncommon or irrelevant
    - GI dysfunciton
    - Sexual dysfunction
    - "Black Box" warning (suicidal mentation)

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Selective Serotonin Reuptake Inhibitors (SSRIs)

Generic Name	Brand Name	Comment
Fluoxetine	Prozac	• The first selective SRI
Fluvoxamine	Luvox	
Sertraline	Zoloft	• May be less activating
Citalopram	Celexa	• Prolonged QT interval
Escitalopram	Lexapro	• Prolonged QT interval
And others…		

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Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorder (ASD).

Williams, K., et al., Cochrane Database Syst Rev, 2010. 8: p. CD004677

Authors' conclusion:

"There is no evidence that SSRIs are effective as a treatment for children with autism. In fact, there is emerging evidence that they are not effective and can cause harm. As such SSRIs cannot be recommended as a treatment for children with autism at this time."

Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorder (ASD).

Williams, K., et al., Cochrane Database Syst Rev, 2010. 8: p. CD004677

- Studies reviewed: 7 randomized controlled trials / 271 participants
  - Fluoxetine (2), fluvoxamine (2), fenfluramine (2), citalopram (1)
  - Subjects: Children (5); Adults (2)
  - Varying inclusion criteria for Dx of ASD and IQ
  - 17 different outcome measures
- "Data were unsuitable for meta-analysis"

Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorder (ASD).

Williams, K., et al., Cochrane Database Syst Rev, 2010. 8: p. CD004677

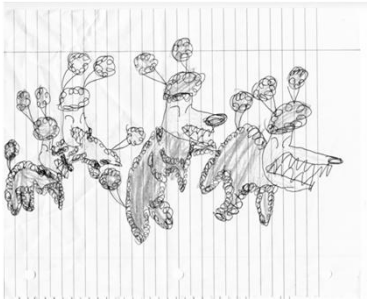
- Treatment-emergent symptoms
  - Citalopram: 1 child with new onset seizures (continued to have seizures after citalopram was stopped)
  - Fenfluramine: ↑ stereotypies; withdrawal, sadness; ↓appetite
    - "With monitoring, dose adjustment and time, all but one of these adverse effects were resolved"
  - Fluoxetine (Hollander 2005): 6 of 37 children had their dosage reduced due to agitation
    - 2 children in the placebo group also had their "dosage" reduced. Difference between groups: Not significant
    - Reviewers disregard the fact that by the end of the trial, "anxiety and nervousness" was lower in the fluoxetine group compared to placebo: 15.9% vs. 33%.
  - Fluvoxamine: No significant difference in side effects between SSRI and placebo

Pharmacotherapy for anxiety disorders in children and adolescents

Ipser JC, Stein DJ, Hawkridge S, Hoppe L. Cochrane Database of Systematic Reviews 2009, Issue 3.

- Studies reviewed: 22 RCTs/ 2,519 participants
  - Short-term (average 11 wks)
  - Mean age 12 yrs
  - Drugs studied (versus placebo)
    - SSRIs :15 (fluoxetine 6, fluvoxamine 2, paroxetine 3, sertraline 4)
    - SNRIs: 5, (clomipramine 3), venlafaxine 2)
    - Benzodiazepines: 2: (alprazolam 1, clonazepam 1)
    - Tricyclic antidepressants: 1 (desipramine)
- Meta-analysis
  - Response rate: Medication 59%; Placebo 31%
  - 7.3% of subjects treated with SSRIs withdrew bec/o side effects
  - "The overwhelming majority of evidence of efficacy was for the SSRIs, with the most evidence in paediatric OCD"

Anxiety



RD. 7 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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MRN: 07-0427

Anxiety after Rx with CBT & Escitalopram

RD. 9 y.o. F, nl IQ, PDD-NOS & Anxiety. Father: GAD

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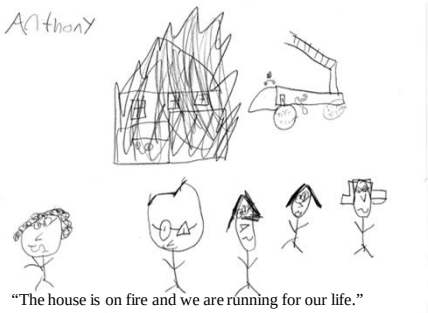
Anxiety



"The house is on fire and we are running for our life."

A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710

Fluoxetine 10 mg/d

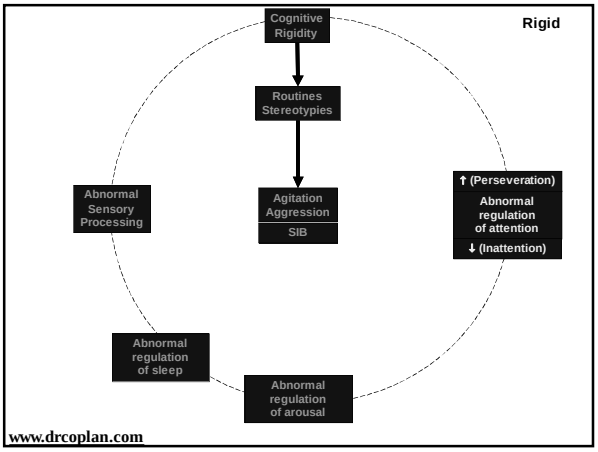
A.W.: 9 year old boy with PDD-NOS and normal IQ (MRN 11-07710

After one week on Sertraline

Sent: Thursday, May 31, 2012
To: James Coplan
Subject: amazing shift in A.D.
Importance: High

Dr. Coplan,
I "know" that it takes several weeks for SSRI's to "kick in" but the child I saw in my office today is simply a different child and the improvements are being noted across settings by mutiple adults. There was NO self abuse, NO negative self statements, an availability for interventions, just a complete transformation. We "fixed" mistakes, "re-did" errors, told jokes, and played together. The "core" Autistic symptoms are obviously still there - perseveration on bras, drawing, etc - but mood-wise there is no question that A. is already benefitting from the Sertraline... Impossible perhaps but really visibly clear...
Thank you very much.
S.S. Ph.D.

5 Minute Break



Regulation of Attention

Let go
&
Shift

Attend to stimulus #1 ⟷ Attend to stimulus #2

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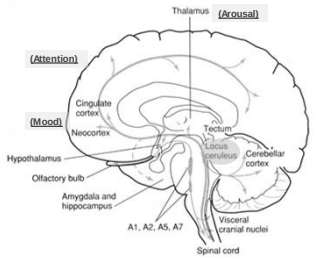
Noradrenergic pathways

(Norepinephrine)



Locus Ceruleus ("blue spot"): Principal noradrenergic source in brain.

Nestler, *Molecular Neuropharmacology*, Fig 8.5

Noradrenergic pathways

(Norepinephrine)

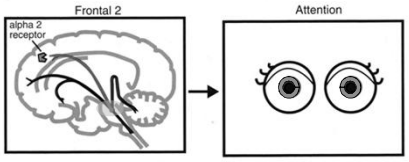
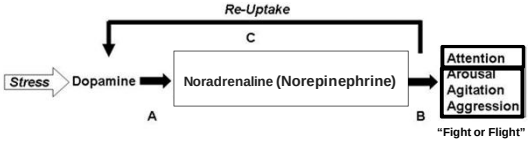


FIGURE 5–25. Other noradrenergic projections from the locus coeruleus to **frontal cortex** are thought to mediate the effects of norepinephrine on **attention**, concentration, and other **cognitive functions**, such as working memory and the speed of information processing. **Alpha 2** postsynaptic receptors may be important in transducing postsynaptic signals regulating attention in postsynaptic target neurons.

Stahl, *Essential Psychopharmacology*, fig 5.25

Stimulants

(Dopaminergic; Noradrenergic; Sympathomimetic)



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Abnormal Regulation of Attention - 1

- **Perseveration**
  - **Inability to "Let go and shift"**
  - **Gets "stuck"**
  - ***"Overattention Deficit Disorder"***
- **Compounds the effects of cognitive rigidity**

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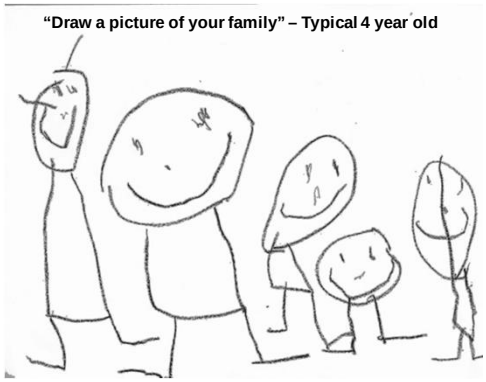
"Draw a picture of your family" – Typical 4 year old



© J. Coplan 2010

"Draw a picture of your family" – 8 yr old with ASD

© J. Coplan 2010

Perseveration

"Draw a picture of your family, with everybody doing something"

"We are going into the Grand Hyatt"

Wm W; 10 y.o. male; ASD & Anxiety; MRN 12-0827

Abnormal Regulation of Attention (Perseveration)

- **Interventions**
  - Verbal preparation for transitions
  - Visual Schedules
  - SSRIs (OCD: Proven; ASD: likely)

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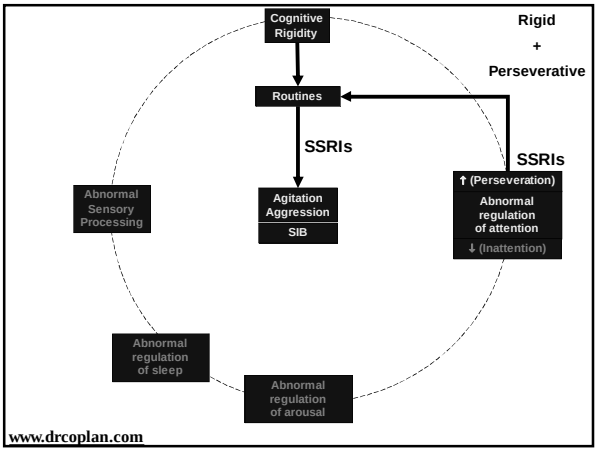

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Abnormal Regulation of Attention - 2

- **Inattention**
  - Inability to focus
  - Impulsive
  - Distractible

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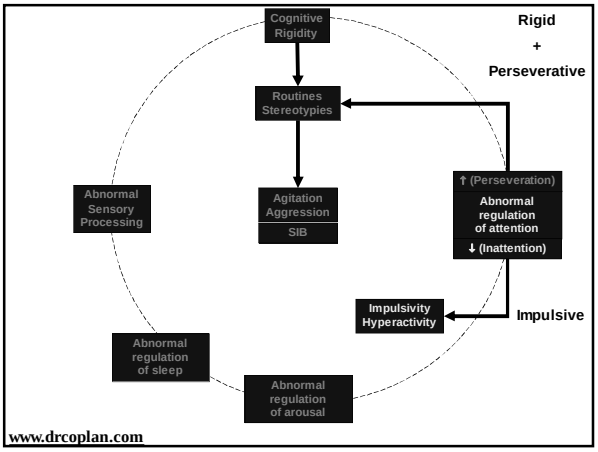

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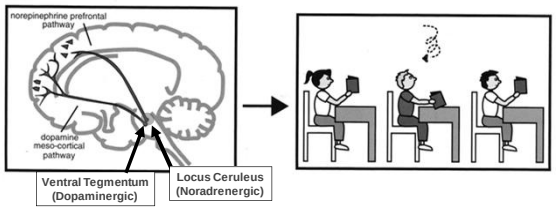
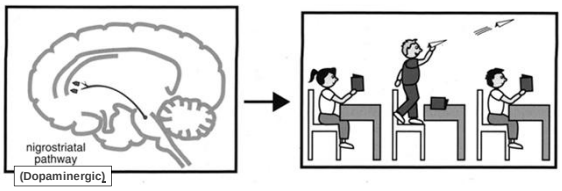
Inattention



Insufficient activation of frontal cortex ➔➔➔ Inattention

Stahl, *Essential Psychopharmacology*, fig 12.1

Hyperactivity



Stimulants in children with ADHD ➔ "Paradoxical" calming

Stahl, *Essential Psychopharmacology*, fig 12.1

Inattention

- **Classroom interventions**
  - Limited stimuli
  - Short work periods
  - Preferential seating
- **Medication**
  - Stimulants & Norepinephrine Reuptake Inhibitors (NRIs)
    - May ↑ anxiety / rigidity / agitation / Tics
  - Alpha-2 agonists
    - Sleepiness
    - Occasional weepiness
    - Hypotension: Rare (start low, & go slow)

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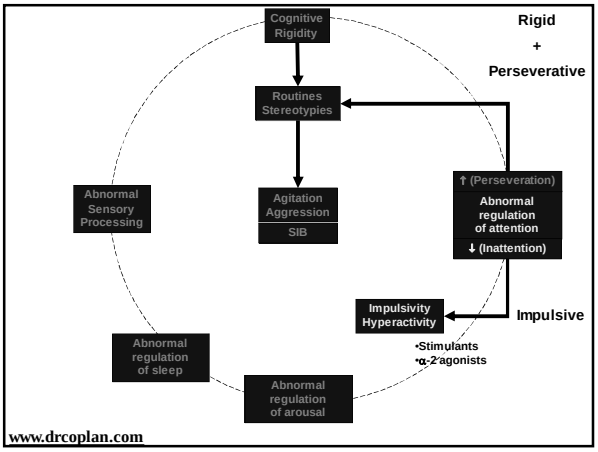

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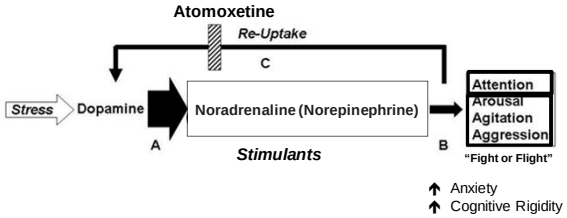
Stimulants

(Dopaminergic; Noradrenergic; Sympathomimetic)



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Stimulants, NRI's

Generic Name(s)	Brand Name(s)	Comment
Amphetamine		FDA Schedule II
Dextroamphetamine	Dexedrine, Dextrostat	FDA Schedule II
Dextroamphetamine + amphetamine	Adderall	FDA Schedule II
Methylphenidate	Concerta, Ritalin, Metadate	FDA Schedule II
Dexmethylphenidate	Focalin	FDA Schedule II
Atomoxetine, Attentin	Strattera	Norepinephrine reuptake Inhibitor (NRI), not FDA Schedule II
Lisdextroamphetamine	Vyvanse	Pro-drug of D-amphetamine; Not FDA-II

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Alpha-2 Agonists

Generic Name	Brand Name(s)	Comment
Clonidine	Catapres	More sedating than guanfacine
Guanfacine	Tenex, Intuniv	

- Frontal cortex / Locus Ceruleus: post-synaptic alpha-2 receptors
- Sympathetic outflow (autonomic nervous system): Pre-synaptic autoreceptors →↓BP

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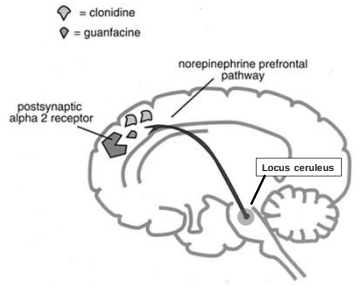
Alpha-2 agonists
(clonidine, guanfacine)



Stahl, *Essential Psychopharmacology*, fig 12.6

Alpha-2 Agonists

Benefits
- ↓ Agitation
- ↓ Hyperactivity
- ↑ Attention Span
- No exacerbation of anxiety / rigidity

Side Effects
- Sleepiness: Common
- Emotional Lability (crying) - occasional
- Hypotension (low BP) - rare

Clinical Pearl

- **Beware of Cognitive Rigidity masquerading as ADHD**
  - Perseveration on inner stimuli: "Inattentive"
  - Perfectionism:
    - "Problems w. task completion"
  - Anxiety:
    - "Rushes through work"
    - "Out of seat behavior"

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Regulation of Arousal

Hypoarousal
- Lethargic

⇄ **Calm & Relaxed** ⇄ **Fight or Flight Response**

"Red Alert"
↑Adrenaline
↑Heart Rate
↑Resp. Rate
•Combative

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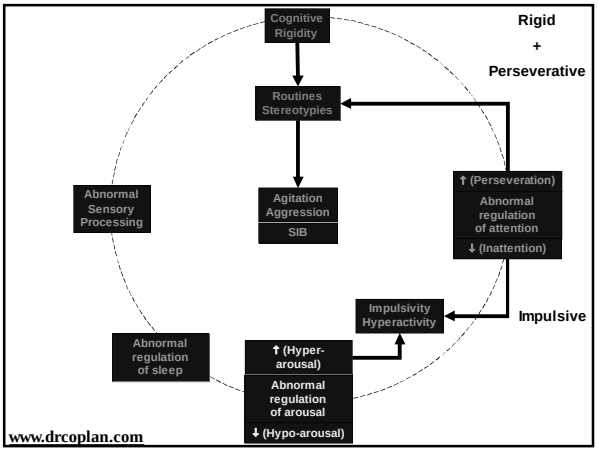

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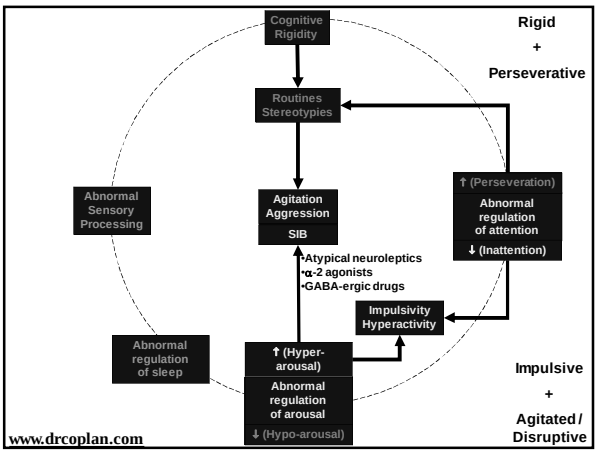
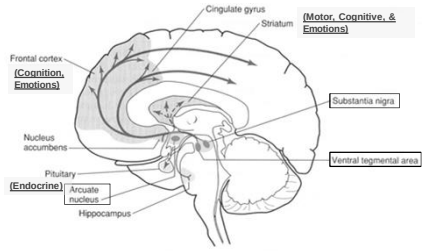
"He is so hard to calm down when he gets upset….His emotional thermostat doesn't work"

Parent of an 8 year old with ASD

F. O. MRN 06-0208



Dopamine

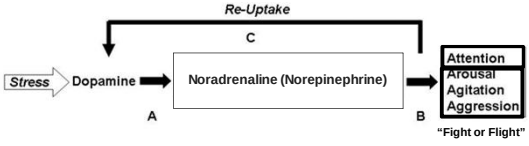


Substantia Nigra ("black stuff"), Ventral tegmentum, arcuate nucleus

Nestler, *Molecular Neuropharmacology*, Fig 8.6

Dopamine

(Dopaminergic; Noradrenergic; Sympathomimetic)



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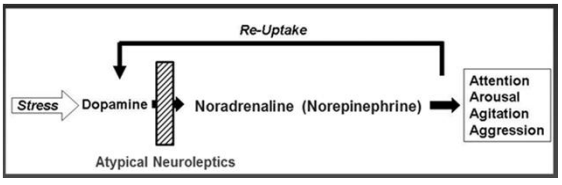
Atypical Neuroleptics

(Dopamine Blockers)



Side Effects
Sleepiness (initially)
Weight Gain (common)
Diabetes (uncommon)
Movement Disorder (rare)

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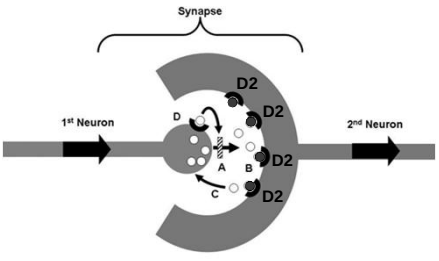
Atypical Neuroleptics



•Atypical neuroleptics block D2 receptors

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Atypical Neuroleptics

Generic Name	Brand Name	Comment
Aripiprazole	Abilify	• Relatively less risk of weight gain • FDA approved for Rx of ASD
Clozapine	Clozaril	• Bone marrow suppression
Olanzapine	Zyprexa	• Greater risk of weight gain
Quetiapine	Seroquel	• Greater sedation
Risperidone	Risperdal	• Greater risk of weight gain • FDA approved for Rx of ASD
Ziprazidone	Geodon	Relatively less risk of weight gain

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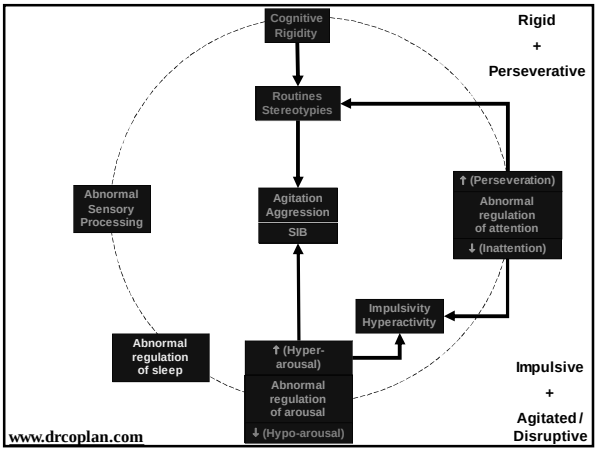
Mood

JH; 10 yr old male, PDD-NOS

Depression, Anger (mood)

JH; 10 yr old male, PDD-NOS



Regulation of Sleep - 1

- **Melatonin**
  - **Brain hormone**
  - **↓ Metabolic rate (Heart, Temp)**
  - **"You're sleepy now"**
- **Suppressed by light**
  - **24 hr cycle**
  - **Seasonal cycle**

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Regulation of Sleep - 2

- **Abnormal melatonin cycling**
  - **Primary disorders of sleep**
  - **Blindness**
  - **ASD**
- **Symptoms**
  - **Delayed onset of sleep**
  - **Shortened duration / frequent wakening**

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Regulation of Sleep - 3

- **Shared genetic control**
  - **Regulation of sleep**
  - **Regulation of arousal**
- **Family history of sleep disorder**

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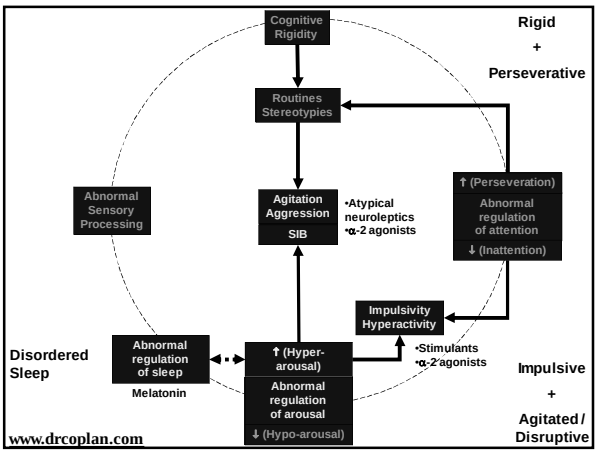

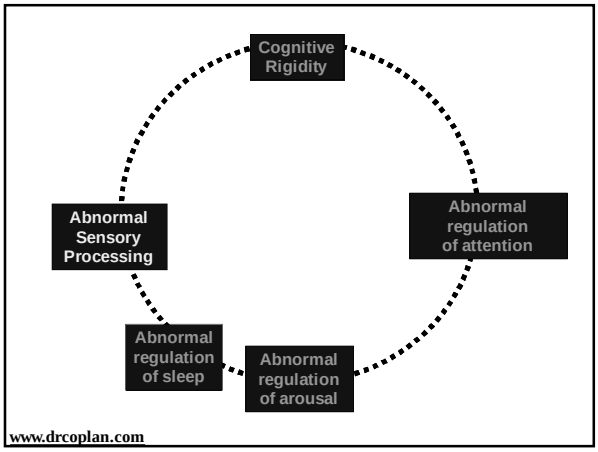

Sensory Processing

- **Subjective Properties**
  - **Familiar / Unfamiliar**
  - **Pleasant / Unpleasant**
  - **Strong / Weak**
  - **Internal / External**
- **Sensory Input ➔ Self-awareness**
- **Mirror Neurons ➔ Empathy**

Mostofsky, S. and J. Ewen, *Altered Connectivity and Action Model Formation in Autism Is Autism*. Neuroscientist, 4/15/2011

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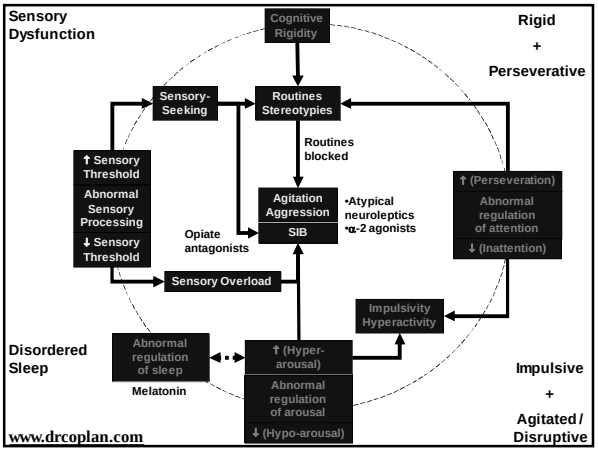

The whole is greater than the sum of its parts

Max Wertheimer

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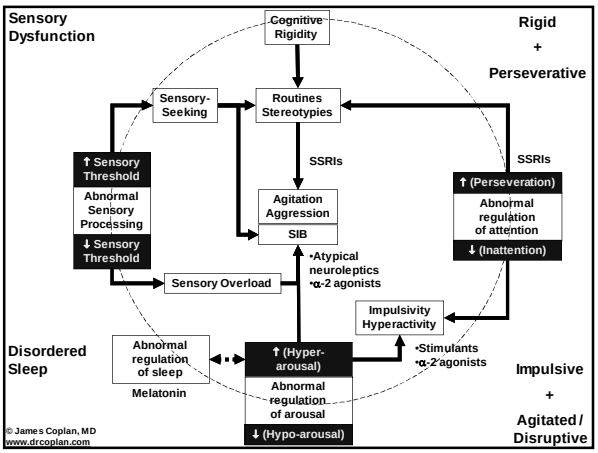
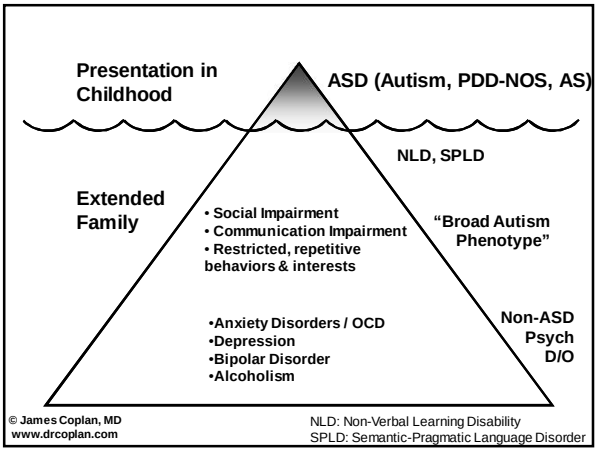
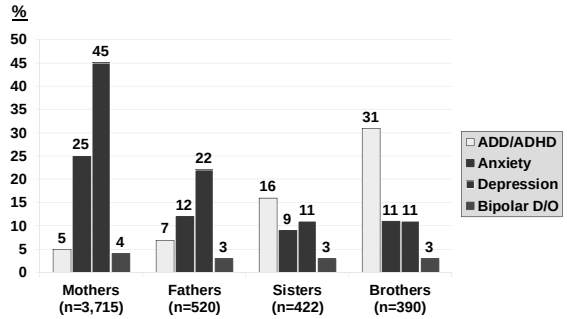


Prognosis & Family Genetics

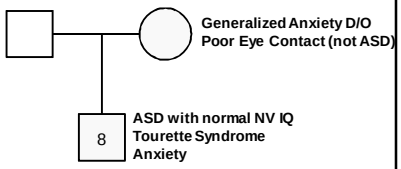


Parents & Siblings of Children with ASDs: Neuropsychiatric Comorbidity



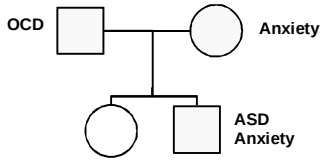
IAN Research Report #1 - May 2007
http://www.iancommunity.org/cs/ian_research_reports

Anxiety D/O, TS, ASD



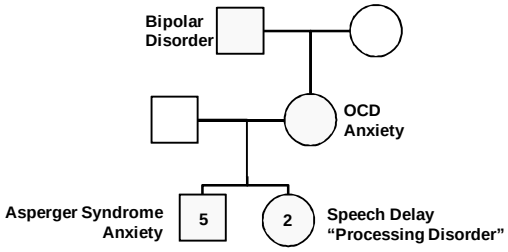
S.W.; MRN 08-0485

Anxiety, OCD, ASD



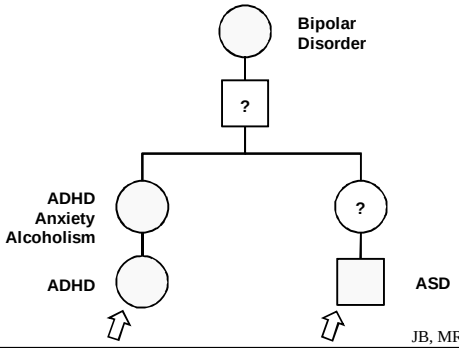
SK, MRN 12-0824

Bipolar D/O, OCD, Anxiety D/O, ASD, "Processing D/O"



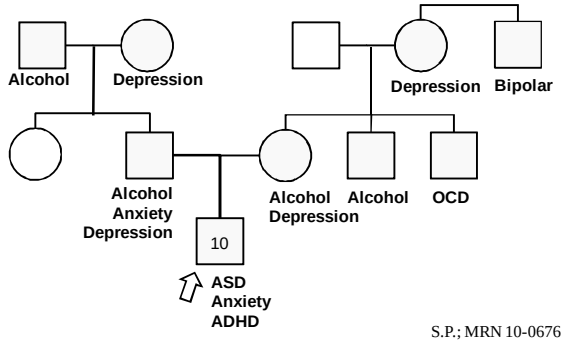
C.A.; MRN 12-0811

Bipolar D/O, Alcoholism, Anxiety D/O, ADHD, ASD



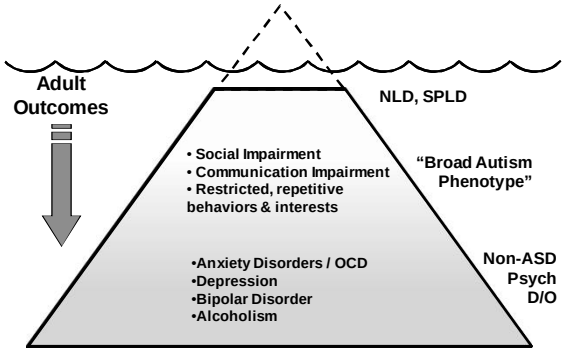
JB, MRN 06-0229

Bipolar D/O, Alcoholism, Anxiety D/O, ADHD, ASD



S.P.; MRN 10-0676

Adult outcomes for children who "lose the diagnosis"



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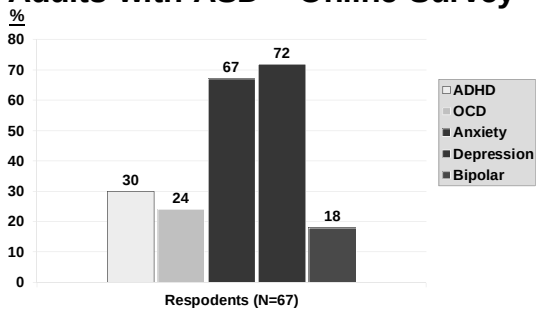
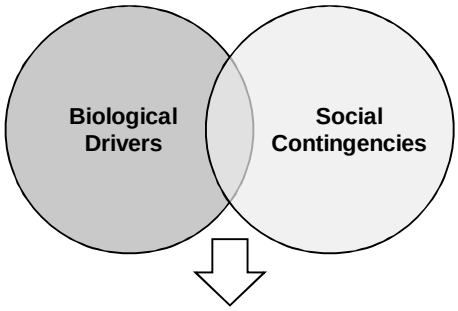
Adults with ASD – Online Survey



http://www.iancommunity.org/cs/ian_research_reports/adults_on_the_autism_spectrum_september_2009

5 Minute Break



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The ABC's of Behavior Analysis

- What is the Antecedent?
- What is the Behavior?
- What is the Consequence?

Antecedents

- External:
  - Imposition of a task
  - Change in routine
  - Denial of access to object or activity
  - Other….
  - Or: No apparent external antecedent

Antecedents

- Internal:
  - Hunger
  - Thirst
  - Fatigue
  - Cognitive Rigidity
  - Dysregulation of Attention
  - Dysregulation of Mood / Arousal
  - Dysregulation of Sensory Processing
  - Other biological drivers

Behavior

- What, exactly, is the behavior?
  - "Topography"
    - Verbal
    - Physical
- Frequency
- Intensity
- Duration
- Timing

Behavior

- What is the child's developmental level?
- Is the behavior normal for the child's developmental level?
  - Tantrums / Noncompliance
    - 24 month old "striving for autonomy"
  - Cognitive Rigidity
    - 4 yr olds are "rule based" by nature
  - "Impulsivity" / "Inattention"
    - Attention span is a function of devel. level

Behavior

- What is the child's ability to communicate?
  - Does "disruptive" behavior serve a communicative function?

Behavior

- Acute change or chronic?
- General health?
  - Vital signs, I&O, Level of consciousness
  - Pain?
- Anything new in child's life?
  - Recent change of meds

Consequences

- Reinforcers
  - Positive
  - Negative
- Aversives

Consequences 1: Reinforcers

- Reinforcers lead to an increase in frequency of the antecedent behavior
  - Positive Reinforcement (adds something)
    - Attention
    - Access to desired object / activity
  - Negative Reinforcement (removes something)
    - Escape from Task
    - Avoidance of punishment
      - "We drive within the speeding limit because we receive the negative reinforcement of not getting a speeding ticket"

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Food Selectivity

Negative and Positive Reinforcement of unwanted behavior

- Parent removes non-preferred food ([-] reinforcement)
- Parent provides child with his/her preferred food ([+] reinforcement)
- Alternatives
  - ***First*** **.....*Then*** (The Premack Principle)
  - Put refusal on extinction
  - The kitchen is ***closed*** between meals

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Consequences 2: Aversives

- **Aversives lead to a *decrease* in the likelihood of recurrence of the antecedent behavior**
- **Logical Consequences**
  - **If child refuses to use toilet, child must carry backpack with spare clothes, when family is in public**
- **Over-correction**
  - **Must wash out soiled diaper**
  - **If the child spills milk on purpose: child must mop the entire kitchen floor**

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Disruptive Behavior: Function & Best Response

- **Attention**
  - **1-2-3 ➡ "Time Out" (T.O.)**
- **Access**
  - ***Never* grant access to desired object in response to disruptive behavior**
- **Escape**
  - ***Never* permit the child to escape from a task via disruptive behavior.**
    - **Walk child through task first, *then* ➡ T.O.**
    - **OR: Send child to T.O., and as soon as T.O. is complete, resume the task where you left off.**

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Token Economy: The next step beyond Time Out

- **Concretely specified behaviors**
- **Earn and Lose Points**
- **Points➡Access to preferred items**
  - **Preferred toys, Computer time, etc.**
  - ***NO access to preferred item at other times***
  - **"Extra" treats not as effective**
- **Works with children who understand rule-based play (CandyLand, Uno, etc.)**

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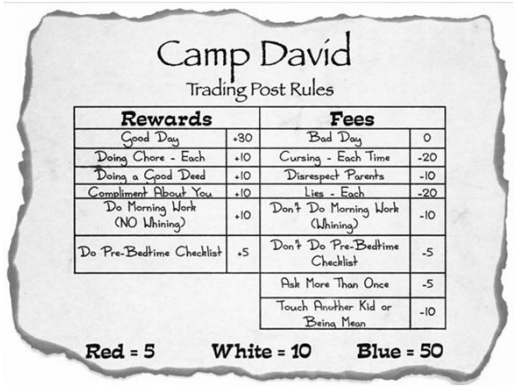
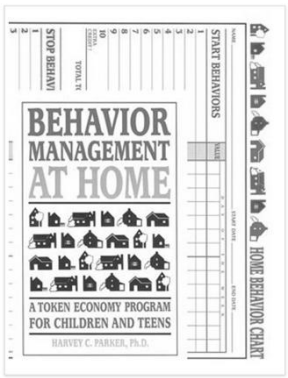
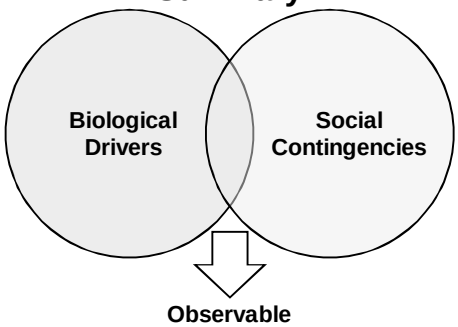




Summary



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An ounce of prevention….

- Identify *internalizing* behaviors *before* they lead to *externalizing* behaviors
  - Behavior Management Plan that proactively seeks to avert or dissipate anxiety

Summary

- Why this child?
  - What is this child's developmental Level?
    - Is this stage-appropriate behavior?
  - Does the behavior serve a social function?
    - Escape, access, attention
  - Is the classroom placement appropriate?
    - Language level?
  - Does this behavior occur in other settings?
    - Family factors?
      - Parents consistent at home?
      - Parental psychopathology? (Anxiety, Depression, Alcohol)

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Summary

- Why this child?
  - Neuropsychological factors?
    - Cognitive Rigidity
    - Dysregulation of attention
    - Dysregulation of arousal
    - Sensory Seeking / Sensory Overload
- Behavioral Intervention – Usually
- Change in classroom setting – sometimes
  - Shift from rote to inferential learning (2nd - 3rd grade): challenge
- Medication: Sometimes

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Summary

Directions for future research:

- Better phenotyping of ASD
  - Clinical
  - Genetic
- Better drug studies
  - Drug vs. Behavioral Therapy vs. Combination
  - Drug vs. Drug (not just drug vs. placebo)
  - Drug combinations (not just monotherapy)
    - Stimulant + SSRI, e.g.
  - Better outcome measures
    - Quality of Life
    - Long-term outcome
- Brain / Behavior / Drug imaging

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Summary

Services for adult "survivors" of childhood ASD

- Mental Health
  - Anxiety
  - Depression
  - Mood Disorders
  - Depression
- Vocational
- Workplace Social Skills
- Parent / Caregiver support
- Spouse / Partner support

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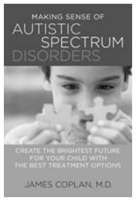
Disclosures / References

- Dr. Coplan is author of *Making Sense of Autistic Spectrum Disorders: Create the brightest future for your child with the best treatment options* (Bantam-Dell, 2010), and receives royalties on its sale



Chapter 12: Behavior management and psychopharmacology

- This presentation will include a discussion of off-label drug use

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JAMES COPLAN, M.D.
Neurodevelopmental Pediatrician · Author · Speaker
Making Sense of Autistic Spectrum Disorders
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James Coplan, MD
-Internationally recognized clinician, author, and public speaker in the fields of early child development, early language development and autistic spectrum disorders.
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Pediatric Nurse Practitioners
April 18, 2013
Dr. Coplan speaks at The National Association of Pediatric Nurse Practitioners (NAPNAP) 34th Annual Conference on Pediatric Health Care held April 17th – 20th, 2013 at the Hilton Orlando Bonnet Creek in Orlando FL. His presentation, on April 17th, 2:00 to 4:30 PM, is entitled Behavior Management and Psychopharmacology in Children with Autism Spectrum Disorder.
NAPNAP is the national association for PNPs and other advanced practice nurses who care for children. More...

Thank You!