The ADHD Solution

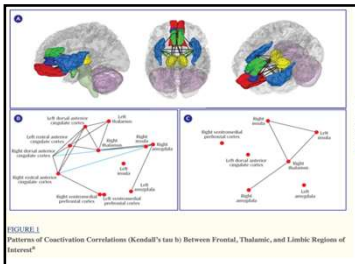
with Applications for OCD, PTSD, PANDAS. Tourette's, and Dystonia

NCMIC
We Take Care of Our Own

Mike Powell, DC, DACNB – ICS FALL SEMINAR 2026



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Functional Neuroimaging of Anxiety: A Meta-Analysis of Emotional Processing in PTSD, Social Anxiety Disorder, and Specific Phobia

ADHD

OCD, Tourette's, PTSD, anxiety, TD, ODD, PANDAS, dystonia

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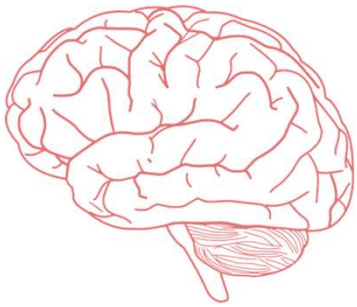
WHAT IS ACTUALLY HAPPENING?

WHAT DO YOU NEED TO FIND OUT?

WHAT TO DO:

INDIVIDUAL **EVERYBODY**

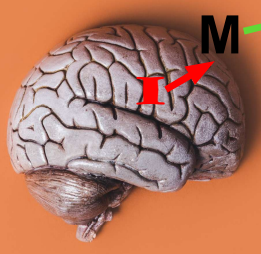
3



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I = Basal Ganglia

= GABA



MOTOR=

1. **Movement**
2. **Shift attention**
3. **Emotion**
4. **Thought**

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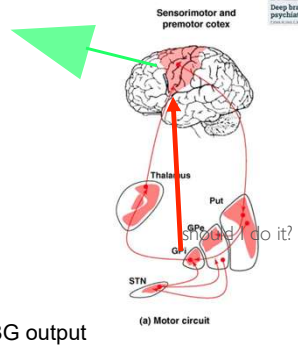


YOU NEED TO KNOW:

1. Is there a hyperkinetic dx? Or hx?
2. Sleep issues? Discomfort or thoughts?
3. Heart rate?
4. Are there involuntary movements? Where? Which side?
5. SCM hypertonus? Which side?
6. Breakdown of smooth pursuits? Delay or excess?
7. Intrusive saccades?
8. Direction of sway? Dysmetria?
9. *Clonus? Upgoing toe?*
10. Bowel sounds present? All 4?

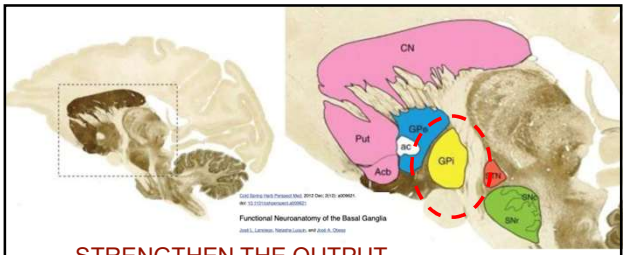
YARDSTICKS

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1. Strengthen BG output
2. Facilitate GABA
3. Dampen Motor activation
4. Increase firing of dysfunctional side of brain

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STRENGTHEN THE OUTPUT OF THE BASAL GANGLIA

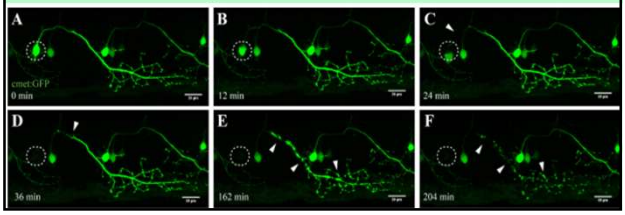
→ STRESS IT
→ When you MAINTAIN movement, thought, emotion, attention over and over again despite urges to change….that strengthens it
→ IAR – sets and reps

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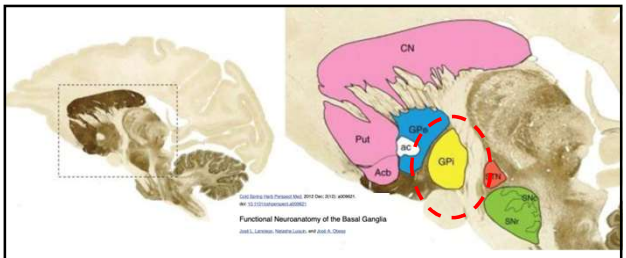
The brain changes. Your care can shape this.

Circuits that fire more, grow.
"stress to strengthen" neuroplasticity

Circuits that fire less, shrink.
"use it or lose it" neurodegeneration



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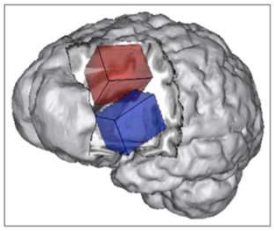


FIRST LINE EXERCISES

→Breathing 2:1 and

→ Diagonal slow pursuits
OR
→ Ball bounce

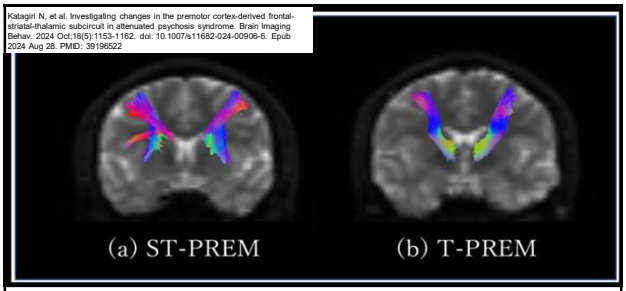
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PROMOTE FRONTAL GABA

B6
Magnesium
Taurine
NAC
Green Tea catechins

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1:2 Breathing
Correcting sleep
LESS Screen time
NO reactive games
Blueblockers

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How do you know?
Sway, dysmetric, saccade (glance) away from side of brain dysfunction

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If left brain dysfunction:

- Focus the effect of the adjustment more on the right side of the body
- Use right body or attention to the right in exercises
- Arrange patient's environment so they have more interaction with the right side of their world

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14 y/o boy severe ADHD, defiance, dexmethylphenidate

FOCUS OF CARE
Gradually increase inhibitory output of the left basal ganglia
Correct biomechanical issues

INITIAL PLAN
12 weeks - Follow up via telehealth in 1 week, then in-person visit a week later.
Plan on in-person visits every other week, this may be modified.

HOME EXERCISES
1. 6/12 breathing 3x
2. Slow chair spins – clockwise (to the right) with fixation.
   a. Sit in swivel chair
   b. Hold up target in front of face at eye level – distance you would read a book at
   c. Turn slowly clockwise while staring at the target.
   d. A turn should take 7-8 seconds each
   Go around 3x, pause 10 sec, 3 more spins, 10 sec pause, 3 more spins
3. 6/12 breathing 3x
4. Right hand ball bounce and catch
   a. 3 tries to get 30 overhand catches **in a row** with no errors.
      i. If there is an error start over (on the third try, if there is an error, just keep going until you get to 30 catches total)
      ii. Errors – drop, underhand catch, using your body to help catch, taking a step.

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ADDITIONAL HOME INSTRUCTIONS
1. Probiotic – Nutridyn Ultrabiotic daily, once per day- at or before breakfast works well.
2. Discuss bedtime and waking routine
3. Anticipate additions/changes to this plan
4. Anticipate some increased impulsiveness initially

INITIAL GOALS
1. Resting heart rate <78
2. Right carotid compression slows heart rate x3
3. Rhythmic, centered right and left optokinetic nystagmus x3
4. Rhythmic, brisk, centered up and down optokinetic nystagmus x3
5. 30 in a row saccade to target without error
6. 100 down left-up right slow pursuits in a row
7. 100 right hand bounce catch in a row
8. No asymmetrical sway noted during Romberg's test in compliant foam for 30 seconds
9. No asymmetrical arm/hand position on arm raise, finger to nose, piano playing
10. No rightward or clockwise deviation during Fukuda testing with and without dual task

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12 y/o girl, mood & sleep issues, Zoloft

FOCUS OF CARE
Biomechanical correction – spinal alignment, proper muscle balance
Establish restorative sleep
Increase activation of the inhibitory output of the right basal ganglia

INITIAL PLAN
- 8 weeks
- office visit 2x per week for 2 weeks, then plan on 1x per week,
- daily home exercises and instructions

INITIAL HOME EXERCISES
1. 6/12 breathing 3x
2. Corner stretch – 10 seconds, 5x
3. 6/12 breathing 3x
4. 3 tries to bounce and overhand catch a ball 20x in a row with the LEFT hand, exactly the same way, over and over again, without error (miss, step, underhand, trap against body)
   Do this 2x through, 1x per day

ADDITIONAL HOME INSTRUCTIONS
1. Sleep
   a. Use the 6/12 breathing when trying to fall asleep
   b. No screens in bedroom, bedroom should be very dark
   c. You can listen to music or other soft – calming audio for 30 minutes in bed if you wish.

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   d. Get up at the same time each morning – 7 days a week – 8 am. Get out of bed within 5 minutes. Can go relax in another room if you wish, but you should be sitting up and lights on.

2. Additional instructions
   a. Use 6/12 breathing exercise if feeling anxious
   b. Take Trancor (Metagenics product) supplement. 1 morning, 1 evening.
   c. Expect these recommendations to change over the coming weeks

INITIAL GOALS
1. No tenderness in the neck with firm palpation
2. Straight leg raise ROM equal right and left
3. Pupillary light responses symmetrical
4. Rhythmic, centered right and left optokinetic nystagmus x3
5. No dysmetria noted finger to nose bilaterally
6. No tympani in abdomen
7. Falling sleep within 30 minutes of lights out most nights
8. Exercise series, Trancor and wake-up/get-up happening every day

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Role of biomechanical correction

- Stimulus from body- goes into sensory system
- Triggers consideration for a response…..lets say…
- Response occurs….but the stimulus comes back again…trigger…response…trigger…….
- Very low threshold for trigger or wind-up occurs; setting off the motor response with minimal trigger

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Role of biomechanical correction

- Strengthen the filtering system (BG & GABA)
- Eliminate (minimize) all the unnecessary stimulus that the body/mind may "need" to respond to
  - Light/sound
  - Emotional stressors
  - **Abnormal proprioceptive/nociceptive inputs (subluxation)**
- Sensory filtering has less to deal with and the motor system is further from threshold…..it can become more properly inhibited.

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Sage Journals

Review

Maintaining a Dynamic Brain: A Review of Empirical Findings Describing the Roles of Exercise, Learning, and Environmental Enrichment in Neuroplasticity from 2017-2023

Katrina A. Milbocker[a], Ian F. Smith[b], and Anna Y. Klintsova[b,*]

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TP TRANSLATIONAL PEDIATRICS

Tourette's disorder in children and adolescents

Etiology

Go to:

Etiologic underpinnings for Tourette's disease and chronic motor tic disorder include central nervous system (CNS) dopamine metabolism dysfunction with circuitry abnormalities in CNS structures as the frontal (prefrontal) lobe, striatum, globus pallidus and thalamus; dysfunction occurs with the connections of the basal ganglia and cortical areas. The improvement noted with neuroleptic medication supports the dopaminergic dysfunction theory for tic disorders.

Other metabolic derangements have been studied in Tourette syndrome. Pourfar *et al*. looked at glucose utilization in the basal ganglia, increased activity in the premotor cortex as well as cerebellum and decreased resting activity of the striatum along with the orbitofrontal cortex (10).

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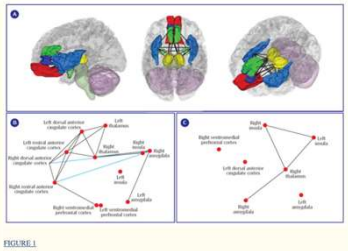


FIGURE 1
Patterns of Coactivation Correlations (Kendall's tau b) Between Frontal, Thalamic, and Limbic Regions of Interest[a]

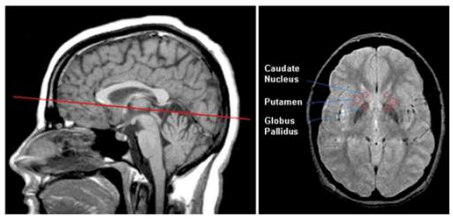
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Brain Imaging Behav. 2010 Mar; 4(1): 35–45.
Published online 2009 Dec 12. doi: 10.1007/s11682-009-9083-2
PMID: 20503112

Basal Ganglia MR Relaxometry in Obsessive-Compulsive Disorder:

Fig. 1



Representative images showing slice location for T2 measurements (*left*) and region-of-interest placement (*right*)

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