

ADD/ADHD - Lecture notes: August 27, 2019

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The information provided in this handout is for educational purposes only, and should not be considered medical advice or instruction. Any individual considering this information should consult first with their physician about any of the information provided in this handout.

Diet: The Mediterranean Diet may be the most healthy diet to follow. It is loaded with colorful vegetables, nuts, berries and whole fruits, whole grains, fish, olive oil. Giving your child a high protein breakfast and lunch will keep their blood sugar levels more stable contributing to better focus during the school hours.

Sleep: Getting high quality sleep is critical in managing ADD/ADHD -30% of children and 60% of Adults have sleep issues - 100% of kids with ADHD are deficient in delta sleep. 30min of sleep restriction degrades school performance and emotional regulation.

Avoid: Sugar especially refined sugar and fruit juices. Children with ADD/ADHD are more sensitive to blood sugar (up and down rollercoaster) - high intake of refined carbohydrates ie. White bread, white rice, white sugar, white pasta. This robs the brain of a steady supply of blood sugar.

Avoid: Artificial colors and flavors - some children are genetically more sensitive than others to these chemicals and react to them

Consider Food Allergies as a possible contributor to the problem - *dark circles under the eyes, eczema, body odor, headaches are some of the symptoms to look for*

Most Important -

1. Magnesium supplementation - Magnesium is one of the most common deficiencies in our culture and especially those with psychiatric illness and ADHD in particular. Our soils are deficient in magnesium. Stress depletes magnesium - as our cortisol goes up our magnesium levels go down. The phosphates in soda and sugars increase the depletion of magnesium. People with ADHD might have a genetic need for higher amounts of magnesium. Over 90% of children and adults with ADHD need it. **Magnesium and the brain** - is used by 100's of enzymes in the body and the brain. Magnesium modulates the stress response. It works with the GABA receptors in the brain and helps keep us calm and helps the other inhibitory neurotransmitters in the brain. **Magnesium is a sleep aid** - when kids sleep better, they focus better. It is safe and easy to use unless there is serious kidney disease. Avoid using Magnesium Oxide - it is the least absorbable form and causes loose stools. Magnesium Citrate powders that make fizzy drinks work really well for children. Best dose times 2x a day - children 100mg - 2x a day. Adolescents 200mg 2x a day. Take a dose 1 hour before bedtime to support sleep quality. If a child is on a medication for ADHD - magnesium can help lessen the side effects of insomnia. Muscle cramps or spasms such as eyelid twitches and getting startled easily are signs of a magnesium deficiency.

2. **Omega 3 Fatty Acids - EPA/DHA** - The brain is 60% fat by weight and the 2 most important fats for optimal brain function are EPA and DHA. These are long chain fatty acids and support fluidity of the cell membrane. They support brain neurotransmitters and help them get across the brain faster and easier. The frontal part of the brain is called the “Executive Center” and it has a very high level of brain neurons involved with behavior and self control. The newest research is recommending 1,000 to 1,500mg of combined EPA/DHA. This comes out to be 1 teaspoon of fish oil. 1,245mg of combined EPA/DHA. *Look at Barlean’s Omega swirl - Key Lime for the best tasting oil for children - the dose will be closer to 1 TBS a day.*
3. **Zinc supplementation** - Zinc is also involved in many enzyme systems of the body. Excess copper levels can exacerbate hyperactivity. Environmental toxins and chemicals tend to bind zinc such as plastics ie. Phthalates and other endocrine disrupters. Supplementing zinc lowers excess copper levels. 15mg to 30mg a day. Zinc is especially important in reducing hyperactive, impulsive and impaired socialization not in reducing attention deficiency. Symptoms. It can help methylphenidate therapy work better. *You can ask for a zinc test at Brighter Day to check zinc levels. Ask for the info sheet on it.* Zinc lozenges are an easy way for children to supplement zinc. Look for white spots on the fingernails to spot deficiency also low appetite.
4. **Lithium** - Very low dose lithium can be especially supportive for children who are irritable hyperactive and aggressive with poor impulse control. Behavior problem children. Children who hit and get into fights. Doses used are 1/2mg. (500mcgs) per day for children under 8 and adolescents - 1mg up to 5mg a day of Lithium Orotate. Lithium is neuroprotective and neuro-regenerative. Supportive in depression and preventing Alzheimer’s disease. Physicians use up to 20mg a day with teenagers
5. **OPC’s - Grape Seed Extract or Pine Bark Extract (Pycnogenol)** - OPC’s are found in colorful berries such as blueberries, blackberries, cherries and purple sweet potatoes. They have been demonstrated to decrease the inattentive Theta Brain Waves ie.”Daydream” and increase Beta brain waves - focusing paying attention brain waves. Green Tea may help with this also. 50mg to 100mg of Grape Seed extract or Pine Bark extract.
6. **Iron** - low ferritin (iron) is associated with more hyperactivity. Iron also can support the cytochromes in the brain which are associated with solving more complex problems such as mathematics ie. Number crunching. Low iron is associated with fatigue. Iron supports the production of the neurotransmitter dopamine. Teenage girls are particularly susceptible. More iron is needed when growth spurts are happening in children as more red blood cells are being made by the body to support growth.

Replenishing mineral status in the body takes time sometimes several months to get replenished fully.

Other important nutrients:

1. **Vitamin D** - getting at least 1,000 iu's to 2,000 iu's a day is important especially if your child isn't out in the sun a lot. Vitamin D absorbs best when taken with fat. Vitamin D in liquid is tasteless and also in Gummies is an easy way to supplement. Consider asking for blood work.
2. **B-complex** - especially B-6, B-12 and Folate are important - B6 is critical to helping neurotransmitters work optimally. A good children's multi-vitamin can cover many nutrients at one time.
3. **Probiotics** - A healthy biome is fundamental to good health. Encourage children to eat fermented foods such as Yogurt or Kefir and include a diet with lots of fiber. Small amounts of Inulin (a fiber that feeds beneficial probiotic bacteria) and it tastes like sugar can be added to any food and really support beneficial probiotics in the gut.
4. **Chromium** can be supportive if blood sugar issues show up. It is the most important mineral in balancing insulin and blood sugar.
5. **L-Theanine** - very supportive along with magnesium for supporting quality sleep. L-Theanine supports Alpha waves in the brain. Good support for a hyper/mind

Botanicals for Brain and Focus:

1. **Bacopa** - Works for the overwhelmed child. It works slowly so be patient with its use. Traditional use brain tonic, it repairs damaged neurons - restoration of neuronal synthesis memory, learning, concentration, neuroprotective, increases cerebral blood flow increases GABA (anti-anxiety). 5 studies done on ADD - improvements in the language and cognitive and memory both in hyperactivity and attention deficit domains. Standardized extracts 100 - 200mg a day for children. Liquid extracts 1 eyedropperful 3x a day. Give it time 12 weeks (3 months).
2. **Ginkgo Biloba** - Increases blood supply to the brain. Nootropic action stimulates nerve transmission by increasing acetylcholine receptors. A study comparing it with methylphenidate to be effective but less effective but less side effects. 60mg - 2x a day
3. **Saffron - Crocus Sativus**. This botanical enhances blood flow to the brain and is showing benefit in studies with depression equal to medications. Study used 20 - 30mg of saffron a day - it was found to be effective similar to methylphenidate 20 - 30mg a day in the treatment of ADHD in children. Give it 3 weeks.
4. **Gotu Kola - Centella Asiatica**. Used in Aruvedic Medicine in India. It supports memory retention, Increases GABA, Neuroprotective, Decreases stress while improving memory and concentration, promotes calm and clarity. Liquid extract 1:5 - 2 eyedropperfuls 3x a day
5. **Lemon Balm - Melissa officinalis**: Used frequently in children's formulas - it enhances cognitive function, lifts mood, improves sleep quality, improves attention. Great tasting as a tea 1 - 2 tsp of dried leaf in 8 oz of water - steep 15 minutes. Tincture 1:5 - 3ml 3 to 4x a day
6. **Hawthorn - Crataegus**. Traditional Cardiac herb great support for children. Nervousnes, sympathetic overdrive, restless agitation, anxious/agitated individual, not grounded. ADHD consider it in combination with lavender, lemon balm and wild

oat. Planetary Formula's Calm Child. Tea 1 tbsp dried berries - 8oz of water decoct 45min - slow boil

- 7. Chamomile - Matricaria** - Nervine, used for irritability, sensitivity, restlessness, difficulty with falling asleep, restless, can't sit still. Tea 1 - 2 tsp flowers in 8oz of water steep 15 - 30 min.
- 8. Passion flower**- Enhances GABA - anti-anxiety, good for restlessness, busy mind insomnia a nutritive tonic for the nervous system. Tea 1tsp to 1 tbsp per cup of H2O
- 9. Ashwaganda - Withania somnifera** - restores circadian rhythms, GABA agonist, relaxing tonic, nervine, anxious individuals with ADHD - bad taste - capsules
- 10. Rhodiola** - Adaptogen for energy, focus and depression increases mental performance particularly the ability to concentrate. Works really well for adults combined with OPC's

Other Nutrients:

- 1. Acetyl L-Carnitine** - An amino acid that crosses the blood brain barrier and increases the energy production in the brain used for memory and learning. **Used** for inattentive type ADHD 50mg per Kg per day. Improved hyperactivity in young boys
- 2. DMAE** - a nutrient that increases acetyl-choline for learning and memory
- 3. Glycine** - an amino acid that supports GABA production in the brain and lowers epinephrine and norepinephrine. Used to help lower anxiety levels and to calm a busy "overwhelmed" brain - it tastes like sugar. Use it to sweeten a calming tea to further enhance its effects.

Spearmint Tea for mental focus ie. Homework Tea: Studies have shown it helps working memory. 1 Tbsp. In 8oz of boiling hot water - cover and let steep for 10min. Strain and drink

Another tea recipe - Dr. Mary Bove's - Quick Brain Boosting Tea;

Mix 1/2 oz of Peppermint, Spearmint, Rosemary, Gotu Kola - blend in a jar
Use 1 Tbsp. Of the blend in 8oz of boiling water, steep covered for 10min, strain and drink warm.

Green Tea can help with calming mental focus - the L-Theanine relaxes the mind for less distracted thinking and the small amount of caffeine helps keep the energy up - drink only in the early afternoon

Holy Basil - Tulsi Tea - Holy Basil has a calming and uplifting effect on the mind and mood.

References:

James Greenblatt MD - *The Peoples Pharmacy show number 1107 Natural Remedies for ADHD - Finally Focused May 9, 2017*

Mary Rondeau ND, RH (AHG) - *Attention and Focus - lecture Medicines from the Earth 2019 Conference - Black Mountain NC - June 1 - 3 2019*