PROTOCOLS FOR OPTIMAL MITOCHONDRIAL SUPPORT

Where to Start With Supplements

To bring energy into your system, ideally, it is recommended to take all supplements in this protocol. These essentials can be taken together at the same time.

1. Ubiquinol CoQ10 with PQQ 100 mg, 1-2 times/day
2. Magnesium: minimum of 600 mg daily in divided doses, including before bed for sleep support. Ensure you get chelated magnesium from at least 3 different forms (Chelated magnesium forms end in “ate”: e.g. mag glycinate, mag malate, etc.), Add up all forms for an approximate total daily dose of elemental magnesium = 600-1500 mg.
3. N-acetylcysteine (NAC): 600-900 mg twice daily, ideally best taken between meals
4. Vitamin D3, K2: 5000 IU daily, ideally with food.
5. Vitamin A: 5000-10,000 IU daily, ideally with food
6. Selenium: 200 mcg daily
7. Vitamin B1: 100 mg daily
8. Alpha Lipoic Acid: 600 mg daily, up to 2 times daily. Take in divided doses, with meals.
9. Forbose by Bullet Proof: 2 capsules daily
10. NAD+ (please refer to the NAD+ chart)

Consider referencing Dr. Aimie’s Basic Protocol for Supporting the Body’s Trauma Response and the Full Protocol Optimal Mitochondrial Support Protocol in FullScript.

Lifestyle

Diet

- Avoid simple sugars & fructose, alcohol, and wheat (avoid both gluten & gliadin)
- Increase good fats and protein
- Avoid foods that trigger reactions of any kind
- Bring in power foods to support brain mitochondria:

Wild-caught Alaskan Salmon	Blueberries
Seaweed	Green Tea
Avocado	Organic Grass-fed Meats
Nuts (watch for mold)	Coconut Oil
Olive Oil	Broccoli
Spinach	Pomegranates

Sleep/Rest:

- Tracking your symptoms in order to avoid wearing down into overwhelm and bringing in a strategic nap (sensory rest) before moving into overwhelm can pull your system back very powerfully by avoiding a flare-up of symptoms or leading to a progression of disease.
    - Plan for a daily power nap, ideally in the early afternoon around 1 or 2 pm. With high fatigue, take a nap every 3-4 hours.
        - 2 naps daily: nap 3-4 hours after waking, then again in early afternoon
    - Power naps: best support for the brain is 27 minutes
    - Create a safe soothing place:
        - eg. bedroom, where it's dark, cool and quiet for your nap.
        - The goal is to give your nervous system a sensory rest.
    - You can listen to soothing music without words, meditation, a boring audiobook, or have white noise to block out sounds
    - If you don't have blackout curtains, try wearing an eye mask - avoid any lights stimulating your system.
- Sleep Hygiene: make the room dark, remove any computers or phones at least an hour prior to sleeping, bring in a lovely night time practice with somatic work and stretching, avoid going to bed too late

Nature

- Spend time in nature with exposure to sunshine

Movement

- Avoid over exercising
- Qigong: https://www.youtube.com/watch?v=_6Y8QSVyYhM
- Donna Eden's Daily Energy Routine

Holistic Tools

- **Somatic practice:**
    - Throughout the day, continue to track which state your nervous system is in and identify triggers as well as patterns that reduce your energy.
        - This allows you to structure your day in order to stay within your window of tolerance.
    - Maintain a basic daily somatic practice to open up the body's freeze response

Digging Deeper to Personalize Mitochondrial Tools for Clients With Specific Deficiencies/Genetic Influences

When looking at each individual case, consider the following to determine if there are any additional nutrient deficiencies that may be impacting the macronutrient breakdown, ATP development, or transport of the mitochondria.

Phase 1: Getting Calories into the Mitochondria

- Butyrate and/or MCT oil (short and medium-chain fats that can enter cells without assistance)
- L-Carnitine to support transport of long chain fatty acids into the mitochondria in order to use fat for energy (Beta-oxidation).
- Heat and movement are always a good way to improve blood flow to cells in a specific area.
    - Digestive issues resulting from poor mitochondrial energy production may benefit from laser therapy and heat to improve blood flow.
    - Those with diabetes or other diseases that impair blood flow need to be especially intentional to optimize their blood flow to areas of their body where they experience symptoms.

Phase 2: Breaking Down Macronutrients (Carbohydrates, Protein, Fats) through the Krebs Cycle

Required Nutrients:

- Glutathione
- Iron
- Magnesium
- Manganese
- B1, B2, B3 (NAD+)
- Pantothenic Acid (B5)
- Alpha Lipoic Acid
- CoQ10
- Zinc
- Taurine
- Melatonin
- Caffeine

Note: the following are inhibitors:

- toxins or mold - will consume a lot of glutathione to clear
- functional deficiencies of required nutrients
- anemia (low iron)
- chronic viral infections/Lyme

Phase 3: Energy (ATP) Production and Transport

Required Nutrients:

- Oxygen
- CoQ10
- Vitamin C
- Vitamin K
- Alpha-Lipoic Acid
- Magnesium
- Phosphatidyl-Choline
- Niacin (B3)
- Riboflavin (B2)
- Vitamin B12

Note: Inhibitors:

- **Methylation Imbalances**

  Nutrients Needed for Methylation In Energy Production:

  - Super B Complex (avoid folate if undermethylation)
  - TMG/Betaine 500 mg twice daily
  - SAMe 200 mg once daily (Avoid if you are a confirmed over-methylator; for undermethylators, follow your recommended daily dose.)

Phase 4: Stabilizers of Energy (ATP)

- Magnesium (Transporter requires energy (ATP) to get Magnesium into the mitochondria)
- N-Acetyl-Cysteine helps make more glutathione in the mitochondria to clear the oxidative stress