Metabolic Rehab Protocol

Description:

Chronic severe overtraining and extreme dieting both constitute a major source of metabolic stress to the body. The human body is designed for acute stress and then rest and recovery, not chronic stress and incomplete recovery. When chronic stress is placed on the body repeatedly, some may suffer varying degrees of metabolic dysfunction leading to unaccustomed weight gain, inability to lose weight, fatigue, digestive disruption, reproductive disorders, hormone resistance and chronic disease conditions (fibromyalgia, chronic fatigue syndrome, etc.).

Relevant science:

The sympathetic and parasympathetic nervous system in the body oversees the dualistic and diphasic nature of human metabolism. When this balance is broken for long periods of time or in an extreme nature, the body’s natural ability to find homeostasis is compromised. This dysfunction then has a domino impact on the endocrine system, the immune system and cellular bioenergetics leading to complete neuroendocrineimmune dysfunction.

The Metabolic Rehab Protocol

1) Balance the sympathetic and parasympathetic. STOP all long distance cardio, all metabolic conditioning, and all traditional interval training.
2) Restore HPA axis function. This is done through the exercise therapies, supplementation and relaxation practices below.
3) Digestive Repair. The 4R program (see separate protocol)
   • Remove offending agents (foods, infections, etc.) that are compromising GI function.
   • Replace digestive enzymes and/or HCL that was suppressed from high sympathetic (fight/flight) and low parasympathetic (rest/digest) function
   • Repopulate with good bacteria that aid gut integrity and immune system balance.
   • Repair the atrophied gut lining from chronic stress
4) Replete nutrients. Focus on zinc, magnesium and the B-vitamins (metabolic complex and magnesium glycinate). This includes the use of fat and amino acids
to restore brain chemistry. Vitamin D is another issue. Test through your physician. If number below 50ng/ml ask physician about supplementation.

5) Restore membrane integrity. This comes from fat supplementation along with phospholipids. Krill oil is the best and most useful oil in this regard as are the more stable saturated fats.

6) Metabolic restart happens. Switch over to more stimulating adrenal adaptogens including the ginsengs (i.e. replace Rhodiola and/or Ashwagandha with Adaptocrine) and begin to use higher doses of mitochondrial factors lipoic acid, acetyl-L-carnitine, and co Q10.

**Total time for the metabolic rehab protocol depends on the person. There is much individuality and tailoring to the person. Typical time period for recovery is 3 to 12 months (some shorter some longer)**

**Diet:** A high protein, high vegetable and higher fat diet with controlled starch intake based on the person. The calories and/or carbs should be kept low at first and gradually normalized otherwise weight gain can be very fast. Suggested caloric intake at 10 X body weight. Suggested total carb intake at 20% of dietary calories spaced after workouts and before bed. Consider the use of liquid meals and amino acids due to digestive compromise. Consider the use of high water vegetables (celery and cucumbers), fiber supplements, cocoa powder and BCAA to control the insatiable hunger and cravings that are a part of this issue. (See separate metabolic rehab diet sheet)

**Supplements:**

Stage 1, 3-12 months (depending on recovery):

1) Rhodiola Rosea (standardized to 2-3% rosavins). 400mg daily. Best for those suffering mental and physical fatigue. Can cause overstimulation in some in which case use ashwagandha.
2) Ashwagandha. 500mg daily. This is best for those with physical exhaustion but mental stimulation (wired but tired).
3) Krill Oil (look for only neptune krill oil (NKO). 1-3g daily.
4) Coconut oil- 1-2 tablespoon daily used in cooking, shakes or taken straight.
5) Metabolic Complex- 3 caps twice daily. Replace normal multiple vitamin with this.
6) Magnesium glycinate- 300mg twice daily. One dose before bed.
7) BCAA supplements- 5g per 50 pounds of body weight daily in 2-4 divided doses.

Stage 2, during month 1, 2, or 3:

1) 4 R protocol. (See the separate 4R protocol)

Stage 3, after stage 1 (wait until energy levels are stable, and sleep has normalized):

1) Adaptocrine 3 to 9 capsules daily. Replaces rhodiola and/or ashwagandha
2) Acetyl-L-Carnitine- 2-3g daily.
**Exercise Suggestions:**

- Traditional full body weight training: 1-3 times weekly (Squat, Bench Press, Bent-over Row, Military Press. 4 sets of 10 with a 10 rep max). Take plenty of time between sets (3-5 minutes). Shoot for complete recovery between sets.
- Recovery-based interval training: 0-2 times weekly. 1-minute of intense exertion followed by slow motion movement until the heart rate returns to within 10 beats of pre-exercise (resting level). Then repeat another 1-minute burst followed by complete recovery. Repeat for 20 minute taking care not to repeat another bout until complete recovery. This may result in only 1 bout of intense exertion the entire 20 minutes. This is by design. Wear a heart rate monitor. A healthy and reactive nervous system will see the heart rate rise briefly after intense exertion and than fall at least 20 beats within a minute. Do not go again until you are completely recovered to give the parasympathetic system time to engage and practice recovery.
- Leisure walking, restorative yoga (not intense power yoga) and/or tai chi 5-7 days a week. Take care not to do intense and very long sessions of yoga. Leisure walking is a slow walk usually a 3.0 on a treadmill for most.

**Lifestyle Suggestions:**

- Sauna and/or contrast shower therapy. Sauna: stay in until unable to take heat (usually 5 to 20 minutes) come out and take 30s to 60s cold shower. Return to sauna and repeat 3 to 5 times. Always end in cold. Shower: 3-5 minutes hot and 30 to 60s cold. Repeat up to 5 times. Always end in cold.
- Cultivate relaxation and mindfulness by learning and engaging in activities such as mindfulness meditation, massage, hot Epsom salt baths (4 cups to a tub), laughter, sex, sun bathing, reading, journaling, alone time, quiet times, sleep/naps, etc.