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TREATMENT PLAN FOR :

Jennifer Lawrence

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Health Goals	<ol style="list-style-type: none">1. Detoxify body of Mercury.2. Support detoxification systems (liver, lymphatic, kidney, bowel)3. Ensure overall health is robust to support detox process.
Diet	<ul style="list-style-type: none">- Green smoothies every day, for months on end– kale, celery, green apple, broccoli, etc. Cruciferous veg are high in glucosinolates – a form of sulphur that helps your liver detox. Are also high in fibre helping to bind to mercury that needs to be excreted. I would suggest 2 green veg + berries (organic, antioxidants) + turmeric and black pepper + PHGG + vitamin C + bentonite clay.- Must make sure your body well fortified. Sunlight, movement, grounding, nourishment, clean water.- 2-3 Litres of water a day. Support lymphatic movement, bowel movement. Detox process.- Protein intake must be adequate to support liver detoxification functions (enzymes that detox stuff in the liver are made from amino acids from protein).- High intake of anti-inflammatory foods (turmeric, spices).- Avoid mercury containing fish – try eat fish low on the food chain (small fishes like anchovies, sardines) and try buy best quality, organic, ethically sourced etc. 2-3 times per week.- Organic fruit and veg – avoiding intake of more toxic substances that burden detoxification systems.-
Lifestyle	<ul style="list-style-type: none">- Walking each day to support lymphatic movement.

	<ul style="list-style-type: none"> - Daily bowel movements – a least 1 if possible. 2 is great.
Barriers	-
Referral/Investigations	<ul style="list-style-type: none"> - Re-test hair in 3-6 months
Prescription	<ul style="list-style-type: none"> - See Osborne Prescribe - - Chlorella/selenium/clay for <i>mercury detox</i> - NAC, liver support herbs, selenium for <i>liver support</i> - Vitamin C, NAC, selenium <i>antioxidant defence</i> - PHGG for fibre to bind and <i>excrete</i> mercury from bowels
Recipes:	-
Other	<p>It's actually perfect that you've already been taking the herbal liver support pills as well as the maritime pine and rosemary mix because we've supported your liver before starting.</p> <p>Prior to detoxing from heavy metals its usually advised that liver support is given an that other pathways of elimination (bowels) are working well. If you are to start a detox with someone who is constipated and who's liver isnt' functioning, this can cause really unfortunate effects and reuptake of the heavy metal.</p> <p>This Mercury level is of priority to treat! Once we reduce the mercury we can assess your new baseline of health and see what does and possibly does not need attending to! You may find your nervous system functions better, extremities are less cold, less brain fog etc.</p>
	<p>If you're curious here's a summary of the following 3 papers findings:</p> <p>1.</p> <p>Evaluation of mercury adsorption and removal efficacy of pulverized <i>Chlorella</i> (<i>C. vulgaris</i>) https://link.springer.com/article/10.1007/s10811-020-02052-0</p> <p>The study investigated whether the green algae <i>Chlorella vulgaris</i>, which is consumed as a dietary supplement, can effectively remove toxic mercury from the body.</p> <p>The researchers tested how well pulverized (powdered) <i>Chlorella</i> could adsorb and bind to mercury under different conditions like:</p> <ul style="list-style-type: none"> - Amount of <i>Chlorella</i> used - Contact time with the mercury - Mercury concentration - Simulated stomach and intestinal fluids - Different acidity levels (pH) <p>They found that <i>Chlorella</i> was able to significantly adsorb and bind mercury. The maximum mercury adsorption capacity was 111 mg per</p>

gram of Chlorella in water, 83 mg/g in simulated stomach fluid, and 125 mg/g in simulated intestinal fluid.

In experiments with mice, supplementing with Chlorella significantly reduced the deposition and levels of mercury in tissues like the liver and kidneys. Chlorella facilitated the excretion of mercury from the body through feces.

Overall, the pulverized Chlorella vulgaris showed promising ability to adsorb and remove mercury from the body, suggesting it may be an effective agent to counteract mercury toxicity when consumed as a supplement.

2.

Mercury and Selenium

<https://doi.org/10.1080/15563650.2017.1400555>

The paper discusses the relationship between mercury toxicity and the mineral selenium in the body. Traditionally, it was thought that mercury caused toxicity by binding to sulfur-containing molecules in the body. However, this review suggests that the real target of mercury toxicity is selenium.

Some key points:

- Mercury has a higher affinity to bind to selenium-containing molecules compared to sulfur-containing ones.
- Mercury impairs important selenium-containing antioxidant proteins like thioredoxin and glutathione peroxidase, leading to increased oxidative stress and cell damage.
- **Mercury depletes the body's stores of selenium needed to make these antioxidant proteins, creating a selenium deficiency state which worsens the toxicity.**
- Methylmercury (from fish) is particularly good at inhibiting the selenium antioxidant system, explaining its increased toxicity to the brain.
- Selenium was initially thought to protect against mercury toxicity, but the review suggests mercury's toxic effect is actually creating a **selenium deficiency state**.
- Supplementing with selenium may help restore levels and function of the selenium antioxidant proteins, reducing mercury's toxicity - but this has limitations.

	<p>In summary, the review proposes that mercury toxicity is centrally driven by impairing the selenium antioxidant system, contrary to the traditional view of just binding to sulfur molecules.</p> <p>3.</p> <p>https://www.tandfonline.com/doi/full/10.1080/24734306.2020.1870077</p> <ol style="list-style-type: none"> 1. The paper proposes a new approach to treating mercury poisoning that focuses on restoring selenoprotein function and reducing oxidative stress, in addition to increasing mercury elimination. 2. It suggests that mercury's primary toxic effect is creating a selenium deficiency state by binding to and inhibiting critical selenoproteins involved in antioxidant defense and calcium homeostasis. 3. Selenium supplementation can help correct this selenium deficiency, restore selenoprotein activity, reduce oxidative stress, redistribute mercury away from target organs, increase demethylation of organic mercury, and facilitate sequestration of mercury into inert mercury-selenium complexes. 4. For organic mercury (methylmercury, etc.), the paper recommends using selenium supplementation along with the chelating agent N-acetylcysteine, which can penetrate the brain and increase glutathione levels. 5. For inorganic mercury, it suggests initially using the chelator unithiol for 2-4 days to enhance renal mercury excretion, followed by switching to N-acetylcysteine combined with selenium supplementation. 6. The thiol chelators succimer and unithiol have limitations, including inability to cross the blood-brain barrier, potential decreased selenium availability, and limited effectiveness for organic mercury forms. 7. Selenium dosing of 100-500 mcg/day for 90 days is suggested initially, with reevaluation based on patient response. N-acetylcysteine dosing is not specified. <p>In summary, the review proposes a selenium-focused approach, combined with N-acetylcysteine chelation, as a more mechanism-based treatment for mercury poisoning compared to prior reliance just on thiol chelators.</p>

NOTE: Lifestyle and dietary recommendations have been provided to support your health goals. If you experience any adverse reactions or discomfort, discontinue the recommendations immediately. We will discuss modifying them during your next appointment. If you have any serious concerns, please contact me for guidance.

Herbal medicines have been prescribed as part of your treatment plan. Like any medication, discontinue their use if you experience rashes, diarrhea, digestive issues, allergic symptoms, or any other adverse reactions that you suspect may be related to the herbs. Please notify me immediately if you experience any such reactions.

Nutritional supplements have been prescribed to address your health condition. If you experience any signs or symptoms that you believe may be associated with these supplements, discontinue them immediately and contact me. Your health and safety are of utmost importance.