

## Treatment Plan for LISA BRADLEY

Date : 20.08.24



**Patient Health Priorities :** Reduce bloating. Support weight loss. Improve thyroid function. Support the nervous system. Reduce LDL and triglycerides. Reduce blood pressure. Support kidney function.

### *Short term*

- Reduce bloating through investigating gastrointestinal system, improving digestion, and improving water retention
- Support weight loss through reduction in energy intake, improvements in thyroid function, improvements in glucose regulation, improvements in lymphatic drainage and dietary strategies
- Improve thyroid function to reduce symptoms of joint pain, fluid retention and bloating, and improve energy levels by supporting conversion of T4 to T3 and improving hormone signalling
- Support the nervous system to improve stress adaptation and resilience through nourishing the adrenals and nerves
- Support normal LDL and triglycerides through improving bile flow
- Reduce blood pressure by supporting normal cardiovascular function, supporting kidney function, and reducing stress

### *Long Term*

- Support the cardiovascular system to reduce the risk of cardiovascular events.
- Support the immune system to reduce the risk of other autoimmune conditions.

## Nutrition Overview for LISA BRADLEY

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| Include the following foods... |  | Target      |
|--------------------------------|--|-------------|
| <b>Water</b>                   |  | 2L/day      |
| <b>Healthy fats</b>            | Fatty fish – salmon, mackerel, anchovies, sardines, herring; flaxseed/linseed, chia seeds, walnuts, olive oil, eggs,     |             |
| <b>Energy</b>                  |  | 8,500kj/day |
| <b>Vitamin A</b>               | eggs, liver (pate), butter, cod liver oil, cod, salmon, green leafy vegetables, apricots, pumpkin, sweet potato, carrots | 700µg/day   |

| Eliminate or limit the following foods... |  |
|---|--|
| <b>Saturated Fat</b>                      | fried foods, dairy products, coconut oil, butter, takeaway foods, bakery goods, commercial biscuits and crackers, fat on meat, ghee, lard, palm oil, sausages, cured meats, ice cream, milkshakes, chocolate |
| <b>Seed oil</b>                           | Eliminate – Canola oil, sunflower oil, corn oil, safflower oil, grape-seed oil, rice bran oil, cottonseed oil, sesame oil,   |
| <b>Soy</b>                                | Due to thyroid risk factors  |
| <b>Gluten</b>                             | Eliminate – wheat (including spelt, durum, kumquat, dinkel), barley, rye, triticale, malt and oats   |
| <b>Goitrogens</b>                         | Reduce – Cabbage, soy, cassava, turnip, kale, sweet potato, lima beans, cauliflower, broccoli, radish, Brussel sprouts, millet   |
| <b>Alcohol</b>                            | Reduce intake as much as possible  |
| <b>Salt</b>                               | Reduce intake to less than 2g per day  |
| <b>Licorice</b>                           | Tea, confectionary   |

*Track your intake using the Easy Diet Diary app (free download)*

## Prescription Overview for LISA BRADLEY

Date : 20.08.24



| PREScription         | Breakfast        | Lunch            | Dinner           | Bedtime |
|----------------------|------------------|------------------|------------------|---------|
| Herbal Tonic - DAY   | 5mL<br>with food | 5mL<br>with food | 5mL<br>with food |         |
| Herbal tonic - SLEEP |                  |                  |                  | 5-15mL  |

*Herbal and nutrient prescriptions are individualised to your own health factors. They should only be taken by the person they are prescribed for. Please advise your naturopath if you commence a new pharmaceutical medication as this may change your herbal/nutrient prescription.*

### Other reminders:

- **Dry skin brushing** - to assist in lymphatic drainage
- **Monitor Blood Pressure** at home

### Testing Recommendations

- Obtain **thyroid antibody** results - testing from 06.06.24 stated antibody results to follow
- **Iron** - due to symptoms of fatigue, and its role in thyroid hormone metabolism
- **Urinary iodine (corrected for creatinine)** - due to iodine's association with autoimmune thyroiditis (both deficiency and excess)
- **Vitamin D** - due to symptoms of fatigue, lack of sunlight through long working hours, and association of deficiency with autoimmunity and hyperparathyroidism
- **Parathyroid hormone** - due to hypercalcaemia, history of slight to moderate decrease in eGFR, elevated urea and elevated creatinine
- **B12, folate** - due to fatigue
- **Selenium** - due to under conversion of T4 to T3, selenium is an essential nutrient in thyroid hormone conversion
- **Complete Microbiome Gastrointestinal Mapping (\$569)** - To investigate gut function, short chain fatty acid production, H. pylori, autoimmune triggers, pathogenic bacteria, commensal bacteria, opportunistic pathogens, fungi, viruses, and parasites.

## Detailed goals and rationale for LISA BRADLEY

Date : 20.08.24



| HEALTH GOAL                        | RATIONALE & INFO   | DOSE  |
|------------------------------------|--|---|
| <b>Herbal Prescription - DAY</b>   | <ul style="list-style-type: none"><li>• Improve liver function by protecting liver cells from oxidative damage, enhancing glutathione production and improving phase I and II enzyme activity using hepatoprotective herbs</li><li>• Improve cholesterol through increased bile synthesis and excretion from the liver using cholagogue and choleric herbs</li><li>• Improve digestion of food by stimulating bitter receptors to improve saliva and bile release using bitter herbs</li><li>• Reduce musculoskeletal pain by reducing inflammation through inhibition of COX-2 expression using anti rheumatic herbs</li><li>• Improve cardiovascular function by improving blood flow, stabilising heart rhythm and aiding strength of contraction using cardio protective herbs</li><li>• Improve adaptation to and resilience to stress by supporting adrenal gland health and function using adrenal tonic, adaptogen herbs and nervier tonics</li></ul> <p><i>Harpagophytum procumbens, Crataegus monogyna, Cynara scolymus, Rehmannia glutinosa, Schisandra chinensis</i></p> | <p><i>Take 5mL in water three times daily</i></p> <p><i>Alternatively, take 7.5mL twice daily</i></p> |
| <b>Herbal Prescription - SLEEP</b> | <p>Improve sleep onset and maintenance by reducing nervous system activity and nervous tension, and improving temperature regulation</p> <p><i>Passiflora incarnata, California poppy, Zizyphus, Scutellaria lateriflora</i></p>   | <p><i>Take 5-15mL at bedtime</i></p>  |

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| <p><b>Increase water intake to 2L per day to support kidney health</b></p>   | <p>Proper hydration helps dilute urine and flush out toxins and waste products from the body, including the prostate, potentially reducing risk of infections and supporting kidney function to reduce the workload of the prostate.</p> <p><b>This is particularly important when increasing fibre in the diet. Fibre increases without adequate water intake may lead to constipation</b></p>  | <p><b>2L per day</b></p> |
| <p><b>Decrease dietary saturated fats to reduce cholesterol, improve cardiovascular health and reduce inflammation</b></p> | <p>Excess saturated fats stimulate NF-κB signalling to increase inflammatory cytokines</p> <p>Saturated fats negatively alter microbiome by decreasing diversity, gram-negative species and short chain fatty acid production, while increasing pathogenic species</p> <p>Reduction of saturated fats:</p> <ul style="list-style-type: none"> <li>• reduces LDL cholesterol, total cholesterol and lowers with risk of cardiovascular events</li> <li>• Improves gastrointestinal microbiome diversity and short chain fatty acid production, leading to a reduction in inflammation</li> <li>• May lead to a small reduction of body weight</li> </ul> <p>Saturated fats are found in fried foods, dairy products, coconut oil, butter, takeaway foods, bakery goods, commercial biscuits and crackers, fat on meat, ghee, lard, palm oil, sausages, cured meats, ice cream, milkshakes, chocolate</p> <p>Research: <a href="https://doi.org/10.1093/advances/nmz125">https://doi.org/10.1093/advances/nmz125</a> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7388853/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7388853/</a></p> |                          |

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| <p><b>Optimise intake of intake of healthy fats to provide energy, reduce inflammation, protect heart health and brain health</b></p> | <p>Include these sources of essential fatty acids in your diet on a regular basis:</p> <ul style="list-style-type: none"> <li>• flaxseed/linseed</li> <li>• chia seeds</li> <li>• walnuts</li> <li>• Hemp seeds, hemp seed oil</li> <li>• Olive oil</li> <li>• Fatty fish – salmon, mackerel, anchovies, sardines, herring</li> </ul> <p>Increase Omega-3 intake by inclusion of fatty fish of 2-3 serves per week, with a serve being 150g. Select fish high in Omega-3, including mullet, salmon (Atlantic or Australian), mackerel, sardine, rainbow trout, bream or silver perch.</p> <p>Research: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7875671/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7875671/</a><br/> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6117694/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6117694/</a> <a href="https://doi.org/10.1111/j.1753-4887.2010.00287.x">https://doi.org/10.1111/j.1753-4887.2010.00287.x</a></p> | <p>Aim for 2-3 serves (150g) of fish per week</p> |
| <p><b>Reduce sugar intake to reduce inflammation</b></p>  | <p>Reduce sugar – the high-dose fructose you get from desserts, honey, fruit juice, and dried fruit. There is no need to reduce fruit, as the fructose in fruit is lower dose and whole fruit contains fibre to slow the spike in blood sugar from fruit.</p>   |   |

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| <p><b>Reduce thyroid antibodies by eliminating gluten</b></p> | <p>There is an association between gluten sensitivity and autoimmune thyroid disease due to shared immunopathogenetic mechanisms and genes. Evidence indicates that the elimination of gluten can decrease thyroid antibodies (TgAb and TPOAb) and improve TSH and T4 levels, by reducing inflammation, reducing intestinal permeability and improving gut microbiota.</p> <p>The molecular structure of gliadin, the protein portion of gluten, closely resembles the structure of the thyroid gland tissues. When gliadin leaves the gut and enters the bloodstream, it is recognized as a foreign protein that stimulates the production of antibodies. These antibodies tag the gliadin but also attack the thyroid tissue, meaning the immune system is attacking the thyroid in individuals with autoimmune thyroiditis.</p> <p>Eliminating gluten 100% from the diet will reduce the antibody response and allow for the intestinal lining to heal from chronic inflammation. Healing the intestinal tract lining decreases intestinal permeability, reducing the potential for larger protein molecules to leak into the blood stream and trigger an inflammatory autoimmune response.</p> <p>Gluten is found in wheat (including spelt, durum, kumquat, dinkel), barley, rye, malt and triticale. Oats are usually contaminated with gluten during production. When undertaking a gluten free diet it is important to be careful of cross contamination.</p> <p>Grains that do not contain gluten, include rice, corn/maize, buckwheat, millet, potato, arrowroot/amaranth, tapioca/cassava, sago, lentil, pea, lupin, quinoa</p> <p><a href="https://pubmed.ncbi.nlm.nih.gov/9872614/">https://pubmed.ncbi.nlm.nih.gov/9872614/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/11768252/">https://pubmed.ncbi.nlm.nih.gov/11768252/</a> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10405818/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10405818/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/30060266/">https://pubmed.ncbi.nlm.nih.gov/30060266/</a></p> | <p>Eliminate</p> |
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| <p><b>Avoid or limit exposure to the following which can reduce thyroid function</b></p> | <p><b>Milk thistle (St Mary's Thistle, <i>Silybum marianum</i>)</b> – contains silchristin which inhibits thyroid hormone transporter MCT8.</p> <p><b>Quercetin</b> – can inhibit TPO and deiodinase enzymes to reduce conversion of T4 to T3, and blocks iodine uptake. Found in hayfever supplements.<br/>Taking under 500mg/day for a short period of time is ok. Long term use is not advised.<br/><a href="https://academic.oup.com/endo/article.149/1/84/2454911">https://academic.oup.com/endo/article.149/1/84/2454911</a><br/><a href="https://www.ncbi.nlm.nih.gov/pubmed/14757961">https://www.ncbi.nlm.nih.gov/pubmed/14757961</a></p> <p><b>Resveratrol</b> – reduces the expression and activity of the NIS symporter and the uptake of iodine. Avoid high doses and long term use.<br/><a href="http://www.ncbi.nlm.nih.gov/pubmed/28668442">www.ncbi.nlm.nih.gov/pubmed/28668442</a></p> <p><b>Environmental Chemicals including:</b><br/> <b>Chlorine</b> –(cleaning products, bleach, pool water, unfiltered water)<br/> <b>Flouride</b> (tooth paste, unfiltered water) – blocks iodine and decreases it's uptake<br/> <b>Pesticides</b> – block iodine uptake. Can results in goitre or hypothyroidism<br/> <b>PCBs</b> (flame retardant's, plastics, foam) – similar in structure to thyroid hormones, binds to thyroid receptors and blocks thyroid hormones from binding<br/> <b>BPA</b> (plastics) – disrupts T3 signalling pathways</p> |  |
| <p><b>Goitrogens</b></p>   | <p>Goitrogenic potency can be reduced by washing, soaking, boiling and cooking these foods.</p> <p>Avoid regular consumption of raw cruciferous vegetables such as cabbage, Brussels sprouts, broccoli, cauliflower, mustard greens, kale, and turnip.</p> <p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4740614/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4740614/</a></p>  |  |

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| <b>Improve thyroid hormone function by reducing soy</b> | <p>Soy or soy enriched foods can reduce T4 absorption and interfere with thyroid hormone action. Soy can increase autoimmune thyroid disease. Soy is goitrogenic.</p> <p>Small amounts of organic soy is not an issue</p> <p>Soy is not an issue when iodine is adequate.</p> <p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4740614/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4740614/</a></p>   | <p>Reduce/limit intake</p>                               |
| <b>Avoid fasting or restrictive diets</b>               | <p>Energy and carbohydrate restriction may substantially reduce thyroid hormone activity – nutritional status and energy expenditure influence thyroid function centrally at the level of TSH secretion and deiodination.</p> <p>Calorie restriction is perceived by the body as starvation, which slows down metabolism and increases cortisol through the stress response. Cortisol can exacerbate the effects of hypothyroidism and Hashimotos.</p> <p>Focus on a balanced and nutrient rich diet with adequate calorie intake.</p> |  |
| <b>Optimise Vitamin A intake</b>                        | <p>Vitamin A is required for thyroid hormone receptor health, allowing receptors to respond to hormones.</p> <p>Vitamin A is also required for vitamin D metabolism.</p> <p>Only a small amount is required and can be easily obtained from the diet</p> <p>Food sources : eggs, liver (pate), butter, cod liver oil, cod, salmon, green leafy vegetables, apricots, pumpkin, sweet potato, carrots</p> <p><a href="https://pubmed.ncbi.nlm.nih.gov/23378454/">https://pubmed.ncbi.nlm.nih.gov/23378454/</a></p>                       | <p>Target : 700µg/day (women)</p> <p>900µg/day (men)</p> |

**Reduce alcohol as much as possible**

Liver : Alcohol consumption has a direct effect on the liver (ALT, GGT and AST are released from hepatocytes in response to liver damage). GGT is a marker of alcohol consumption.

Hypertension : Consuming alcohol affects the renin-angiotensin-aldosterone system (RAAS) . The RAAS is controlled by the kidneys, and its function is to regulate blood pressure through three hormones: renin, angiotensin, and aldosterone. Alcohol increases blood levels of the hormone renin, which causes the blood vessels to constrict, increases include endothelial dysfunction, intracellular calcium accumulation, stimulation of the renin-angiotensin-aldosterone system, elevated sympathetic activity, vasoconstriction, and elevated oxidative stress

Alcohol increases the risk of cancer as it forms acetyl aldehyde and carcinogenic DNA adducts. Endotoxins travel from liver to gut where they degenerate the intestinal cell border, reducing nutrient absorption, increasing inflammation  
Increases risk of allergies, autoimmune disease, hepatic stress, inflammatory disease, bacterial dysbiosis, malnutrition

Impacts B vitamin absorption which impacts esterification processes (B vitamins are unavailable for esterification of fat soluble vitamins, leading to deficiency of Vit A, Vit D, Vit E)

Regular alcohol consumption is associated with pancreatitis, osteoporosis, erectile dysfunction, psoriasis, dementia, cerebral haemorrhage, fatty liver disease, cirrhosis, liver cancer, gastrointestinal cancer, pneumonia, pulmonary tuberculosis, hypertension and cardiomyopathy.

Research: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6826798/> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7522178/>

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| <p><b>Reduce salt intake</b></p>        | <p>Excess sodium is linked to adverse health outcomes, including increased blood pressure. A reduction in salt intake can have a favorable effect on the cardiovascular system, inducing a reduction in BP values in hypertensive patients, but also with possible benefits in the vascular function and in the viscoelastic properties of the large arteries.</p> <p>Sodium is found in high amounts in processed foods such as breads, processed meat and snack foods, as well as in condiments (e.g., soy and fish sauce). Consider reducing sausages, salami, salted olives, salty cheese, soy sauce, gravy mix, stock powder, crackers, potato chips, corn chips,</p> <p>Try adding flavour to foods through the use of dried herbs and spices instead of salt.</p> <p>Check the nutrition panel on foods for low salt options (aim for less than 120mg salt per 100g quantity of food)</p> <p>Research : <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6770596/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6770596/</a> <a href="https://www.who.int/news-room/fact-sheets/detail/salt-reduction">https://www.who.int/news-room/fact-sheets/detail/salt-reduction</a></p> | <p>Less than 2g (2000mg) per day</p> |
| <p><b>Avoid consuming liquorice</b></p> | <p>Licorice contains glycyrrhizic acid which affects the fluid balance in the body through an enzyme in the kidney, this can lead to increases in blood pressure.</p> <p>Sources of glycyrrhizic acid may include herbal medicine, herbal tea and confectionary/lollies.</p>   |                                      |