

## **Treatment Plan for ANGELA WHITE**

**Date :** 13.08.24



**Patient Health Priorities :** Reduce weight. Reduce hyperparathyroidism. Reduce blood pressure. Support nervous system.

### *Short term*

- Reduce weight
- Reduce hyperparathyroidism
- Reduce sympathetic nervous system dominance and cortisol by supporting the nervous system
- Prevent further thyroid nodule development by reducing thyroid antibodies
- Support healthy kidney function
- Prevent osteopenia progression by reducing bone resorption and reducing hyperparathyroidism
- Reduce cardiovascular disease risk by reduce coronary risk ratio, reduce coronary calcium score, reduce apolipo B, reduce blood pressure, reduce LDL, reduce non-LDL and fasting cholesterol

### *Long Term*

- Reduce risk of renal calculi, support methylation, prevent tertiary hyperparathyroidism, reduce risk of osteoporosis and fractures, reduce risk of colon cancer

## Nutrition Overview for ANGELA WHITE

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Include the following foods...		Target
<b>Fibre</b>	<b>Soluble fibre</b> – fruit and vegetables, barley, seed husks, flaxseed, psyllium, oat bran, legumes (lentils, peas, dried beans, soy) <b>Insoluble fibre</b> – wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods <b>Resistant starch</b> – unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice	30g/day
<b>Folate</b>	Dark green leafy vegetables, legumes, rice, avocado, beef liver	400µg/day
<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>EER</b>		7500kj/day

Eliminate or limit the following foods...	
<b>Saturated Fat</b>	Reduce – 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>Sugar</b>	Reduce – Soft drink, juice, lollies, ice cream, honey, some breakfast cereals
<b>Gluten</b>	Eliminate – wheat (including spelt, durum, kumquat, dinkel), barley, rye, triticale, malt and oats
<b>Alcohol</b>	Limit as much as possible
<b>Licorice</b>	Tea, confectionary

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

## Prescription Overview for ANGELA WHITE

Date : 13.08.24



PRESCRIPTION	Breakfast	Lunch	Dinner	Bedtime
<b>Biocuticals Vit D &amp; K2 spray</b> Finish the one you are using, them switch to Biocuticals			Melrose - 6 pumps  Biocuticals - 1 pump	
<b>Nutrient Compound</b>	9.5g	9.5g		
<b>Herbal Prescription</b>	5mL With food	5mL With food	5mL With food	

*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:

- Regular weight-bearing exercise - to strengthen bones and improve resting metabolism
- Focus on gentle exercise to keep the stress hormones nice and low
- Track your daily energy intake (kj) this week using Easy Diet Diary
- Dry skin brushing - to improve fluid movement and elimination
- Safe sun exposure to improve vitamin D levels (Winter - expose as much skin as possible to sunlight for 7-40 minutes at lunchtime most days). Download the SunSmart app to check the UV rating at anytime
- Blood pressure monitoring at home

### Testing Recommendations

- Updated blood tests are required to monitor values

## Detailed goals and rationale for ANGELA WHITE

Date : 13.08.24



HEALTH GOAL	RATIONALE & INFO	DOSE
<b>Nutrient Compound</b>	<p>Support cardiovascular function, heart health and vasodilation to regulate blood pressure</p> <p>Provide nutrients for healthy methylation</p> <p>Improve insulin sensitivity to support healthy blood glucose regulation</p> <p>Improve calcium utilisation</p> <p>Provide antioxidants to reduce oxidative stress and prevent damage to nerves and blood vessels</p> <p>Support the nervous system to regulate GABA, dopamine, acetylcholine</p> <p>Support normal thyroid function in autoimmunity</p> <p><i>Hibiscus sadbariffa</i>, citrulline, taurine, magnesium citrate, ascorbic acid, riboflavin sodium phosphate (activated B2), nicotinamide (B3), pyridoxal 5-phosphate monohydrate (activated B6), folinic acid (activated folate B9), levomefolic acid L-5-MTHFR (activated B9), co-methylcobalamin (activated B12), menaquinone (K2), selenium, inositol, acetyl L-carnitine, histidine</p>	<p>Mix 9.5g into a glass of water twice daily</p> <p><i>Cease taking B vitamins while taking this compound</i></p>
<b>Herbal Prescription</b>	<p>Improve stress resilience and adaptation using adrenal tonic, adaptogen and nervine herbs</p> <p>Promote healing through collagen formation using healing promoting herbs</p> <p>Protect cardiovascular system and promote lowering of blood pressure</p> <p>Improve bile production to reduce cholesterol through excretion</p> <p>Protect liver cells from damage</p> <p>Support normal immune function to reduce autoimmunity and inflammation</p> <p><i>Crataegus monogyna</i>, <i>Centella asiatica</i>, <i>Cynara scolymus</i>, <i>Rehmannia glutinosa</i></p>	<p>Take 5mL three time daily with meals</p>

<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.</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>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 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>

<p><b>Increase fibre to 30g per day to improve blood glucose levels, prevent bowel cancer, and reduce cholesterol</b></p>	<ul style="list-style-type: none"> <li>• Balance gut microbiome to support immunity, support neurotransmitter production and reduce inflammation</li> <li>• Improve bowel function and hormone metabolism – excess hormones are bound to fibre and excreted during bowel movements</li> <li>• improves satiety which help with weight loss, also bind fats and lowers absorption of glucose through delaying gastric emptying</li> <li>• Soluble fibre reduces cholesterol reabsorption, improves hormone elimination and improves satiety, improves faeces bulk</li> <li>• Resistant starch improves microbiome health to produce short chain fatty acids, which may protect against colon cancer and lower cholesterol levels</li> </ul> <p>Research – <a href="https://www.mdpi.com/2072-6643/12/3/859/htm">https://www.mdpi.com/2072-6643/12/3/859/htm</a></p> <p><b>Optimise dietary fibre</b></p> <ul style="list-style-type: none"> <li>• <i>Soluble fibre – fruit and vegetables, barley, seed husks, flaxseed, psyllium, oat bran, legumes (lentils, peas, dried beans, soy)</i></li> <li>• <i>Insoluble fibre – wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods</i></li> <li>• <i>Resistant starch – unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice</i></li> </ul> <p><a href="https://www.eatforhealth.gov.au/nutrient-reference-values/nutrients/dietary-fibre">https://www.eatforhealth.gov.au/nutrient-reference-values/nutrients/dietary-fibre</a></p>	<p><b>Aim for 30g per day from a variety of sources of fruit, vegetables legumes, seeds and wholegrain.</b></p> <p><i>Increase fibre intake gradually to avoid gastrointestinal side effects.</i></p> <p><i>Track your intake using the Easy Diet Diary app (free download).</i></p>
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<p><b>Optimise 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>  <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 and improve blood glucose levels</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>	
<p><b>Prepare goitrogenic foods before consumption</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>	

**Reduce thyroid antibodies by eliminating gluten**

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.

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.

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.

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.

Grains that do not contain gluten, include rice, corn/maize, buckwheat, millet, potato, arrowroot/amaranth, tapioca/cassava, sago, lentil, pea, lupin, quinoa

<https://pubmed.ncbi.nlm.nih.gov/9872614/> <https://pubmed.ncbi.nlm.nih.gov/11768252/> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10405818/>  
<https://pubmed.ncbi.nlm.nih.gov/30060266/> [Eliminate](#)



<p><b>Avoid or limit exposure to the following which can reduce thyroid function</b></p>	<p><b>Milk thistle</b> (St Mary's Thistle, <i>Silybum marianum</i>) – 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. Taking under 500mg/day for a short period of time is ok. Long term use is not advised. <a href="https://academic.oup.com/endo/article.149/1/84/2454911">https://academic.oup.com/endo/article.149/1/84/2454911</a> <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. <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>  <b>Chlorine</b> –(cleaning products, bleach, pool water, unfiltered water)  <b>Flouride</b> (tooth paste, unfiltered water) – blocks iodine and decreases it's uptake  <b>Pesticides</b> – block iodine uptake. Can results in goitre or hypothyroidism  <b>PCBs</b> (flame retardant's, plastics, foam) – similar in structure to thyroid hormones, binds to thyroid receptors and blocks thyroid hormones from binding  <b>BPA</b> (plastics) – disrupts T3 signalling pathways</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>