Treatment Plan for Hayley Ray
Date : 23.04.24

Patient Health Priorities : Improve energy levels, Support general health and wellbeing

Timeline :

Short term

- Improve energy levels / reduce fatigue through herbal medicine and lifestyle strategies
- Reduce cholesterol levels through dietary strategies
- Reduce the risk of worsening bowel and bladder prolapse by improving constipation through dietary strategies
- Reduce period symptoms of pain, clotting and heavy flow through herbal medicine and dietary strategies
- Reduce lower back pain by lowering inflammation through herbal medicine and dietary strategies

Long Term

- Improve nervous system function to support stress adaptation and reduce side effects of night shift work
- Optimise cardiovascular health, nerve health and reduce inflammation to improve lower back pain
- Support immune and thyroid health to reduce the risk of Hashimoto's thyroiditis
- Support gastrointestinal microbiome to improve iron absorption
- Improve metabolic health

Follow Up appointment : 2 weeks prescription with repeat for another 2 weeks, follow up appointment at 4 weeks

Nutrition Overview for HAYLEY RAY
Date : 23.04.24

Include the following foods...		Target
Protein	**Optimal sources** - poultry (chicken, turkey, duck), seafood, eggs **Plant sources** - quinoa, chickpeas, lentils, nuts, seeds, peas, beans, tempeh, hemp seeds, hemp protein powder **Limit** - dairy, red meat, processed meats (bacon, sausages, deli meats) **Avoid** - soy protein (due to thyroid risk factors)	25-30g per meal
Fibre	**Soluble fibre** - fruit and vegetables, barley, seed husks, flaxseed, psyllium, oat bran, legumes (lentils, peas, dried beans, soy) **Insoluble fibre** - wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods **Resistant starch** - unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice	25g/day
Water		2L/day
Essential Fatty Acids	Fatty fish - salmon, mackerel, anchovies, sardines, herring flaxseed/linseed, chia seeds, walnuts	2-3 serves (150g) of fish per week
Iron	**Haem iron sources** : meat (beef, lamb, pork, kangaroo), poultry (chicken, turkey, eggs), seafood (salmon, sardines, tuna) and organ meats (liver, kidney, pate) **Non-haem sources** : ;legumes (mixed beans, lentils, chickpeas), dark green leafy vegetables (spinach, silver beet, broccoli), tofu, nuts, seeds, dried fruit, wholemeal pasta and bread	18mg/day

Eliminate or limit the following foods...	
Saturated Fat	Fried foods, dairy products, coconut oil, butter, takeaway foods, bakery goods, commercial biscuits and crackers
Sugar	Soft drink, juice, lollies, ice cream, honey, some breakfast cereals
Soy	Due to thyroid risk factors

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

Prescription Overview for HAYLEY RAY
Date : 23.04.24

PRESCRIPTION	Breakfast	Lunch	Dinner	Bedtime
BioMedica Bioheme Avoid tea, coffee, soy, dairy and zinc	1 cap (every second day OR Mon/Wed/Fri)			
Raw Wholefood Vitamin C	1 teaspoon			
Rapid D			1	
Herbal Prescription	5mL	5mL	5mL	

Other reminders:

- **Organic Hemp Gold Protein** - plant based protein with complete amino acid profile
- **Cold Water Exposure** - three times per week (please see the handout for more details)

Testing Recommendations

- **Comprehensive thyroid test** $235 - includes TSH, FT4, FT3, rT3, FT3:rT3 ratio and thyroid antibodies (TPOAb, TGAb, TSI/TRAb)
- **Iron studies** - repeat iron studies due
- **Vitamin D** - deficiency may lead to elevated hepcidin levels which reduce iron absorption, Vitamin D status is highly associated with the risk of autoimmunity (FHx Hashimoto's), low Vitamin D status is associated with higher cholesterol
- **Lipid studies** - including total cholesterol, HDL, LDL, VLDL and triglycerides

Detailed goals and rationale for HAYLEY RAY
Date : 23.04.24

HEALTH GOAL	RATIONALE & INFO	DOSE
Reduce weight by optimising protein intake	• increases satiety by increasing hunger-inhibiting hormones (GLP-1, CCK and PYY) and suppress ghrelin. • increases energy expenditure through increases in diet-induced energy expenditure, basal metabolic rate and resting metabolic rate. • Increases muscle mass and prevents muscle loss when ageing • Associated with fat loss while maintaining muscle mass **Minimum intake per day to avoid deficiency :** 45g/day for girls 13-18 years 46g/day for women 19-70 years 57g/day for women over the age of 71 **Recommended amount for weight management** : 1.2 to 1.6g of protein per kg of body weight per day or 25-30g of protein per meal Research : https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7539343/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6087750/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9998208/ https://doi.org/10.3945/ajcn.114.084038	**Target :** 1.2 to 1.6g of protein per kg of body weight per day or 25-30g of protein per meal

Reduce cholesterol, optimise hormone metabolism and gut microbiome by increasing dietary fibre to 22g per day	• Balance gut microbiome to support immunity, support neurotransmitter production and reduce inflammation • Improve bowel function and hormone metabolism – excess hormones are bound to fibre and excreted during bowel movements • improves satiety which help with weight loss, also bind fats and lowers absorption of glucose through delaying gastric emptying • Soluble fibre reduces cholesterol reabsorption, improves hormone elimination and improves satiety, improves faeces bulk • Insoluble fibre bulks faeces, improves constipation and speeds up digestion • Resistant starch improves microbiome health to produce short chain fatty acids, which may protect against colon cancer and lower cholesterol levels Research – https://www.mdpi.com/2072-6643/12/3/859/htm https://pubmed.ncbi.nlm.nih.gov/33803407/ **Optimise dietary fibre** • *Soluble fibre – fruit and vegetables, barley, seed husks, flaxseed, psyllium, oat bran, legumes (lentils, peas, dried beans, soy)* • *Insoluble fibre – wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods* • *Resistant starch – unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice* https://www.eatforhealth.gov.au/nutrient-reference-values/nutrients/dietary-fibre	**Aim for 30g per day from a variety of sources of fruit, vegetables legumes, seeds and wholegrain.** *Increase fibre intake gradually to avoid gastrointestinal side effects.* *Track your intake using the Easy Diet Diary app (free download).*

Increase water intake to 2L per day	Improve bowel function by increasing water intake to normalise stool consistency and transit times (which will improve cholesterol and hormone elimination) **This is particularly important when increasing fibre in the diet. Fibre increases without adequate water intake may lead to constipation**	**2L per day**
Improve iron status through iron supplementation	• Improve production of healthy red blood cells, in the formation of haemoglobin, and in oxygen transport within the body by correcting iron deficiency • Improve immune function through increasing iron availability for macrophage activity and T lymphocyte proliferation • Improve energy levels by supporting ATP production • Improve thyroid hormone synthesis Research : www.Ncbi.nlm.nih.gov/pmc/articles/PMC9219084/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7193469/ Take iron either upon waking or before bed, at the same time every second day, with a vitamin C supplement. Take 6 hours away from heavy exercise. Avoid supplements containing zinc, selenium or calcium at the same time. Avoid tea, coffee, dairy and soy protein at time of taking iron.	**Prescribed** : BioMedica Bioheme 30 capsules Take 1 capsule every second day *** *Place a calender on your fridge and mark it each time you take a capsule OR take your iron on Monday Wednesday Friday if it's easier to remember* ***
Improve iron status through dietary strategies	Optimise iron rich foods to improve iron status Haem iron sources : meat (beef, lamb, pork, kangaroo), poultry (chicken, turkey, eggs), seafood (salmon, sardines, tuna) and organ meats (liver, kidney, pate) Non-haem sources : ;legumes (mixed beans, lentils, chickpeas), dark green leafy vegetables (spinach, silver beet, broccoli), tofu, nuts, seeds, dried fruit, wholemeal pasta and bread	Recommended Daily Intakes **Female 14-18 years : 15mg/day** https://www.nrv.gov.au/resources/nrv-summary-tables

Optimise Iron Absorption through nutritional supplementation of vitamin C	Improves iron absorption by enhancing the bioavailability of iron In addition to improving iron absorption, vitamin C: • Supports healthy immune system function • Supports collagen synthesis to improve skin health	Prescribed : Morning nutrient compound Take each morning with breakfast
Decrease inflammation and improve microbiome through decreasing dietary saturated fats	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 Saturated fats are found in fried foods, dairy products, coconut oil, butter, takeaway foods, bakery goods, commercial biscuits and crackers Research: https://doi.org/10.1093/advances/nmz125	
Reduce inflammation by optimising dietary intake of essential fatty acids	Include these sources of essential fatty acids in your diet on a regular basis: • flaxseed/linseed • chia seeds • walnuts • Hemp seeds, hemp seed oil 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. Research: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7875671/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6117694/ https://doi.org/10.1111/j.1753-4887.2010.00287.x	Aim for 2-3 serves (150g) of fish per week

Reduce inflammation by reducing sugar intake	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.	
Herbal Prescription	Improve fatigue by supporting stress response adaptation using herbal adaptogens and adrenal tonics Reduce period symptoms of dysmenorrhoea, clotting and menorrhagia by improving hormone metabolism using hepatoprotective and oestrogen modulating herbs Reduce back pain and dysmenorrhoea by reducing inflammation and muscle spasm using anti inflammatory and antispasmodic herbs Improve symptoms of brain fog using cognition enhancing and neuroprotective herbs *Schisandra chinensis*, *Bacopa monniera*, *Rehmannia glutinosa*, *Paeonia lacteriflora*, *Viburnum opulus*, *Zingiber officinalis*	