

## **Treatment Plan for Charlotte Ray**

**Date :** 23.04.24



**Patient Health Priorities :** Reduce appearance of acne, Reduce anxiety

### **Timeline :**

#### *Short term*

- Reduce feelings of anxiety through improvements in iron status, nutritional supplementation and herbal medicine
- Reduce appearance and severity of acne by supporting skin barrier function, reducing inflammation, supporting immune system function and hormonal signalling through dietary changes, nutritional supplementation, lifestyle strategies and herbal medicine

#### *Long Term*

- Support immune, lymphatic and respiratory system to reduce the risk of upper respiratory tract infections
- Support gastrointestinal microbiome to improve iron absorption, neurotransmitter synthesis and immune system function

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

## Nutrition Overview for CHARLOTTE RAY

Date : 23.04.24

| 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)<br><b>Insoluble fibre</b> – wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods<br><b>Resistant starch</b> – unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice | 22g/day                            |
| <b>Water</b>                   |                                                                                                                                                                                                                                                                                                                                                                                               | 2L/day                             |
| <b>Iron</b>                    | <b>Haem iron sources</b> : meat (beef, lamb, pork, kangaroo), poultry (chicken, turkey, eggs), seafood (salmon, sardines, tuna) and organ meats (liver, kidney, pate)<br><b>Non-haem sources</b> : ;legumes (mixed beans, lentils, chickpeas), dark green leafy vegetables (spinach, silver beet, broccoli), tofu, nuts, seeds, dried fruit, wholemeal pasta and bread                        | 18mg/day                           |
| <b>Protein</b>                 | Include a source of protein with each meal                                                                                                                                                                                                                                                                                                                                                    | -                                  |
| <b>Essential Fatty Acids</b>   | Fatty fish – salmon, mackerel, anchovies, sardines, herring; flaxseed/linseed, chia seeds, walnuts                                                                                                                                                                                                                                                                                            | 2-3 serves (150g) of fish per week |

| 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                                                                                                                                                     |
| <b>Sugar</b>                              | Soft drink, juice, lollies, ice cream, honey, some breakfast cereals                                                                                                                                                                                                 |
| <b>Dairy</b>                              | Milk, cheese, yoghurt, cream, ice cream etc<br><i>Substitute with coconut yoghurt, sorbet, sheep and goat cheeses. Avoid soy milk. A2 milk can be used when necessary. A frozen banana blended in a thermomix or food processor is a great ice cream substitute.</i> |

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

## Prescription Overview for CHARLOTTE RAY

Date : 23.04.24



| PRESCRIPTION                                                           | Breakfast                                  | Lunch | Dinner               | Bedtime |
|------------------------------------------------------------------------|--------------------------------------------|-------|----------------------|---------|
| <b>BioMedica Bioheme</b><br>Avoid tea, coffee, soy, dairy<br>and zinc  | 1 cap (every second day OR<br>Mon/Wed/Fri) |       |                      |         |
| <b>Raw Wholefood Vitamin C</b>                                         | 1 teaspoon                                 |       |                      |         |
| <b>Nutritional Compound</b>                                            |                                            |       | 7.6g                 |         |
| <b>Herbal Tea</b><br>Away from iron and nutrient<br>compound by 1 hour | 1 cup                                      |       | After school - 1 cup |         |

### Other reminders:

- **Oil Cleansing** : morning and night (see handout)

### Testing Recommendations

Assess microbiome bacteria (beneficial and pathogenic), gastrointestinal markers, gut integrity, viral pathogens which will inform future treatment aims. Once testing is completed we can address the individual microbes that need supplementing, and the foods that are important to support these microbes.

- **Compete Microbiome Mapping (PCR) - GI Map** \$569 - includes macroscopy, SCFAs, functional markers, extensive microbiome mapping, worms, parasites, fungi, yeasts, viral pathogens and h. Pylori
- **Microbiome check** - \$239 - includes macroscopy, digestive markers, limited microbiome mapping, parasites and yeast
- **Iron studies** - repeat iron studies May 2024.
- **Vitamin D** - deficiency may lead to elevated hepcidin levels, reducing the absorption of iron

## Detailed goals and rationale for CHARLOTTE RAY

Date : 23.04.24



| HEALTH GOAL                                                                                      | RATIONALE & INFO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | DOSE                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Optimise hormone metabolism and gut microbiome by increasing dietary fibre to 22g per day</b> | <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>• Insoluble fibre bulks faeces, improves constipation and speeds up digestion</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>• Soluble fibre – fruit and vegetables, barley, seed husks, flaxseed, psyllium, oat bran, legumes (lentils, peas, dried beans, soy)</li> <li>• Insoluble fibre – wheat bran, corn, rive, skins and fruit and vegetables, dried teas, nuts, seeds, wholegrain foods</li> <li>• Resistant starch – unripe banana, lentils, unprocessed cereals and grains, cooked and cooled potato and rice</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 22g 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> |

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Increase water intake to 2L per day</b></p>              | <p>Improve bowel function by increasing water intake to normalise stool consistency and transit times (which will improve cholesterol and hormone elimination)</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>Improve iron status through iron supplementation</b></p> | <ul style="list-style-type: none"> <li>• Improve production of healthy red blood cells, in the formation of haemoglobin, and in oxygen transport within the body by correcting iron deficiency</li> <li>• Improve immune function through increasing iron availability for macrophage activity and T lymphocyte proliferation</li> <li>• Improve energy levels by supporting ATP production</li> <li>• Improve thyroid hormone synthesis</li> </ul> <p>Research : <a href="http://www.Ncbi.nlm.nih.gov/pmc/articles/PMC9219084/">www.Ncbi.nlm.nih.gov/pmc/articles/PMC9219084/</a><br/> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7193469/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7193469/</a></p> <p>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.</p> | <p><b>Prescribed</b> : BioMedica Bioheme 30 capsules</p> <p>Take 1 capsule every second day</p> <p><i>*** Place a calendar 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 ***</i></p> |
| <p><b>Improve iron status through dietary strategies</b></p>   | <p>Optimise iron rich foods to improve iron status</p> <p>Haem iron sources : meat (beef, lamb, pork, kangaroo), poultry (chicken, turkey, eggs), seafood (salmon, sardines, tuna) and organ meats (liver, kidney, pate)</p> <p>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</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Recommended Daily Intakes</p> <p><b>Female 14-18 years :</b></p> <p><b>15mg/day</b></p> <p><a href="https://www.nrv.gov.au/resources/nrv-summary-tables">https://www.nrv.gov.au/resources/nrv-summary-tables</a></p>                                                |

|                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Optimise Iron Absorption through nutritional supplementation of vitamin C</b>                                  | <p>Improves iron absorption by enhancing the bioavailability of iron</p> <p>In addition to improving iron absorption, vitamin C:</p> <ul style="list-style-type: none"> <li>• Supports healthy immune system function</li> <li>• Supports collagen synthesis to improve skin health</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Prescribed : Morning nutrient compound</p> <p>Take each morning with breakfast</p> |
| <b>Decrease skin inflammation and improve microbiome through decreasing dietary saturated fats</b>                | <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>Saturated fats are found in fried foods, dairy products, coconut oil, butter, takeaway foods, bakery goods, commercial biscuits and crackers</p> <p>Research: <a href="https://doi.org/10.1093/advances/nmz125">https://doi.org/10.1093/advances/nmz125</a></p>                                                                                                                                                                                                                                                                                                                                               |                                                                                       |
| <b>Support healthy skin barrier and reduce inflammation by optimising dietary intake of essential fatty acids</b> | <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> </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>                                     |

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                   |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| <b>Reduce inflammation and hormone precursors by reducing sugar intake</b>        | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   |
| <b>Reduce inflammation and hormone (androgen) precursors by eliminating dairy</b> | <p>Dairy contains insulin-like growth factor 1 (IGF-1) which increases sebum production leading to increased severity of acne.</p> <p>Eliminate all dairy, including milk, cheese, yoghurt, cream, ice cream etc</p> <p>Substitutes:</p> <ul style="list-style-type: none"> <li>• coconut yoghurt (CocoBella have some delicious flavours)</li> <li>• frozen banana blended in a thermomix or food processor is a great ice cream substitute.</li> <li>• sheep and goat cheeses are ok</li> <li>• Try almond milk (I recommend Pure Harvest Organic Almond Unsweetened)</li> <li>• Avoid soy milk.</li> <li>• A2 milk can be used when if absolutely necessary</li> <li>• Butter is ok</li> </ul> <p>Research: <a href="https://pubmed.ncbi.nlm.nih.gov/15781674/">https://pubmed.ncbi.nlm.nih.gov/15781674/</a></p> | Eliminate to 0 serves per day for the next 12 weeks then reassess |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Herbal Infusion</b>   | <p>Improve acne through reducing inflammation and supporting normal immune function using herbal immunomodulators and anti inflammatory herbs</p> <p>Improve acne by reducing sebum production through normalising serum androgen levels (including 5α-reductase) with anti-androgenic herbs</p> <p>improve acne by reducing extracellular metabolites by encouraging detoxification and elimination through all channels of elimination (skin, lungs, kidneys, GIT, liver) using alteratives/depurative and lymphatic herbs</p> <p>Ingredients : <i>Arctium lappa</i>, <i>Echinacea spp.</i>, <i>Mentha spicata</i>, <i>Zingiber officinalis</i>, <i>Glycyrrhiza glabra</i>, <i>Calendula officinalis</i></p> |  |
| <b>Nutrient Compound</b> | <p>Improve acne through reduction in sebum, androgens and bacteria using nutritional supplementation</p> <p>Improve acne through supporting skin healing and improving barrier function using nutritional supplementation</p> <p>Reduce anxiety through calming the nervous system and improving sleep using nutritional supplementation</p> <p>Ingredients - Magnesium citrate, Magnesium glycinate, zinc picolinate, l-theanine, glycine</p>                                                                                                                                                                                                                                                                 |  |