

Prostate Cancer – Part Two

Nutritional support whilst undergoing treatment and principles of detoxification

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Summary of what we discussed in Part One

- Contributors and risk factors in Pca
- Hormonal considerations
- Nutritional and lifestyle factors relevant to Pca
- Nutritional interventions



What we will cover in Part Two

- Principles of detoxification
- Common side effects of treatment
- Diet and other interventions to manage common side effects
- Useful supplements
- Focus on radio- and chemotherapy



Poll 1



Principles of Detoxification



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Principles of detoxification

Why should we want to 'detoxify'?

- **Remove the source of toxicity** which may be linked to illness
- Remove the **by-products of inflammation** and reactive oxygen species (ROS) that cause tissue damage
- Manage the by-products of treatment
- Help healthy tissue regenerate



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Principles of detoxification

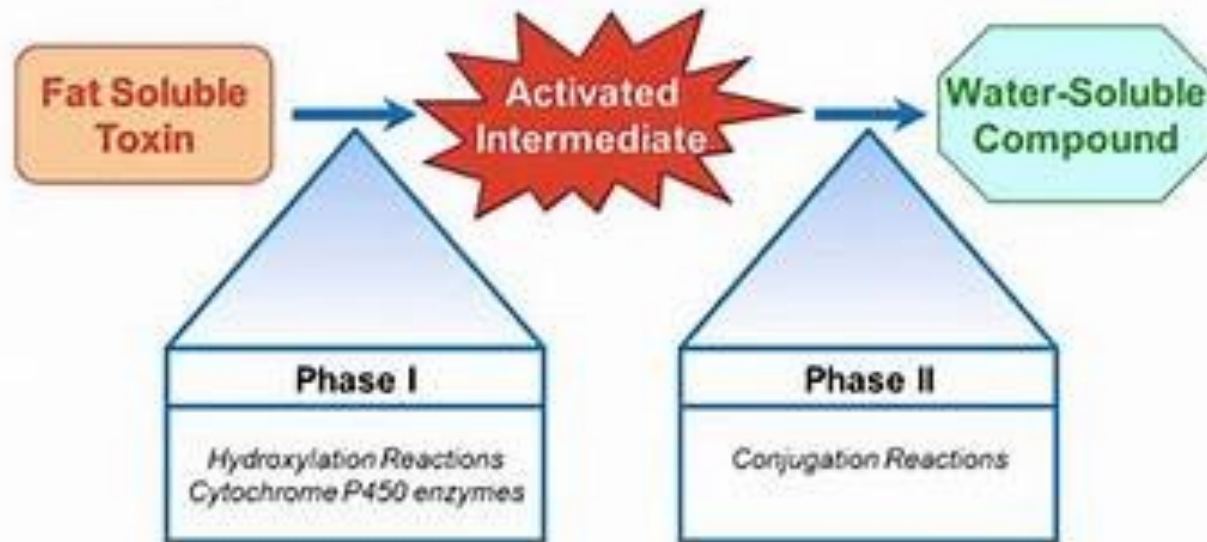
Which organs are primarily responsible for detoxification?

- Gut (microbiome, stool excretion)
- Liver (enzymatic breakdown of toxins, bile production)
- Kidneys (filtration and elimination of toxins)
- Lungs (breathing out toxic gases)
- Skin (perspiration)



Liver detoxification

Two Major Pathways of Detoxification



Liver detoxification

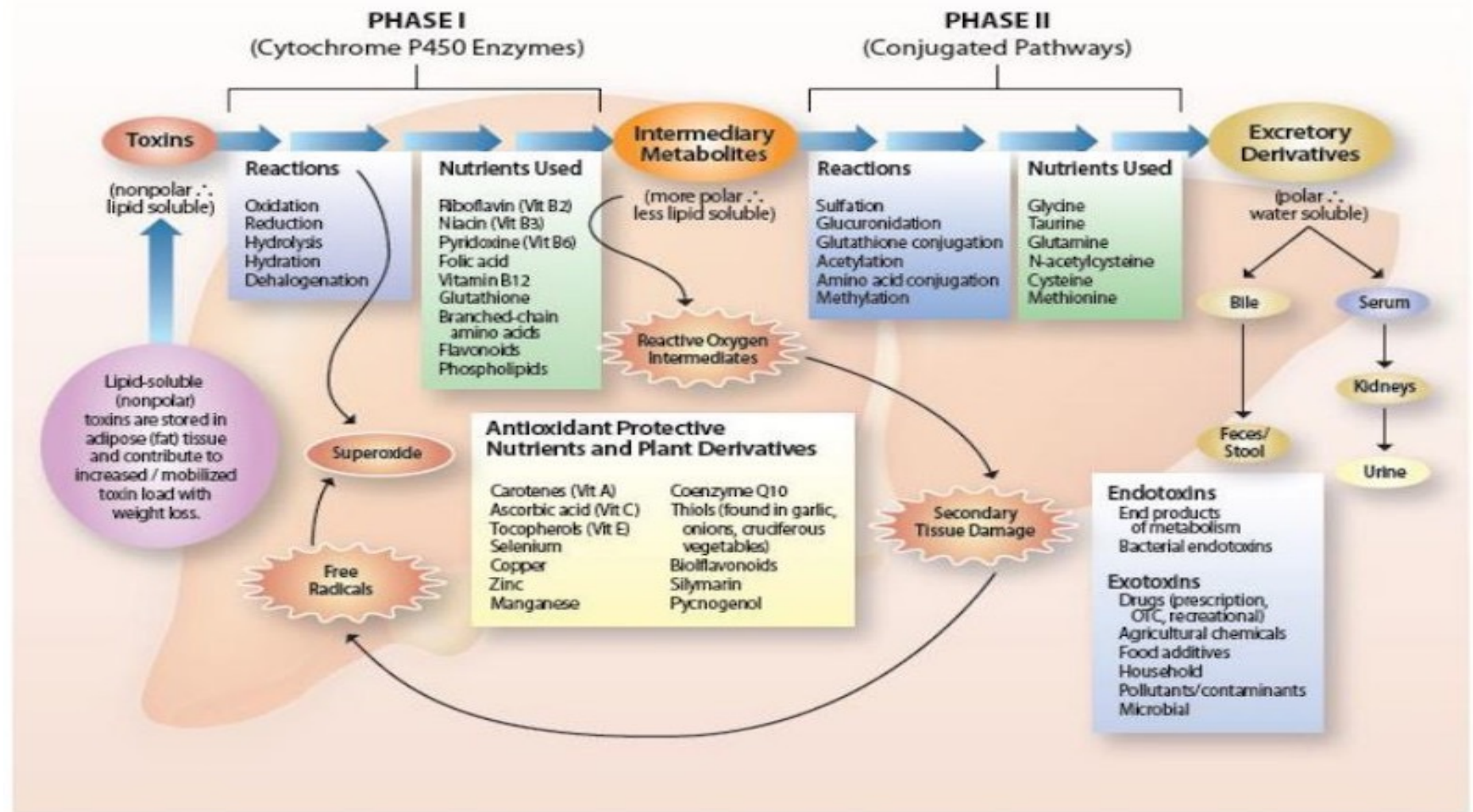
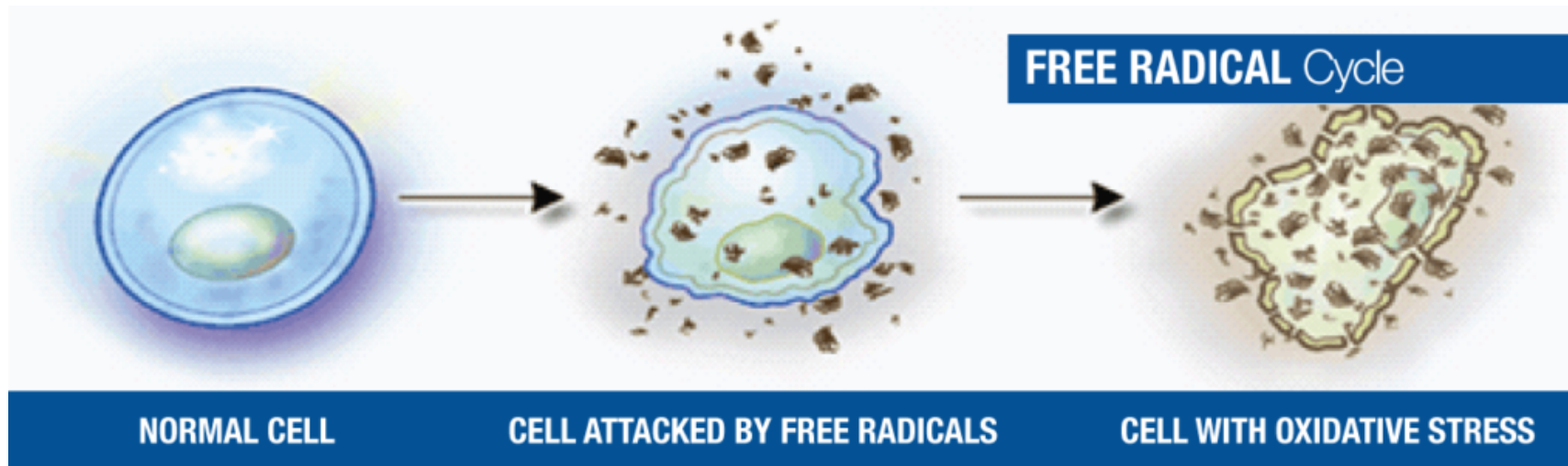


Figure 3.5 Liver detoxification pathways, activities, influences, and effects. (c) 2005 The Institute for Functional Medicine. Used with permission granted by The Institute for Functional Medicine, www.functionalmedicine.org. No part of this content may be reproduced or transmitted in any form or by any means without the express written consent of The Institute for Functional Medicine, except as permitted by applicable law.



Oxidative stress



Antioxidants are compounds that inhibit oxidation, a chemical reaction that can produce free radicals and chain reactions that may damage the cells of organisms. An example of an antioxidant is Vitamin C



How to Avoid Toxic Exposures

Food Products	Food Packaging	Food Preparation
Organically grown	Whole foods without any packaging	Slow, low cooking
Non-GMO	No plastic casing	No deep frying
No synthetic dyes or additives	No aluminum or metal cans (BPA)	No significant browning
Grass-fed, lean meats	No cellophane or foil	Use intact cookware without scuffs
Wild-caught fish	Glass preferred	Choose non-toxic pans, pots, skillets
Expeller-pressed, unrefined oils		No high heat
Filtered water		



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HOW TO DETOXX YOUR LIFE

LIFESTYLE



FOOD & DRINK



HOME



KEY NUTRIENTS



Detox Foods



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Plant foods with detox potential

Hodges RE, Minich DM. Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. J Nutr Metab. 2015;2015:760689. doi: 10.1155/2015/760689. Epub 2015 Jun 16.

Food or beverage

- Allium vegetables
- Apiaceous vegetables
- Black raspberry
- Black tea
- Blueberry
- Chamomile tea
- Chicory root
- Citrus
- Coffee
- Cruciferous vegetables
- Dandelion tea
- Garlic
- Ghee
- Ginger
- Grapefruit
- Green tea
- Honeybush tea
- Peppermint tea
- Pomegranate
- Purple sweet potato
- Rooibos tea
- Rosemary
- Soybean/black
- Turmeric

Nutrient Bioactives

- Astaxanthin
- Caffeic acid
- Catechins
- Chrysin
- Curcumin
- Daidzein
- Ellagic acid
- Ferulic acid
- Fish oil
- Genistein
- Luteolin
- Lycopene
- MCTs
- Myricetin
- N-Acetylcysteine
- Naringenin
- Resveratrol
- Retinoic acid



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Cruciferous Vegetables



Eating a *serving of these vegetables daily* (particularly broccoli, kale, and Brussels sprouts) will help with detoxification

To retain the full array of nutrients, it is best to eat cruciferous vegetables either raw, steamed, or lightly sautéed.



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Other detox foods to include:

- Coriander
- Avocado
- Artichoke
- Beetroot
- Garlic
- Ginger
- Berries
- Flaxseed
- Green leafy greens

- Grapefruit
- Lemon
- Olive oil
- Seaweed
- Turmeric
- Green tea
- Pomegranate
- Carotenoid foods (carrots



Recipe for Cruciferous Juice Cocktail

Juice together the following ingredients:

- ❖ 3-5 medium carrots
- ❖ 1 Lime (peeled or squeezed)
- ❖ 1 cup beetroot (raw)
 - ❖ 1 cup tomato
- ❖ ¼ inch slice of Horseradish (optional)
 - ❖ 1 cup kohlrabi
 - ❖ 1 cup turnip
- ❖ 3-5inches Diakon Radish
- ❖ 1 bunch watercress / or kale



Diakon Radish



Horseradish Root



Kohlrabi



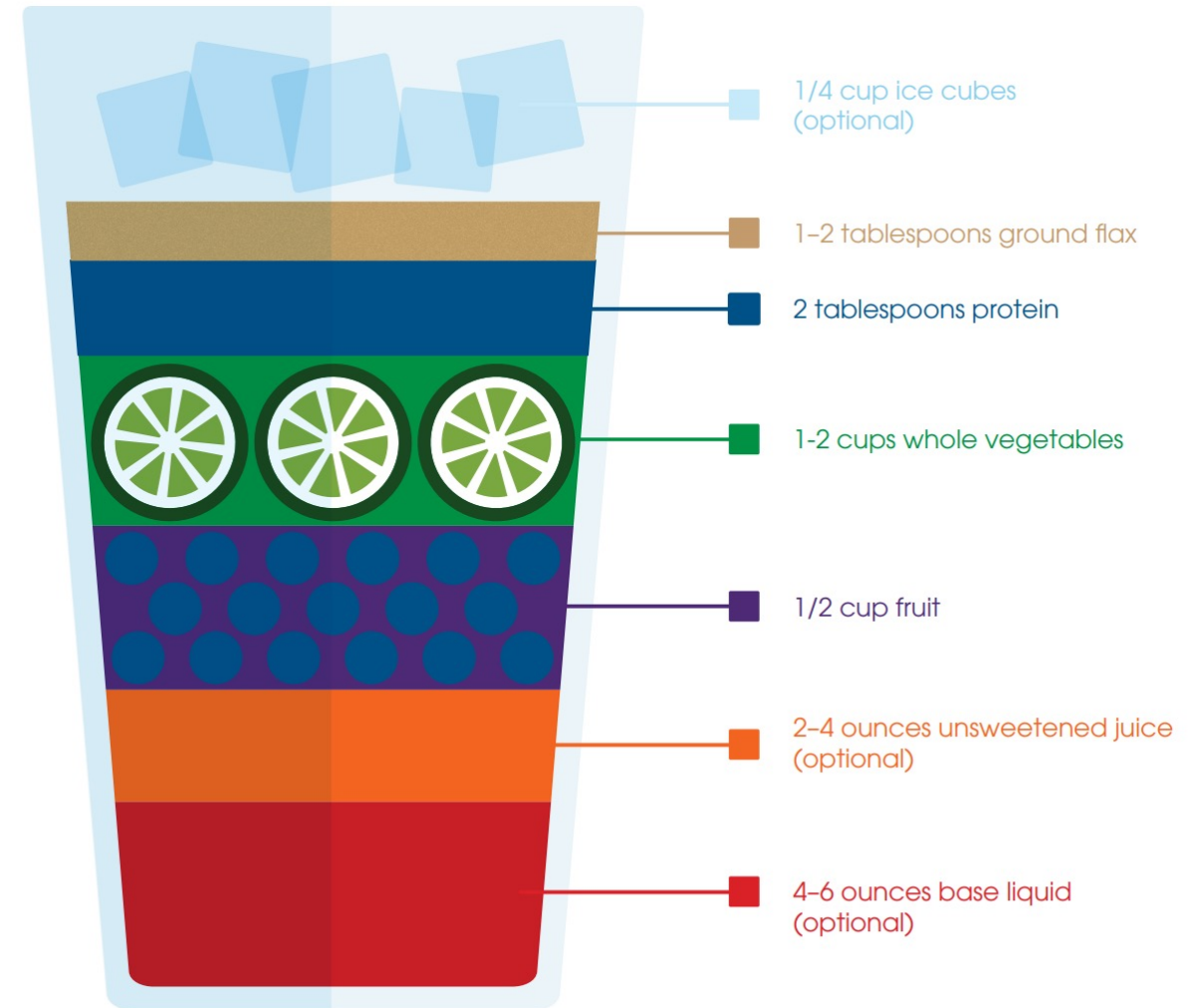
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Detox smoothie

- Berries 1-2 cups
- Cruciferous greens 2-3 cups
(kale, collard, arugula, watercress, or broccoli leaves)
- Carrot juice 6 oz
- Tomato juice 5 oz.
- Pomegranate juice 3-4 Tbsp
- Green tea 2 cups
- Extra Virgin Olive Oil 2-3 Tbsp
- Black raspberry powder 1-2 Tbsp
- Water to taste, texture

Optional:

- Turmeric powder ½ tsp or more
- Protein powder 15-20 gm



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A Day in the Life of Detox Eating

Breakfast

- Poached eggs on a bed of spinach, sautéed in olive oil with 1 clove crushed garlic
- ½ grapefruit
- 1 cup green tea

Lunch

- Curried Vegetable Stew
- 1 plum
- 1 cup green tea

Afternoon snack

- Smoothie with almond milk, 2 Tbsp. flax meal, ¼ tsp. ground cinnamon, ¾ cup raspberries and ½ cup blackberries

Dinner

- Stir-fried Tofu with Ginger Broccoli*
- Rosemary Roasted Cauliflower & Pine Nuts*
- 1 cup green tea



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Useful supplements for detoxification

Supplement or nutraceutical	Directions
Curcumin	750-1500 mg a day. Standardised to curcuminoids 90-95%.
Milk thistle	500 mg a day (not to be taken whilst on active treatment)
Alpha Lipoic Acid	100 mg twice a day (not to be taken whilst on active treatment)
N- acetyl-cysteine (NAC)	500 mg twice a day (not to be taken whilst on active treatment)
Modified citrus pectin	To chelate and remove toxins form the body
Fibre supplement	To prevent constipation
Protein shakes and smoothies	Detoxification requires good protein

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Detoxification and use of supplements during treatment- caution

- Caution when on active treatment (radio- & chemotherapy)
- Do not attempt detoxification during active treatment
- Many supplements are best avoided during active treatment. Consult your practitioner.



Detoxification and use of supplements during treatment - caution

- There is a **tipping point in cancer development**, where **some antioxidants are useful for prevention** (low oral doses of vitamin C, E, N-Acetyl Cysteine - NAC) **then switch allegiance and support the enemy**, helping to promote and fuel its resistance to apoptosis (cell death) effectively making it immortal.
- **Malignant cells create a lot of ammonia** as a by-product of their excessive metabolism and they **need glutathione** (an antioxidant) to neutralise it. Without this they are vulnerable to being tipped into cell death by the presence of enough free radicals
- High dose IV Vitamin C seems to have good evidence for increasing oxygen around a tumour. This helps kill the tumour cells



Common side effects of treatment

Nutritional strategies

Useful supplements and interventions



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Common side effects of treatment

Surgery	Hormonal	Radiotherapy	Chemotherapy
<ul style="list-style-type: none"> • Inflammation • Infection • Urinary incontinence • Erectile Dysfunction • Fistulae 	<ul style="list-style-type: none"> • Hot flushes • Loss of libido • Erectile dysfunction • Swelling of the breasts • Fatigue • LDL increase • Weight gain • Increased risk of diabetes • Loss of bone density • Brain fog • Memory loss • Risk of dementia 	<ul style="list-style-type: none"> • Inflammation to RT area • Skin changes • Fibrosis • Pelvic pain • Diarrhoea • Constipation • Disruption of bowel bacteria from RT • Gastritis • Cystitis (inflammation of the bladder) • Fatigue <p>High Intensity Focussed Ultrasound And Cryotherapy</p> <ul style="list-style-type: none"> • Erectile Dysfunction • Incontinence 	<ul style="list-style-type: none"> • Nausea • Diarrhoea • Weight loss • Loss of appetite • Taste changes • Risk of infection • Bleeding/bruising • Fatigue/mitochondrial damage • Headaches • Neuropathy • Anaemia • Hair loss • Nail changes • Fluid retention • Abdominal pain • Low blood pressure



Inflammation



Inflammation is a normal part of the body's defense to injury or infection, and, in this way, it is beneficial. But inflammation is damaging when it occurs in healthy tissues or lasts too long.



Inflammation

Generalised inflammation (chemotherapy, hormonal deprivation)

- Dietary interventions
- Melatonin
- Curcumin
- Omega 3
- CBD Oil

Localised inflammation (radiotherapy, surgery)

- Ice packs
- HBOT
- Acupuncture
- Aloe Vera
- Hylunia creams
- Alhydran
- Flamigel



Inflammation- dietary interventions

Increase **dietary antioxidants and phytonutrients** by increasing intake of deeply pigmented fruits and vegetables

Increase omega-3s, particularly EPA/DHA from **cold-water fish**

Limit dietary arachidonic acid (AA) intake through restricting meat (grass fed is better), dairy, poultry, shellfish

Target an **ideal ratio of omega-6 to omega-3** by limiting intake of plant-source omega-6 PUFAs (*avoid sunflower oil, peanuts, vegetable oils*)

Eliminate hydrogenated/partially hydrogenated and trans-fatty acids, alcohol, simple sugars, and refined carbohydrates

Increase high fiber foods to feed microbiome



Useful supplements for inflammation

Supplement or nutraceutical	Directions
Curcumin	750-1500 mg a day. Standardised to curcuminoids 90-95%.
Boswellia	400-500 mg three times a day. Standardised to 37.5-65% boswellic acids
Slippery elm	3 mg twice a day (gut support)
Aloe Vera juice	50 mls twice a day (cleansing and soothing to GI tract)
Omega 3	Up 4 g a day
Melatonin	3-10 mg at night

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Inflammation/Infection

Cystitis / Urinary tract infection

Prostatitis



Cystitis - Prostatitis

POSSIBLE SOLUTION:

1. Drink plenty of water
2. Train your bladder to hold more urine
3. Give up smoking or vaping
4. Keep weight in healthy range
5. Avoid constipation
6. Avoid heavy lifting
7. Stress management

REDUCE/AVOID INTAKE OF:

1. Alcohol
2. Fizzy drinks
3. Caffeine
4. Acidic drinks (orange juice)
5. Artificial sweeteners



Useful interventions for cystitis and prostatitis

Intervention	Directions
Curcumin	750-1500 mg a day. Standardised to curcuminoids 90-95%.
Melatonin (post-radiation)	3-10 mg at night
Maca from the family of broccoli (prostatitis)	1000 mg tds
D Mannose	Prevents bacterial adhesion to the bladder wall. 1 rounded tsp up to twice daily for acute use or 1/2 rounded teaspoon (1g) daily for maintenance.
Cranberry extract	Prevents bacterial adhesion to the bladder wall. 300-400 mg twice daily or unsweetened juice 8 oz three times daily
Saw Palmetto	Up to 960 mg a day for LUTs. Not to be used during radiotherapy
Probiotics	to help with overgrowth of pathogens
HBOT (post-radiation)	

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Risk of infection. Neutropenia

- The white blood cells (neutrophils) that would normally fight food poisoning bacteria are at a low level. This is referred to as neutropenia
- Neutropenia leads to leading to greater susceptibility to infection
- The gut lining, which acts as a barrier between bacteria and the bloodstream, is damaged by chemotherapy and radiotherapy. This makes it easier for bacteria to cross this barrier.
- Symptoms: fever, sweating, chills, shivering, or a sore throat
- If neutropenic there are special dietary precautions – dietitian at hospital would advise on what high risk foods need avoiding
- Food hygiene important
- Avoid left-overs, no raw egg products, no shellfish, sushi or raw meats etc
- It can take the immune system 9 months to recover from chemotherapy



Nausea and vomiting

POSSIBLE SOLUTION:

1. Small, frequent meals
2. Food best tolerated at cool or room temp
3. Eat dry toast, salty crackers, pretzels
4. Simple foods – rice, scrambled egg, toast, w/w noodles, bananas, mashed sweet potatoes, soya custard
5. Drink beverages cool/chilled
6. Light low-fat foods
7. Drink fewer liquids with meals
8. Allow plenty fresh air in house
9. Disperse cooking odours
10. CBD Oil

REDUCE/AVOID INTAKE OF:

1. Milk products
2. Cream soups
3. Fatty / fried foods
4. Sweet foods and desserts
5. Avoid lying down immediately after eating



Loss of appetite

POSSIBLE SOLUTION:

1. Smaller more frequent meals – 5-6
2. Appetite best in morning
3. Cooking odours
4. Don't drink with meals
5. Soft foods more appealing
6. Nutrient dense drinks
7. High calorie foods e.g. Avo, olive oil, nut butters
8. Light exercise
9. CBD oil



REDUCE/AVOID INTAKE OF:

1. Empty calorie foods and drinks



Taste changes

POSSIBLE SOLUTION:

1. Include many cold foods and milk alternative products
2. Avoid beef
3. Improve meat flavours by marinating in sweet fruit juices, sweet wine, Italian dressing, sweet-and-sour sauce or curry
4. Increase flavouring / seasoning
5. Some people go off tea and coffee. Try refreshing lemon or green tea, ice cold drinks
6. Use plastic utensils



REDUCE/AVOID INTAKE OF:

1. Red meats
2. Chocolate
3. Coffee, tea



Sore Mouth and Throat

POSSIBLE SOLUTION:

1. Eat soft, moist food at cool or room temperatures. *Examples: Mash potatoes, tuna pasta and casseroles, quiches, avocado, soya custard, yoghurt, protein shakes, soft fruits (applesauce, watermelon, tinned fruits) peach and pear juices, eggs, cottage cheese, mashed vegetables*
2. Use a straw to drink
3. Keep food moist with sauces and gravies

REDUCE/AVOID INTAKE OF:

1. Spicy, salty or acidic foods
2. Fizzy drinks, alcohol
3. Juice, esp. citrus
4. Banana's
5. Crisp or raw foods
6. Hard / tough meats
7. Granola
8. Coarse bread products
9. Extremely hot or cold foods



Dry Mouth



POSSIBLE SOLUTION:

1. Eat foods with high moisture content (gravies, sauces, casseroles, soups)
2. Have liquids at mealtime with food, & between meals
3. Chewing sugarless gum or sucking mints or ice cubes may help
4. Try very sweet or tart foods and drinks (lemonade, pickles, lemon juice stimulate saliva)

REDUCE/AVOID INTAKE OF:

1. Chocolate and pastry
2. Thick hot cereals
3. Dry foods, bread products, tough meats and crackers
4. Excessively hot foods
5. Alcohol



Dry or sore mouth- useful interventions

Supplement or nutraceutical	Directions
Coconut oil mouth rinse	Rinse the mouth, retaining for 30-60 seconds before spitting out
Aloe Vera juice mouth wash	Anti-inflammatory
Olive leaf extract mouth wash	Antibacterial
CBD oil spray or gummies	Antibacterial
Pure L glutamine powder	Mix with water, swish round the mouth and swallow. Helps the cells of the mouth and GI tract repair
Sodium bicarbonate mouth wash	Dissolve one teaspoon of sodium bicarbonate in a tumbler of water (50-200 mls), use 4-5 times a day including before and/or after eating, rinse
De-glycyrrhizinated licorice (DGL)	1-2 chewable tablets (400 mg DGL), between or 20 min before meals, to be effective the DGL must mix with saliva

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Diarrhoea

POSSIBLE SOLUTION:

1. Eat smaller more frequent meals
2. Fluid replacement NB (ORT – 1 litre cool boiled water + 8 tsp sugar + ½ tsp salt)
3. ? A low fat + low dairy diet
4. Moderate the intake of fibre.
5. Limit intake of fructose (fruit sugar) by avoiding pear juice, grapes, honey, dates, nuts, figs and soft drinks
6. Eat bananas, potatoes, fish, meat and drink apricot juice, tomato juice to replenish sodium and potassium.
7. Starchy liquids – split-pea & potato soups, oats porridge, mashed banana's
8. Eat foods at room temperature



REDUCE/AVOID INTAKE OF:

1. Avoid gas forming foods and drinks (Low FODMAP diet)
2. Avoid alcohol and caffeine



Diarrhoea- useful supplements

Supplement or nutraceutical	Suggested doses (guidance only)	Action
Slipper elm	375 mg at night	Soothes gut
Aloe vera	50 mls twice a day	Soothes gut and helps healing of inflamed lining
Colostrum	Discuss with practitioner	Supports mucus layer, gut protection
Pancreatic enzymes	One before a meal	Digestive support
Prebiotics containing FOS	At night	Gut support
Probiotics-bifidobacterium	At night	Gut support

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Constipation

POSSIBLE SOLUTION:

1. Regular diet with added fibre (wholegrain bread and cereals, fruit, soft dried fruit such as prunes – even prune juice, bran etc)
2. 8 glasses fluid a day
3. Fibre supplements / bulking agents (Linseeds 1 Tbsp with water)
4. Exercise can be beneficial
5. Drink hot or warm liquids before a meal

REDUCE/AVOID INTAKE OF:

1. Gas forming foods and beverages



Constipation-useful supplements

Supplement or nutraceutical	Suggested doses (guidance only)	Action
Optifibre (Nestle)	1 scoop 2-3 times a day (4.3 g per scoop)	Softens stool (drink lots of water)
Magnesium Citrate or Oxide	Up to 600 mg a day	Softens stool – best taken at night- start slowly
Prokinetics (may contain artichoke, ginger, 5-HTP, LDN, etc)	Discuss with practitioner	Increases gut motility, promotes peristalsis
Ground flaxseed	up to 4 tablespoons	Softens stool. Start slowly. Take with meals and water
Fybogel or Movicol	As directed by doctor	Softens stool (drink lots of water)

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Fatigue. Low energy. Headaches

Causes

- Anaemia
- Loss of appetite and poor intake of nutrients
- Gut issues leading to poor absorption of nutrients
- Toxins/effects of therapy

Possible solutions

- Eat little and often.
- Manage side effects (nausea, diarrhoea)
- Meet nutritional requirements. Protein shakes/smoothies
- Acupuncture
- Blood transfusion (anaemia)
- Sleep hygiene
- Graded exercise
- Fresh air, nature walks
- Music therapy



Nutritional interventions for hormonal symptoms

Hot flushes

- Include phytoestrogens in diet. 2 servings of soya a day (52g isoflavones) taken for 6-48 weeks duration decreased the frequency of hot flushes by 50% and the severity by 54%.

Erectile dysfunction

- Avoid smoking
- Reduce alcohol consumption
- Anti-inflammatory diet
- Optimise blood pressure
- Exercise- it increases Nitric Oxide
- Medication review



Hormonal side effects – useful supplements

Supplement or intervention	Direction	Action
Zinc	15-30 mg	Hormonal regulation, decreases conversion of Testosterone to Oestrogen, increases insulin sensitivity, repairs tissue damage
Vitamin D	Up to 5000 IU a day (take with fat)	Anti-inflammatory, supports immunity, hormonal balance, anti-cancer
Magnesium citrate	Up to 600 mg a day in divided doses	Supports metabolism, energy production
Curcumin	500-1000 mg a day	Anti-inflammatory
Ashwagandha- supports adrenal hormones	500-1000 mg daily	Supports adrenal hormones, testosterone
L citrulline	1-3 g a day	promotes circulation and helps with Erectile dysfunction

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Weight gain, blood sugar regulation, high cholesterol

Low glycaemic diet

- Small portions of slow release carbs at each meal
- Wholegrains
- Spreading carbs and fruit out over the day
- Protein and fats with meals to slow release of glucose into the blood stream
- Cold cooked carbs are more slow release e.g. potato salad rather than jacket potatoes
- Don't over cook rice/pasta

Intermittent fasting, time restricted eating

- 12/3 rule
- Can increase up to 16 hour fast

Exercise

Cholesterol lowering diet



Obesity, raised cholesterol and glucose – useful supplements

Supplement or intervention	Direction	Action
Chromium	200 - 1000 ug daily	Reduces insulin resistance
Cinnamon	Use as spice in food preparation	Increases insulin sensitivity
Berberine	500 mg twice a day	Similar to metformin, reduces insulin resistance, reduces cholesterol
Curcumin	500-1000 mg a day	Anti-inflammatory
Resveratrol	250 mg four times a day	Reduces cholesterol
Red Yeast Rice	2400 -4800 mg once a day	Statin-like effects
Niacin	500 mg twice a day	Reduces LDL cholesterol. May cause flushing

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Pain management. Non-drug interventions

- Acupuncture
- EFT tapping (Emotional Freedom Technique)
- Reflexology
- Aromatherapy
- Cold packs
- Deep breathing
- Mindfulness/meditation/ self-compassion
- HBOT- radiotherapy



Peripheral neuropathy. Non-drug interventions

Supplement or intervention	Direction
Vitamin B6	25-50 mg daily
Vitamin B12	1000 mg daily
Vitamin D	Up to 5000 IU daily
Curcumin	500-1000 mg daily
Omega 3	1500 mg daily
Alpha-Lipoic Acid	600-800 mg daily
PEA- palmitoylethanolamide	300-600 mg twice a day
Hyper-Baric Oxygen Therapy HBOT	
Reflexology, Massage, Aromatherapy and Acupuncture	

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CBD oil

- Anti-inflammatory
 - Anti-oxidant
 - Neuroprotective
 - Potential anti-obesity properties
 - Anti-tumour
-
- It is legal (Delta-9-tetrahydrocannabinol -THC < 0.3 %)
-
- It exerts its effect through interaction with the endocannabinoid system receptors (CB1 and CB2)



CBD oil use in cancer management

- Pain management
- Gut health
- Immunity
- Appetite stimulation (chemo- or radiotherapy)
- Inhibition of nausea and vomiting (chemo- or radiotherapy)
- Mood elevation
- Insomnia

Dose

The standard recommendations is to base your CBD dose on your body weight. Take **1 to 6 mg per 10 pounds of body weight**. Start low and increase slowly e.g. 1-2 mg a day, increasing to tolerance.



Managing stress and mood changes

- Talking therapies
- Hobbies
- Avoiding isolation. Social interaction
- Mindfulness/Meditation
- Spiritual practice
- Aromatherapy oils (e.g. lavender)
- Acupuncture
- EFT tapping
- Gut health
- Sleep hygiene
- Avoid caffeine
- Music therapy



Managing stress, mood and sleep – useful supplements

Supplement	Direction	Action
CBD Oil	1-6 mg per 10 lb of body weight	helps with pain, anxiety, sleep
Ashwagandha – adaptogen	500 mg twice a day	Supports adrenal glands
L-theanine	150-300 mg daily	relieves anxiety
Omega 3 (DHA)	2-4 g a day	helps mood
5-HTP (not if taking antidepressants. Check with Dr)	100-300mg/day, divided in 100mg doses.	helps mood and sleep
Siberian Ginseng (Eleuthero) - adaptogen	standardized eleutherosides B and E: 300 to 400 milligrams per day.	supports adrenal glands
Skullcap (Scutellaria)	1–2 grams per day, usually in divided doses	relieves anxiety
Valerian	300 to 600 milligrams (mg) of valerian root before bedtime	helps anxiety and insomnia
Chamomile tea		insomnia

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Saunas. Near Infrared light therapy. Hyperthermia

Increases body temperature

Affects cellular hypoxia

Sensitises cancer cells to radiation and chemotherapy

Interferes with tumour's ability to repair damage from radiation

Enhancers the body's immune response to cancer cells



Radiotherapy



Radiotherapy support

As radiotherapy is very localised and direct, the side effects of radiotherapy tend to be localised.

Hence, bowel problems are sometimes seen in patients who have been through radiotherapy treatment for prostate cancer
(faecal incontinence, diarrhoea)



Radiotherapy and antioxidants

- There is evidence that **antioxidants may interfere with the action of radiotherapy**, increasing efficacy potentially increasing side effects
- The radiotherapy keeps working actively for about 2-3 weeks so high doses of antioxidants are avoided until after this period
- Post treatment shows a massive decline in antioxidant status and mitochondrial damage



Enhancing Radiation And Protecting Normal Cells

Supplement or intervention	Direction
Melatonin	3-10 mg a day
Boswellia	300-400 mg three times a day
Vitamin D	Up to 5000 IU a day
Vitamin A	5000 IU a day
Curcumin	500-1000 mg a day
Biobran	500 mg-3 g a day (up to 8 weeks if using higher dose 1 g thereafter)
Astragalus	9-30 g a day
Pre-radiotherapy fasting	
HBOT or exercise with oxygen	

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After treatment

Supplement or intervention	Action
Betaglucans, Medicinal Mushrooms, Biobran	Immune support
Zeolite, Bentonite, Epsom salt baths	Detox support
Astragalus, Chlorella, Alpha Lipoic Acid	Detox support
Ginseng	Adrenal support
Vitamin E and C	Fibrosis
Melatonin, Turmeric, Serrapeptase	Anti-inflammatory
Hyper-Baric Oxygen Therapy HBOT	Inflammation, pain management, healing

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Skin inflammation

- Cold packs
- Hylunia creams
- Aloe vera
- Alhydran
- Flamigel



Hyperbaric Oxygen



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Hyperbaric Oxygen- what is it?

- Invented for conditions related with gas bubble, such as cerebral air embolism and decompression sickness
- Provides **oxygen under pressure** which is higher than the atmosphere thus increasing tissue oxygen concentration.
- It allows the body's natural **healing process** to take place and repair wounding tissue is repaired
- it has been reported that hypoxia (low oxygen) promotes malignant cell proliferation and makes cancer cells adapt to the environment, which again induces cancer growth.
- HBOT : considerable effects on carcinoma, especially on decreasing complications and improving mortality.

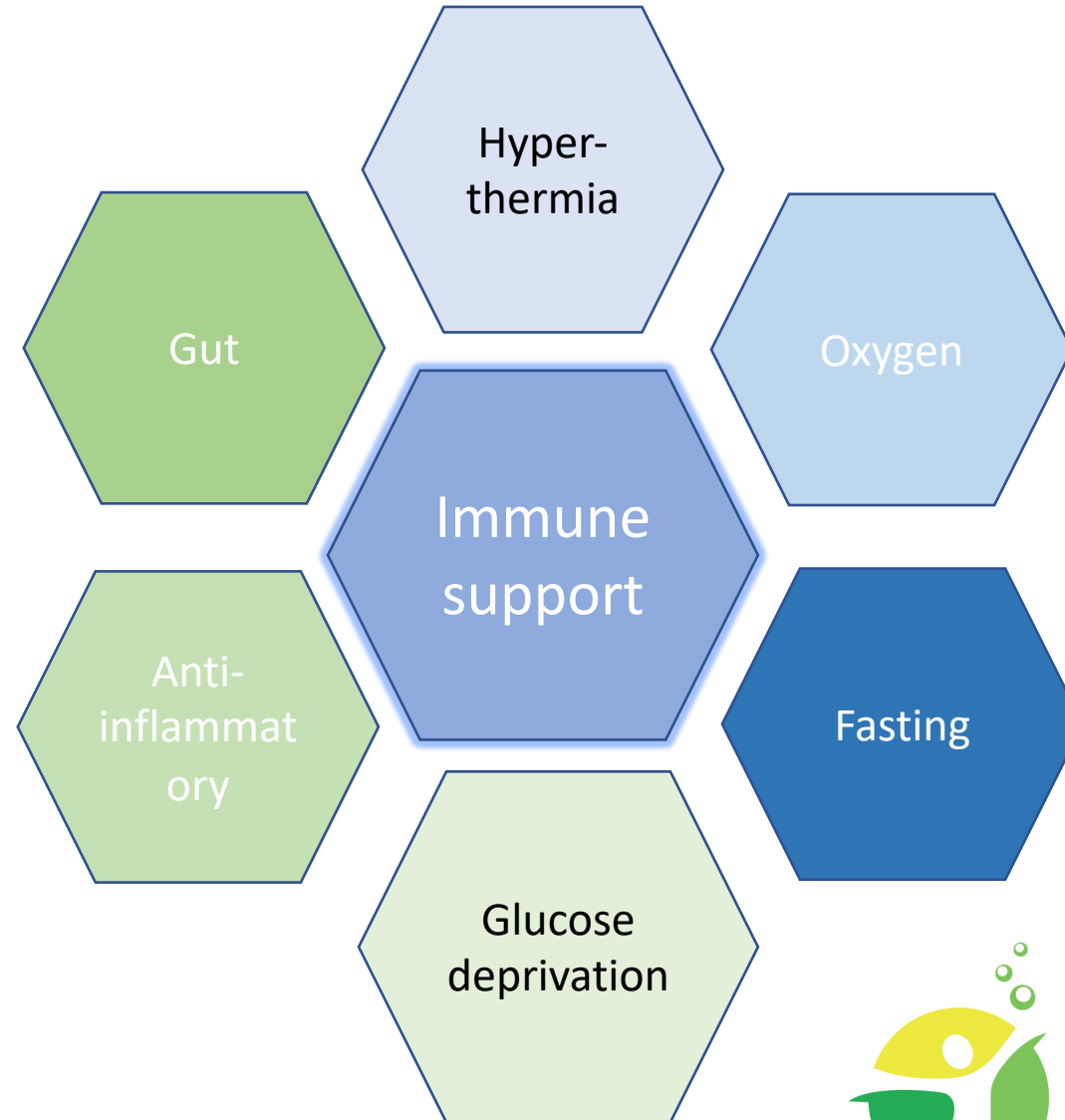


Chemotherapy



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Preparing for chemotherapy



Chemotherapy – Most common side effects

Nutritional status can change quickly during chemotherapy due to loss of appetite, taste changes, nausea and vomiting, bowel issues



can all affect your food intake and hence risk of losing too much weight

Weight loss affects the binding of the chemo and it can cause ***increased side effects of treatment***



Fasting before chemotherapy

- **Fasting renders cancer cells more sensitive to chemotherapy**
- Fasting also been shown to **reduce side effects**
- **The time of fast is individual** – build up slowly from 12 hours to 18 hours
- **Caution** if losing too much weight
- Research suggests **high dose Vitamin C and fasting** – very good at helping cancer cells get attacked by free radicals
- Normal cells are not affected



Chemotherapy – caution with supplements

Half life of each chemo drug is different e.g. docetaxel has a half life of 12 hours / Cabazitaxel has a half life of 95 hours

The half life of a drug is the time taken for the plasma concentration of a drug to reduce to half its original value

It is important to **AVOID antioxidants** whilst drugs are at their most active states



Chemotherapy – caution with supplements

- Some supplements like EGCG from green tea , resveratrol and curcumin found in turmeric , enhanced chemotherapy
- Sometimes nausea will not allow you to take supplements!
- Not all Oncologists will be happy about you taking supplements whilst undergoing chemo



Chemotherapy – supplements to avoid

Supplements and Herbs to AVOID	
If taking warfarin avoid just about anything e.g turmeric, Boswellia, bromelain, milk thistle, Vit E, Vit K, citrus pectins	Goldenseal
Grapefruit with anything	Black cohosh
Ginseng causes hepatotoxicity	Velcade (anti-cancer medication –in multiple myeloma) and green tea
Milk thistle with tamoxifen	Vitamin E and N-acetyl with lung cancer inhibited P53
St Johns Wort	N-Acetyl Cysteine (also found in whey protein and bone broth)
Fish oils with platinum drugs	Low dose oral vitamin C CoQ10



Detox interventions only between chemo cycles- 48 hours post

Supplement or intervention	Action
Coffee enemas	Stimulate bowel flow and production of glutathione. Constipation. Boosts immunity
Aloe Vera enemas	Soothing on the bowel
Epsom salt baths	Detoxification
Bentonite clay bath	Detoxification
Exercise. Rebounding or swimming	Increased perspiration and lymphatic drainage
Zeolite or pectasol	Chelation
Saunas. Near Infrared light therapy	Increased body temperature improves circulation. Effects on parasympathetic system

Not intended to be a substitute for pharmacological therapy



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After chemo treatment

Additionally to the interventions from the previous slide, after chemo treatment consider the following:

Supplement or intervention	Action
Mike thistle, 500mg a day	Liver support
N acetyl cysteine 600 mg a day	Liver support, detoxification



Poll 2



A reminder of what we will cover in the last session

- Focus on Gut health
- Supporting your immune system
- Bone health
- Brain health
- Lifestyle strategies for better health



THANK YOU FOR COMING TODAY!

Any questions?



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