



# Cancer Wellness Centre

Nutrition Booklet

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## What is malnutrition?

Malnutrition affects 30% of people with cancer. It can occur when a person loses a significant amount of weight or is underweight. This is often because they do not consume enough energy (calories/kilojoules) and/or protein for their body's need, for instance:

- When food intake is less than normal
- Nutritional needs increase
- When an illness negatively impacts absorption of nutrients by the body.

## How does cancer and treatment increase the risk of malnutrition?

- The body uses more fuel when undergoing treatments such as chemotherapy, radiotherapy and surgery
- Swallowing and digesting food may be more difficult following surgery for cancers, such as head and neck, lung and gastrointestinal cancers
- Symptoms or side effects such as nausea, a sore mouth, vomiting or poor appetite reduce food intake
- Cancer itself can cause weight loss as the body produces something called 'cytokines' to help fight cancer
- Anxiety, stress and fatigue may affect your appetite and eating.

## What are the consequences of malnutrition?

- Higher risk of infection
- Increased falls
- Longer hospital stays
- Reduced strength and fatigue
- Reduced immune system
- Reduced quality of life
- Shorter life expectancy
- Poorer tolerance of cancer treatments.

### Tips for gaining weight

- ✓ Eat more often, aim for 6-8 small meals or snacks a day rather than 3 large meals
- ✓ Eat at regular times rather than waiting until you are hungry
- ✓ Keep your favourite foods in the cupboard or fridge, or keep handy for when you don't feel like cooking e.g. biscuits, muesli bars, cereal, frozen meals, crackers & cheese/dips
- ✓ Drink nourishing fluids such as milk, juice, cordial or soft drink rather than low energy drinks such as tea, coffee or water.

# High energy high protein diet

## Who needs to follow a high energy high protein diet?

- For those who are malnourished or at risk of malnutrition
- Those who have lost weight and would like to gain weight
- Those with increased nutritional needs, e.g. cancer
- People undergoing treatment with cancer.

## What is energy and protein?

### Calories or kilojoules

Used to measure the energy content of everything we eat and drink



- Energy is essential for our body to function, for our brain, heart, lungs and muscles. All food contains energy, however some food contains more than others.
- Increasing the amount of calories we consume will assist with gaining weight.
- The amount of energy each food has depends on the main nutrient group it comes from – either **carbohydrates, protein or fat**.

### Proteins

Are like building blocks in our body



- Protein helps to build and repair muscles, repair and create new body cells and increase your immune system.
- Proteins can also be used as a source of energy.

If you do not eat enough food containing energy and protein, your body will create energy by breaking down fat and muscle stores. This will result in muscle loss, weakness and further weight loss.

### High energy foods (high calorie)

- ✓ Margarine, butter, salad dressings, oil
- ✓ Soft drinks, cordial
- ✓ Chocolates, cake, biscuits, lollies
- ✓ Full cream dairy products
- ✓ Avocado, peanut butter, nuts

### High protein foods

- ✓ Dairy products (e.g. milk, cheese, yoghurt)
- ✓ Meat, fish, pork and chicken
- ✓ Eggs
- ✓ Bean, legumes, nuts and seeds

## Why do we fortify food?

Food fortification means adding extra **energy** or **protein** to your meals or drinks without increasing the size or volume of the meal. It means that you can maximise the amount of nutrition in each mouthful and make it as high in energy and protein as it can be! This is useful when you have a poor appetite. The table below gives useful strategies on how to fortify foods to increase the energy and protein content by using either neutral sustagen (purchased from chemists) or milk powder.

FOOD	AMOUNT	SUSTAGEN (neutral)	MILK POWDER
Custard	1 cup	40g (2 scoops)	2 Tbsp
Plain yoghurt	$\frac{3}{4}$ cup or 170g tub	40g (2 scoops)	2 Tbsp
Mashed Potato	1 cup mashed (250g raw peeled + cooked)	40g (2 scoops)	2 Tbsp
Scrambled Eggs	2 eggs	20g (1 scoop)	1 Tbsp (mix into raw egg before cooking)
Soup	1 cup or 250ml	20g (1 scoop)	2 Tbsp

## Tips to fortify your meals:

- Use extra butter and oils when cooking meats, vegetables, desserts
- Add ice-cream, yoghurt or custard to fruit, desserts and cereals
- Add butter, grated cheese, cream or sour cream to cooked food, e.g. vegetables, gravy, soup
- Sweeten drinks, desserts and sauces with sugar or other flavourings such as syrup or honey
- Use **full-cream** milk or cream instead of water in soups or hot cereals such as porridge and semolina
- Use fortified milk in every-day foods instead of whole milk – see recipe section.



## Fortification of food

### Nourishing fluids

Minimise drinks low in energy and protein such as tea, coffee and water. Instead choose:

#### Milk based drinks

- Full cream milk
- Milkshake with ice-cream
- Full cream milk with Milo (hot or cold)

#### Sugar containing drinks

- Juice
- Cordial
- Soft drink

### Oral nutrition supplements (ONS)

Oral nutrition supplements (ONS) are specialised drinks that are fortified with energy and protein to assist those who are having difficulty meeting their nutritional needs through eating and drinking. ONS come in different flavours and forms including powdered, ready-to-drink liquids, puddings and custards. They can be used as snacks between meals or as a meal replacement e.g. Sustagen, Ensure, Fortisip, Fresubin.

Many pharmacies and supermarkets stock ONS however it is best to speak to a dietitian first to work out what is best for you. You do not HAVE to use ONS, however sometimes they are a useful option if food and fluids are not enough.

**Stage 1** → High Energy High Protein diet

**Stage 2** → Fortify Foods

**Stage 3** → ONS – nutritionally complete, contain vitamins and minerals, fluid form, easy to consume

### Fluid intake and fluid retention

It is important to drink enough fluids over the day to maintain hydration, particularly when you have a poor appetite and may not eat or drink as much.

Some forms of treatment and medications can cause your body to retain fluid, also known as 'oedema'. Your doctor may recommend aiming for a specific daily fluid intake or prescribe medication.

## Treatment side effects

Some side effects from cancer treatments can have an impact on your ability to eat and drink. It is important these symptoms don't result in weight loss and malnutrition.

It is important to eat well during treatment to:

- Keep your strength up
- Assist with body and tissue repair
- Help cope with treatment
- Help prevent infection.

## Why have I lost my appetite?

A reduced appetite is caused by cancer itself or the side effects from treatment. This is a common issue that people experience and can be associated with other symptoms such as nausea, vomiting or smell/taste changes.

- Eat small meals frequently
  - For example 6-8 small meals/snacks a day rather than 3 big meals
  - Eat every 2-3 hours – this can help to stimulate appetite
- Sip high energy high protein fluids over the day in replacement of low energy and protein drinks e.g. choose milk, smoothies, soups, ONS instead of tea, coffee, water
- Focus on eating more at the time of the day when your appetite is best
- Try using a smaller plate - this can be less overwhelming
- Avoid skipping meals
- Set specific times of the day to eat, rather than relying on feeling 'hungry' to eat.

## Why am I feeling sick and vomiting?

You may have increased nausea (feeling sick) and vomiting from your chemotherapy. Does the smell of food make you feel worse?

- Eat and drink slowly - remember to have small frequent meals
- Sip on fluids e.g. dry ginger ale, flat lemonade, lucozade, soda water
- Snack on dry or bland foods e.g. crackers, toast, dry cereals, pretzels
- Choose cold foods over hot foods as these often have less smell and better tolerated
- Try drinks or food with ginger e.g. ginger beer, ginger biscuits
- Chew on gum, suck on mints or boiled lollies.

**Medications:** Your doctor might prescribe you with anti-nausea medications which may help relieve the symptoms. If you feel they are not working, discuss with your doctor as they may recommend changing the dose or type of medication.

**\*If you are unable to keep food or fluids down due to vomiting for more than 24 hours, discuss with your doctor as you may be at risk of dehydration**



## I feel tired all the time

A common side effect from treatment is the feeling of continuous tiredness - this is known as 'fatigue'.

- **Plan ahead** - for when you may be too tired to cook. Prepare meals in advance and store in the freezer
- **Shop online** - for groceries and get them delivered instead of going in store
- **Ask for help** - from family and friends to help with the cooking and shopping
- **Stock cupboards** - Keep snacks handy that are ready to eat e.g. cheese and crackers, nuts, lollies, muesli bars, biscuits
- **Pre made meals** - Keep some handy for when you don't feel like preparing meals e.g. tin soup, microwave/frozen meals, baked beans, meal delivery services.

## How do I manage constipation?

Constipation is when you have infrequent and difficult to pass bowel motions. Causes include:

- Some types of chemotherapy and anti-nausea drugs
- Pain medicines
- Not eating enough fibre
- Reduced physical activity
- Dehydration
- Not eating enough.

\*Severe constipation that is associated with other symptoms including abdominal pain, nausea and vomiting can indicate a blockage in your bowel. Discuss this with your doctor as this may need urgent medical attention.

- Increase fluid intake to 2L a day, this can help soften stools
- Increase fibre in your diet – do this **slowly** over 1-2 weeks
  - e.g. wholegrain breads, cereals or pasta, fruits and vegetables unpeeled, dried fruits and nuts, legumes and pulses, prunes
  - Include a glass of prune or pear juice daily
- Aim to do some regular exercise such as walking to help stimulate the bowel muscles
- Ask your doctor about using stool softeners, laxatives or fibre supplements e.g. benefibre.



## Is there anything that will help my diarrhoea?

Diarrhoea is when you have loose, frequent and watery bowel motions that can be accompanied with abdominal cramps, wind and pain. Causes can include chemotherapy, radiotherapy to the abdomen/pelvis area, infections, medications or reactions to certain foods.

- Drink plenty of fluids to prevent becoming dehydrated - try water, diluted cordials and oral hydration drinks (gastrolyte)
- Avoid foods that are high in insoluble fibre
  - e.g. wholegrain breads, cereals or pasta, fruits and vegetables unpeeled, dried fruits and nuts, legumes and pulses, peas and corn
- Avoid foods that can increase bowel activity
  - E.g. spicy, fatty, oily foods, alcohol, caffeine, artificial sweeteners
- Eat more starchy foods e.g. bananas, white rice, white toast, mashed potato, pasta/noodles
- Try soy milk or lactose-free milk for a **short period** of time as some people can develop a temporary intolerance during treatment to the natural sugar in milk- lactose

\*See your doctor if diarrhoea is prolonged.

## I am having taste/smell changes

Research shows that up to 70% of people with cancer experience taste changes.

Chemotherapy can change the taste receptors in the mouth. Radiotherapy to the head, neck and mouth area can damage salivary glands and tastebuds on your tongue. This can result in a reduced appetite and eating less.

How to manage taste or smell changes	
Bland	<ul style="list-style-type: none"><li>• Use seasonings such as fresh and dried herbs, lemon, lime, ginger, garlic</li><li>• Add flavor to meals with soy sauce, honey, chili, Asian-style sauces</li></ul>
Overpowering	<ul style="list-style-type: none"><li>• Minimise the use of chili and spices</li><li>• Avoid carbonated drinks, mints or chewing gum</li><li>• Try cold foods over hot as less overpowering</li></ul>

How to manage taste or smell changes	
<b>Too salty</b>	<ul style="list-style-type: none"> <li>• Avoid adding salt to your cooking</li> <li>• Try lower salt alternatives in place of your normal foods:  <b>Swap</b> cheese for cream cheese /ricotta  <b>Swap</b> ham or salami for roast meats or chicken in sandwiches</li> </ul>
<b>Too sweet</b>	<ul style="list-style-type: none"> <li>• Try plain breakfast cereals with less added sugars such as porridge or bran flakes instead of cereals with added honey and fruit</li> </ul>
<b>Bitter/metallic</b>	<ul style="list-style-type: none"> <li>• Sucking boiled lollies can help overcome unpleasant taste in the mouth</li> <li>• Sip on flavoured drinks such as cordial, juice, lemonade</li> </ul>
<b>Like 'cardboard'</b>	<ul style="list-style-type: none"> <li>• Choose soft, moist foods with sauces and gravies</li> <li>• Drink enough fluids to keep your mouth lubricated</li> </ul>

## I have a dry mouth

Some forms of treatment can change the amount of saliva in your mouth and cause your mouth to feel dry, this is called 'xerostomia'.

- Drink with your meals and make sure you drink enough - at least **two litres** per day
- Try sucking on lollies or chewing gum to increase salivation
- Suck on ice cubes or ice blocks
- Use alcohol free mouthwashes and mouth gels e.g. Zero 7 products
- Gargle with ½ tsp salt and 1 tsp bicarbonate of soda in a glass of water
- A humidifier or steam bottle in the bedroom may help, especially at night
- Avoid dry, rough, crunchy or salty foods.

## I am having problems chewing or swallowing

**Swallowing** - if you experience coughing, choking, food sticking, or taking longer to chew and swallow you may need to change the consistency of your food by chopping, mincing or pureeing. A speech pathologist can help monitor your ability to swallow.

*\*Severe swallowing difficulties may require advice from a dietitian and speech pathologist.*

**Chewing** - some people with dentures who lose weight may find their teeth become loose which makes it harder to chew.

**Sore mouth** - people receiving chemotherapy and radiotherapy may develop ulcers and infections known as mucositis.

Changing the consistency of your food to more soft or puree meals may be easier to manage. Doctors may prescribe medications, otherwise you can try a homemade mouth rinse of 1/2 teaspoon salt, 1 teaspoon baking soda, and 1 litre water.

## Food safety throughout cancer treatment

There are some cancer treatments (e.g. Stem Cell Transplant) that may weaken your immune system and put you at risk of developing foodborne infections (from for example Salmonella, Listeria, Norovirus).

Safe food practices are very important to help reduce this risk of developing infections. These practices include:

- Eating freshly cooked and prepared foods
- If eating left overs, only keep in the fridge for 1 day and reheat until steaming hot
- Thoroughly wash hands before cooking and eating
- Thoroughly cook all raw meat, chicken and fish
- Eating food before it's 'use by' or 'best before' date.

There may be some instances where certain foods should be avoided, such as if you become neutropenic (low count of white blood cell called neutrophils). For further information, please discuss with your dietitian.



# Nutrition and exercise

- Research has shown that any physical activity is better than none. Aim to be physically active most days.
- If your goal is to maintain a stable weight, or to gain weight, you can still do this whilst also increasing physical activity or doing physiotherapy.
- Depending on where you are in your treatment cycle, you may not have as much energy or an appetite. It is during these times where nutrition or physical activity are still important – but they may need to be modified while you are not feeling well.
- Eating around your physical activity is important. Including a meal or drink BEFORE and AFTER your exercise sessions will help you perform and recover well from physical activity.

Pre and post meal ideas should include a combination of protein and carbohydrate. For instance:

- Milk drink – e.g. chocolate milk, Sustagen, iced coffee, milo
- Muesli bar, nut bar, protein bar
- Peanut butter and honey sandwich
- Chicken, avocado and cheese wrap
- Tub of fruit yoghurt.





## Healthy eating after treatment

Once you no longer experience side effects of treatment, you no longer need a High Protein High Energy (HEP) diet. You can eat normally and be physically active, so you can switch the focus of nutrition to 'healthy eating after treatment'. Healthy eating, maintaining a healthy body weight and being physically active may also help to reduce the risk for future cancer. Increasing the amount of fruit and vegetables is important in having a range of vitamins, minerals and fibre from your diet. Below are some meal strategies on how you can increase fruits and vegetables.

### Breakfast

- Add fresh or dried fruit to low sugar breakfast cereals
- Top wholegrain toast or muffins with slices of fruit e.g. banana
- Make an omelette with added vegetables e.g. capsicum, mushroom, tomatoes
- Serve sautéed mushrooms and grilled tomato on bruschetta
- Make a smoothie with banana or berries (fresh or frozen) with low fat milk and yoghurt
- Enjoy half a glass (one serve of fruit) of unsweetened fruit juice.

### Lunch

- Add extra salad to your sandwich, roll or wrap with some lean meat/tuna/boiled egg
- Try making different salads e.g. Greek salad, green bean and tomato, tabouleh
- Make a vegetable soup, vegetable lasagne or vegetable frittata
- Baked potato with coleslaw, baked beans and tomato.



## Dinner

- Fill at least half of your plate with vegetables or salad + include at least three different types of vegetables for variety
- Choose a lean protein that would fill  $\frac{1}{4}$  of your plate (or the palm size of your hand), ensure to trim the fat off
- Add extra vegetables to meals, e.g. casseroles, stews, curries, soups, pasta or rice dishes
- Try making vegetarian versions of old classics e.g. spinach lasagne, eggplant moussaka, chickpea and vegetable curry
- Cook with herbs, spices, garlic and onion
- For desserts, choose fresh fruit, canned (in natural juice), stewed fruit with low fat yoghurt
- Eat less than 455g of red meat each week and avoid processed meats (salami, ham, bacon).

## Snacks

- Raw vegetable sticks with hummus e.g. carrots, celery, capsicum
- Eat fresh fruit as a snack between meals
- Have 30g dried fruit or nuts handy to snack on.



# Meal and snack ideas

## Cream of chicken soup Serves 4

A high energy high protein soup that can be adjusted to a liquid consistency for those that may have difficulty swallowing.

### Ingredients:

- 2 tbsp oil
- 1 medium onion, peeled, finely chopped
- 1 medium leek, washed, finely chopped
- 2 large chicken breasts, chopped
- 600ml chicken stock
- 1 tsp fresh parsley, chopped
- 1 tsp fresh thyme, chopped
- 175ml cream
- Pinch of pepper

### Method:

1. Heat the oil in a pot, add the onion and allow to soften for about 5 minutes
2. Add the leek and cook for a further 5 minutes
3. Add the chicken, stock, herbs and seasoning, and bring to the boil for 2 minutes, reduce the heat to a simmer
4. Allow the simmer for 25 minutes until the chicken is cooked through
5. Add the cream and blend the soup until it is completely smooth, adjust consistency by adding more liquid if required



## Minestrone soup Serves 5

A tasty soup that can be pureed to a smooth consistency if required. Optional to add extra protein by including lentils or chicken. Serve with bread and butter to increase amount of energy if struggling with weight loss

### Ingredients:

- 3 tbsp olive oil
- 75g bacon, finely chopped
- 1 small onion, peeled and finely chopped
- 2 garlic cloves, peeled and finely chopped
- 1 small leek, thoroughly washed and finely chopped
- 1 small celery stalk, finely chopped
- 1 large carrot, peeled and finely chopped
- 1 tbsp tomato puree
- 1x 400g can tomato
- 1L vegetable stock
- 100g split peas, soaked overnight
- 100g grated parmesan cheese
- 100g spaghetti

### Method:

1. Heat oil in a pot. Add the bacon and onion and cook for 5 minutes
2. Add the garlic, leek, celery and carrot and cook for further 5 minutes
3. Add the tomato puree and tinned tomatoes and bring to boil for 2 minutes
4. Add the green split peas and stock then bring to the boil and cook for 30 minutes
5. Add the pasta and turn down to simmer, cook for 15 minutes
6. Stir in the parmesan and blend the soup until it is completely smooth (if required)



## Butter chicken Serves 6-8

A more complex recipe for those up for a challenge to cook! If you are feeling tired then choosing ready-made jar of butter chicken sauce is an alternative, make sure to pair with a protein source e.g. chicken.

### Ingredients:

- 150g natural yoghurt
- 50g ground almonds
- ¼ tsp crushed bay leaves
- ¼ tsp ground cloves
- ¼ tsp ground cinnamon
- 1 tsp garam masala
- 4 green cardamom pods
- 1 tsp ginger
- 1 tsp garlic
- 1x 400g tin tomatoes
- 1.5kg chicken thighs, bones attached
- 100g butter
- 1 tbsp oil
- 2 medium onion, chopped
- 5 tbsp cream

### Method:

1. Place the yoghurt, ground almonds, all the spices, garlic and ginger, tomatoes into a mixing bowl and blend thoroughly
2. Put the chicken into a large mixing bowl and pour over the yoghurt mixture (can leave this to marinate for a couple of hours if desired), set chicken aside
3. In a medium pan, melt butter and fry onion for about 3 minutes
4. Transfer chicken mixture into the slow cooker and add butter and onions
5. Cook on low heat for about 8 hours, until meat appears shredded and has come off the bones
6. Remove bones from the slow cooker and discard
7. Stir in cream and serve with rice



## Savoury mince Serves 4-5

A minced moist consistency that is a good option for those who find it hard to chew food. Also a quick recipe that requires minimal preparation.

### Ingredients:

- 500g beef mince
- 1 tbsp oil
- 1 medium onion
- 2 garlic cloves
- 1x 420g can tomatoes
- 2 tbsp tomato paste
- ¼ cup water
- Dried herbs, salt and pepper, to taste

### Method:

1. Heat oil in pan, sauté onion and garlic until golden and soft
2. Add beef mince, breaking up with spatula as cooking and cook until brown
3. Add tinned tomatoes, tomato paste, and water, and simmer for 10-15 minutes until sauce thickens and meat is cooked through, serve with rice





## Easy Cheesy Mashed Potato Serves 2

A high energy meal addition that is useful for people who are losing weight. Also a smooth consistency for those with chewing or swallowing difficulties, or if suffering from mouth ulcers. Pair mashed potato with with stew, casserole, shepherds pie, pork chops.

### Ingredients:

- 400g of mashed potatoes
- 45g shredded cheddar cheese
- 25g of butter
- ¼ cup full cream milk
- Pinch of salt and pepper

### Method:

1. Wash and peel potatoes, then cut into small cubes.
2. Place potatoes into large pot and cover with water
3. Bring pot of potatoes to a gentle boil and cook till tender for about 15 minutes
4. Pour potatoes through a drainer and drain water out
5. Place potatoes into mixing bowl or leave in the pot
6. Add shredded cheddar cheese, butter, milk, pinch of salt and pepper
7. Mash potatoes slightly to break larger chunks up
8. Beat potatoes, while the mixture is still hot, with an electric mixer until smooth and fluffy
9. Serve immediately

\*More milk might be required to suit your preferences. Add another ¼ cup of milk if you desire a thinner consistency for the mashed potatoes.





## Cheese sauce

A great addition to increase the energy and protein of a meal without increasing the volume of food. Can add to cooked vegetables, made into macaroni and cheese, or added on top of a baked potato.

### Ingredients:

- 4 tbsp butter or margarine
- 2 tbsp flour
- 2 ½ cups full cream milk
- 4 tbsp (80g) grated cheese

### Method:

1. Melt butter over low heat in a small saucepan
2. Add flour, stirring with the back of a fork to stop lumps forming
3. Slowly add milk a little at a time, continually stirring with the fork or a whisk
4. Simmer for about 5-10 minutes, stirring regularly to prevent sticking, until sauce thickens
5. Turn heat off, add grated cheese and stir until cheese has melted into the sauce

\*Makes about 2 cups of sauce

## Enriched custard

A fortified and enriched custard that is a simple way to increase the energy and protein if you are struggling with weight loss. Also suitable for those on a fluid diet, those with chewing and swallowing difficulties, or those with mouth ulcers. Have the custard alone, or pair with stewed fruits, cake or pudding.

### Ingredients:

- 2 tbsp custard powder
- 1 tbsp sugar
- 2 ¼ cups fortified milk (see recipe)

### Method:

1. Place the custard and sugar in a saucepan, blend enough milk from the 2 cups to make a smooth paste
2. Gradually add remaining milk. Slowly bring to the boil, stirring continuously. Reduce heat and simmer for 2 minutes



## French toast stuffed with peanut butter/Nutella and banana

Serves 2

A sweet meal or snack that is high in both energy and protein – can be adaptable with peanut butter or nutella.

### Ingredients:

- 2 large eggs
- 1/3 cup pouring cream
- 1 tablespoon sugar
- 2 tablespoons nut spread e.g. smooth peanut butter/chocolate-hazelnut spread or Nutella
- 1 banana, sliced
- 1 tablespoon butter
- 4 slices of bread

### Method:

1. Whisk together eggs, cream and sugar in a large bowl until blended
2. Spread 1 tablespoon of nut spread on top of each slice of bread. Add the banana slices to make a nut spread and banana sandwich
3. Soak bread slices in 1 layer for 1 min and then flip to soak the other side
4. At this point start to melt the butter in a frying pan over medium heat
5. Carefully transfer the soaked sandwich to frying pan and cook until golden brown, about 2 mins on each side.
6. Serve the french toast with butter/ maple syrup/ honey/ cream/ fruit



## Rice pudding Serves 6

Another sweet dessert or snack that is perfect for those with chewing or swallowing difficulties. Can also be served cold or hot.

### Ingredients:

- 2 oranges, rind and segments
- 2 lemons, rind and segments
- 1L full cream milk
- 2-3 cups cooked basmati rice
- 4 tbsp honey
- 2 vanilla beans, split, seeds scraped out (or 1 tsp vanilla extract)
- 1 cinnamon quill
- 75ml cream

### Method:

1. Rinse a medium heavy based saucepan with cold water but don't dry it. Add milk and rice to pan. Bring to a boil over medium heat. Reduce heat, stir in rind, honey, vanilla beans and seeds, cinnamon quill. Simmer stirring occasionally for about 30 minutes or until pudding is thick and creamy and rice is tender.
2. Remove from heat. Stir in cream. Remove vanilla beans and cinnamon.
3. Divide mixture between four ramekins, 13cm round x 3cm deep
4. Serve with orange and lemon segments.





## Fortified milk

### Ingredients:

- 1 cup whole milk
- ¼ cup skim milk powder

### Method:

Mix well together in blender

## High energy/ protein iced coffee

### Ingredients:

- 1 teaspoon instant coffee - dissolved in hot water
- 2/3 cup full cream milk
- 1/3 cup high energy/protein powder (e.g. sustagen)
- 1-2 scoops of ice cream or cream

### Method:

Mix coffee, powder, milk, ice cream then sweeten to taste

## Tangy fruit nog

### Ingredients:

- ¼ plain yoghurt (full fat)
- 1 cup apricot or mango nectar

### Method:

Mix to smooth milkshake consistency

## High protein milo milkshake

### Ingredients:

- 1 cup fortified milk
- 1 scoop ice-cream
- 2 tablespoons milo

### Method:

Mix well together in blender

## Banana smoothie

### Ingredients:

- 1 cup fortified milk
- 1 scoop ice cream
- 1 ripe banana, sliced (can substitute with strawberries, mango, berries)
- 2 teaspoons honey

### Method:

Blend until smooth, sprinkle with cinnamon or chocolate powder



## Meal plan - throughout cancer treatment (high energy high protein)

Breakfast	Main Meals	Snacks	Beverages
Fortified scrambled eggs on toast	Creamy chicken noodle soup with garlic bread	Cheese/ hummus/ tuna and crackers	Full cream milk milo
Cheesy omelette	Savoury (beef/ chicken) mince with rice	Chocolate mousse, custard	Iced coffee/ chocolate milk
Scones with butter/ jam/ honey/ cream	Chicken and mushroom fried rice	Rice puddings, creamed rice	Sustagen (hospital formula)
Bagel or English Muffin with cream cheese/ avocado/ scrambled egg and cheese/ chicken and cheese	Meat pies/ sausage roll	Cakes, donuts, slices, homemade biscuits, custard tart	Juice/ soft drink
Porridge with chopped banana/ berries/ dried fruit, topped with honey	Slow cooked lamb/ beef with fortified mashed potato	Roasted nuts/ chickpeas coated with chocolate	Smoothies/ milkshake *see recipes
	Homemade burger	Protein bar/ ball	
	Pan-fried bacon and eggs	Unsalted nuts/ dried fruit	
	Chicken/beef stroganoff with potato/pasta/rice	Sweet biscuits	

# Meal plan - throughout cancer treatment (high energy high protein)

Breakfast	Main Meals	Snacks	Beverages
High protein breakfast cereals with full cream milk or yoghurt e.g. weet-bix protein/ nutri-grain/ freedom foods protein crunch/ Special K protein plus	Parmigiana with roasted vegetables and Cheese sauce	Stewed fruit with custard/ice cream	
	Butter chicken and rice/ naan bread	Potato chips	
	Pizza	Boiled egg	
Baked beans on toast with cheese	Chicken and pesto pasta with cheese	Peanut butter on toast	
	Shepherds pie		
	Boiled or scrambled eggs on toast		

## Meal plan - after cancer treatment

Breakfast	Main Meals	Snacks	Beverages
Omelette with mushroom, tomato, spinach	Minestrone soup	Cheese/hummus/tuna and crackers	Low fat milk milo
Porridge with chopped banana/berries/ dried fruit	Savoury (beef/chicken) mince with jacket potato	2 tbsp unsalted nuts/dried fruit	Herbal tea
Cereal with low fat milk e.g. weet-bix/ muesli/all bran	Chicken and mushroom fried rice	Piece of fruit e.g. apple/banana	Mineral water
Wholegrain toast with peanut butter and chopped banana	Slow cooked lamb/beef with roasted vegetables	Tub of yoghurt	Freshly squeezed juice
Buckwheat pancakes with berries and yoghurt	Homemade burger	Boiled egg	Smoothies
	Moroccan chicken with couscous	Peanut butter on toast	
	Parmigiana with roasted vegetables	Nut bar	
	Butter chicken and rice		
	Homemade pizza		
	Chicken and pesto pasta		
	Shepherds pie		
	Wholegrain sandwich/ wrap with lean meat and salad		
	Salad with tuna/boiled egg/lean meat and avocado		

## Notes

[illegible]

## Q&A

### **What diet should I follow throughout my treatment?**

Some people may think that a particular diet could cure or control their cancer, however there is no specific food or diet that has been scientifically proven to do so. Following restrictive diets that cut out whole food groups (e.g. carbohydrates and the 'Keto' diet) can cause adverse outcomes including weight loss, fatigue and weaken your immune system- this can ultimately lead to malnutrition and have a negative effect on your treatment. It is suggested to follow a nutritious balanced diet and seek dietitian support if you are experiencing unintentional weight loss or refer to High Energy High Protein diet (page 5).

### **Does sugar feed the cancer?**

You may have heard that cancer cells use sugar to grow therefore it is presumed that cutting out all sugar from your food will stop the cancer from growing- however this is a myth and can be detrimental to your health and cause weight loss and malnutrition. Sugar occurs naturally in carbohydrates (e.g. potato, pasta, grains, dairy), and carbohydrates are an essential nutrient in fuelling your body and giving you the energy for your body to function.

### **If I have a nutrient deficiency like potassium, is there any food I should eat rather than taking medication or supplements?**

If you have a deficiency, talk to your doctor about management of this. To correct a vitamin or mineral deficiency, supplementation may be required. This would be a higher amount of that nutrient, in order to correct the deficiency. Whole foods generally contain a lower amount of a specific nutrient and it would be difficult to correct a deficiency using whole foods.

### **Should I avoid exercising throughout treatment when I'm tired?**

It is not recommended to avoid exercise completely while going through cancer treatment. Physical activity can be helpful for managing fatigue and improving energy levels. Research also shows that doing physical activity during chemotherapy can boost your immune system and help to manage side effects such as nausea. For more information, talk with a Physiotherapist or Exercise Physiologist.

## Is fasting recommended?

There is currently no research to show improved outcomes from chemotherapy or cancer treatment as a result of fasting before, during or after treatment. Fasting may result in dehydration and malnutrition and increase the risk of not tolerating treatment well. It is important to eat healthily before and after cancer treatment.



## For more information

An Accredited Practising Dietitian (APD) can provide you with further information and nutrition advice.

A referral can be made through your doctor or health service.

Dietitians Australia can direct you to an APD in your local area

### Dietitians Australia

<https://dietitiansaustralia.org.au/>

Telephone: 02 6189 1200 or  
1800 812 942

Email: [info@dietitiansaustralia.org.au](mailto:info@dietitiansaustralia.org.au)

Dietetics & Nutrition Department  
Flinders Medical Centre  
Bedford Park SA 5042

Telephone: 08 8204 4302

FMC switchboard 8204 5511 or email: [Health.SALHNCancerWellnessCentre@sa.gov.au](mailto:Health.SALHNCancerWellnessCentre@sa.gov.au)



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