



Nutrition & the Immune System

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The Immune System

The immune system is a complex system of organs and processes that actively fights against infections invading the body. The main parts of this system are white blood cells, antibodies, the lymphatic system, spleen, bone marrow, the complement system and thymus. The immune system is divided into the innate and adaptive immune responses. The innate response is a rapid and generalised first response to an invading pathogen, whereas the adaptive immune response specifically identifies a pathogen and how to combat it effectively.

Nutrition & the Immune System

Adequate and appropriate nutrition intake is required for all cells within the body to function optimally, including the immune system. Some micronutrients and dietary components have very specific roles in the development and maintenance of an optimal immune system to initiate effective responses against pathogens to allow for the best immunological outcomes.

Malnutrition is well understood to impair immune function, which may be due to nutrient deficiencies in dietary intake, development of poor nutrient absorption due to complications associated with illnesses or disease and other medical problems.

The poor dietary choices within the Western diet reveal harmful impacts on our immune system and these harmful immune modifications are likely to be passed onto our offspring. The Western diet is characterised by an overconsumption of sugar, salt, saturated fats and food additives and sweeteners. The high consumption of these nutrients in the diet reveals immune system impacts, such as increasing inflammation, heightening stress and disruption to gut microbiome.





Gut & Immune Health

The gut microbiota are the complex and dynamic micro-organisms that support various aspects of human health and wellbeing including innate immunity, energy metabolism and other physiological functions from within the gastrointestinal (GI) tract.

There is an interconnected relationship between the gut and the immune system where impaired immune functions is frequently caused or accompanied by disruptions in gut microbiota. The disruption of microorganisms of the gut microbiome leads to dysbiosis, which is associated with the development of intestinal and extra-intestinal disorders. Intestinal disorders include inflammatory bowel diseases, irritable bowel syndrome (IBS) and coeliac disease, whereas extra-intestinal disorders include allergies, asthma, metabolic syndrome, cardiovascular disease and obesity.

Antibiotics are medicines that treat infections and diseases by damaging bacteria so that the immune system can effectively fight back against the bacteria causing the infection. Unfortunately, antibiotic use can negatively affect the health of the gut microbiota by reducing the bacteria species and diversity, which can also affect immune function. To improve our gut health and support immune and overall health, it is beneficial to consume probiotics and prebiotics in our diet during and after antibiotic use to help restore lost bacteria.

Probiotics are dietary sources of live microorganisms that restore and improve the gut microbiota in the human intestinal tract, which can provide some beneficial health effects to the human body. They improve overall gut health, strengthen the immune system, have antioxidant and antihypertensive effects, support absorption of minerals, and reduce dermatitis and allergic symptoms. Probiotic food sources include dairy products such as yoghurt, aged cheese (cheddar, gouda, mozzarella), kefir and traditional buttermilk. They're also found in non-dairy yoghurts, fresh and sour dill pickles, kimchi, kombucha, miso, natto, sauerkraut, tempeh and water or brine-cured olives.

Prebiotics are dietary sources of microorganisms that stimulate the development and activity of the gut microbiota in the human intestinal tract, which can enhance overall health and wellbeing. They improve and promote the development of various gut bacteria, stimulate the immune system, lower cholesterol levels, increase the absorption of calcium, and maintain the intestinal pH value of the gut. Prebiotics food sources include apples, artichokes, tomatoes, bananas, barley, berries, cocoa, garlic, green vegetables, soybeans, oats, onions, legumes and wheat.

Understanding Nutrients



Macronutrients

Protein

Protein is a nutrient necessary for cell growth and repair, maintaining muscle, bone and tissue health and many other important functions of the body. Adequate daily protein intake is important especially during certain life stages where there is increased need such as childhood, adolescence, pregnancy and breastfeeding. Dietary sources of protein include meat, poultry, fish, cereals, grains, dairy food and vegetables.

Carbohydrates

Carbohydrates provide necessary energy to support important bodily functions and physical activity. Healthy sources of carbohydrates such as whole grains, beans, fruits and vegetables in the diet support health through providing vitamins, minerals and dietary fibre. Avoid carbohydrates such as white bread, pastries, soft drinks and other highly processed or refined foods in the diet as these may contribute to weight gain and promote diabetes and heart disease.

Dietary Fibre

Dietary fibre is resistant starch and components of plant materials that provide important nutritional and physiological effects for human health and wellbeing. It is a low density nutrient essential for the healthy functions of the gut and other beneficial effects including reduction in blood cholesterol levels, modulation of blood glucose and laxation properties. Dietary fibre food sources include wholegrain cereals, fruits and vegetables, legumes and soy products.

Dietary Fats

Dietary fats are naturally occurring fats and oils within animal and plant food products that are added to processed food products. Dietary fats are made up of two main types of fatty acids being saturated and unsaturated fats, where saturated fats are solid at room temperature and unsaturated fats are liquid. Unsaturated fats are associated with increased health benefits, whereas saturated fats are considered unhealthy due to their negative impact on cholesterol and health. Healthy food sources of fats include peanuts, nuts, avocado, oils (such as olive, sunflower, peanut and coconut), seeds, walnuts, oily fishes (salmon and trout), and plant oils.

Water & Electrolytes

It is also essential to be drinking enough water each day. Women should have around 2 litres or 8 cups and men should have about 2.6 litres or 10 cups per day.

Electrolytes are essential minerals within the body's blood, sweat and urine that are required for a variety of the body's functions and key for the body to maintain homeostasis and hydration. Consumption of electrolytes such as sodium, calcium, potassium, magnesium and zinc support the immune system through regulation and fighting bacteria and inflammation. Food sources include dairy products, green leafy vegetables, seeds and nuts, fruits and vegetables (such as banana, avocado and sweet potato), pickled foods and table salt.



Vitamins & Minerals

Vitamins and minerals are essential nutrients required for bodily functions such as strengthening muscles and bones, hormone regulation, fighting infections and metabolic processes.

Eating a healthy and balanced diet of a variety of fruits, vegetables, grains, lean meats, legumes and reduced fat dairy products will provide your body with the vitamins and minerals needed.



NUTRIENT	ROLE	FOOD SOURCE
Vitamin E	An antioxidant. Protects cells from free radical damage. Supports skin health, immune system, and role in anti-inflammatory functions.	Vegetable oils, nuts, seeds, green leafy vegetables, fruit.
Zinc	Wound healing, immune function, antioxidant.	Whole grains, cereals, oysters, red meat, eggs, nuts and seeds, fruits, green and leafy vegetables.
Vitamin C	Immune functions and an antioxidant.	Fruits such as citrus, guava, kiwi fruit, blackcurrants and vegetables like broccoli and sprouts.
Vitamin D	Necessary for maintaining bone strength and health, muscle and nerve function and immune function.	Skin of fatty fish i.e. salmon and tuna, fish liver oils, beef liver, cheese, egg yolks and mushrooms.
Selenium	Crucial for overall health, antioxidant, supports reproduction, thyroid gland function and fights against infection.	Brazil nuts, organ meats, seafoods, muscle-rich meats, grains and dairy products.
Iron	Haemoglobin is used for transport of oxygen around to the tissues of the body. Also helps with immunity.	Meat products, liver, seeds, nuts, eggs, fruits (apple, banana, pomegranate), green and leafy veggies.

Healthy Lifestyle Behaviours to Support Immune Health



Diet

The Australian Dietary Guidelines are based on the latest scientific evidence on food and health and have been constructed to provide the general Australian population with a guide on what and how much of the nutritious foods in each of the five food groups to include in a balanced diet each day. A wide variety of nutrient dense foods should be consumed each day to support overall health and wellbeing, the quality of life and reduce the risk of chronic diseases.

Grains

Grains are a great source of carbohydrates/starch, protein, fibre and are a good source of a wide variety of vitamins and minerals. Cereals and wholegrain foods can reduce the risk of developing certain diseases including coronary heart disease, colon cancer, diabetes and diverticular disease. Food sources that include grain (cereal) foods include mostly wholegrain and/or high cereal fibre varieties such as rolled oats, wholegrain breads, rice, pasta, polenta and quinoa. At least two thirds of grain foods eaten should be wholegrain. Wholegrain cereals contain more fibre, vitamins, minerals and antioxidants than refined cereal foods such as white bread. **Children, adolescents and toddlers are recommended to have 4-7 serves of grains each day and adults are recommended 3-6 serves each day.**

Vegetables & Legumes/Beans

Vegetables and legumes/beans are a great source of vitamins and minerals. Nutrient dense and good sources include dark green leafy vegetables, potatoes, carrots, beetroots, beans, tomatoes, pumpkin and capsicum. Legumes are seeds of the plant including green peas and beans, lentils and chickpeas. **Children, adolescents, and toddlers are recommended 2-5 serves of vegetables and legumes/beans each day and adults are recommended 5-6 serves each day.**

Fruit

Fruit is a great source of vitamins, minerals, and fibre and provides many health benefits. Choosing fruits in season provides higher quality and better value. Include in your diet different coloured fruits to increase the variety of nutrients you gain. Some sources of fruits are apples, oranges, peaches, bananas, berries and grapes. **Children, adolescents, and toddlers are recommended 1-2 serves of fruit each day and adults are recommended 2 serves each day.**





Proteins

Lean meat and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans are great sources of a variety of nutrients such as iron, vitamin B12, iodine, essential fatty acids, protein and provide many health benefits. These foods are usually the main source of energy in meals and there are a variety of ways to easily prepare and use these foods in the diet. **Children, adolescents, and toddlers are recommended 1-2 ½ serves of proteins each day and adults are recommended 2-3 serves each day.**

Dairy


Milk, yoghurt, cheese and/or alternatives are a great source of calcium and many other nutrients that provide various health benefits. Food sources include reduced fat and full cream milks, plain and flavoured, long-life milks and dairy alternatives such as soy or almond milks. Other dairy products include yoghurts and cheeses and dairy or lactose-free alternatives. **Children, adolescents, and toddlers are recommended to have 1-3½ serves of dairy each day and adults are recommended 2-4 serves each day.**



Discretionary Foods

Discretionary food choices are food and drinks that are not required to be consumed as they are not necessary for a healthy diet. This may be due to being too high in kilojoules (energy), low levels of nutrients, being too high in saturated fat, added sugars, added salt, or alcohol or being low in fibre. Discretionary foods and drinks include sweet biscuits, cakes, desserts, pastries, processed meats, fatty and fried takeaway foods, chips, sugar-sweetened beverages and alcoholic drinks. **Children and adolescents are recommended 0-5 serves of discretionary food choices or additional serves from the five food groups, with a maximum 5 serves being recommended for active and/or adolescent boys. Adults are recommended 0-3 serves of discretionary food choices or additional serves from the five food groups each day.**





Choosing the right food is important in optimising mental health and mood.



Australians & Healthy Eating

Most health problems related to poor diet in Australia are due to the excess consumption of foods high in energy, saturated fat, added sugars and salts, that are also low in healthy nutrients. Scientific evidence suggests that Australians are not consuming enough vegetables, legumes/beans, fruits, wholegrain cereals, fish, seafood, poultry and eggs and reduced fat dairy products.

However, Australians are currently consuming too many starchy vegetables, highly processed cereals, higher fat dairy foods, red meat and food and drinks such as take away foods, cakes and biscuits, chocolate, confectionary and sugar-sweetened beverages.

Choosing the right food to include in your diet is important in optimising your mental health and mood. Eating for good gut health, having plenty of oily fish, keeping blood sugar levels steady, limiting highly processed and high sugar foods and drinks are a few of the food choices you can make to your diet to protect your mental health, while also ensuring you get plenty of sleep, regular exercise and manage stress effectively.



Enjoy a wide variety of nutritious foods from these five food groups everyday.

Graphic adapted from 'Australian Guide to Healthy Eating', Eat for Health.



Good Sleep Hygiene Practices

REGULARITY

Go to sleep at approximately the same time everyday to establish a regular sleeping pattern.

SLEEP WHEN YOU NEED TO

Try to sleep only when you feel tired instead of spending too much time lying awake in bed.

TRY AGAIN

When you can't fall asleep after about 20 minutes, get out of bed and do something relaxing or boring such as reading in low lighting. Do this until you feel tired then return to bed and try again.

REDUCE CAFFEINE & NICOTINE INTAKE

Avoid consuming stimulant products with caffeine such as coffee, tea, soft drinks and chocolate, or smoking cigarettes for at least 4-6 hours before going to sleep.

REDUCE ALCOHOL INTAKE

Avoid consuming alcohol for at least 4-6 hours before going to sleep.

AVOID NAPS

Avoiding naps during the day can help to make sure that you're tired at bedtime. If you can't avoid naps, make sure it's before 3pm and less than an hour in duration.

EXERCISE

Regular exercise can help with good sleep. Avoid strenuous exercise within four hours of bedtime.

EAT HEALTHY

Maintaining a healthy, balanced diet will help improve the quality of your sleep.



Sleep

Good sleeping patterns and sleep quality are important in maintaining immune health. A lack of sleep duration and quality can influence disease risk. Adequate sleep duration may improve infection outcomes and is associated with reduced disease risk and reducing the severity and progression of disease.

Adequate dietary and nutrient intake according to the Australian Guide to Healthy Eating (AGHE) recommendations are important in supporting all aspects of lifestyle behaviours, including sleep, mood, energy, leisure and physical activity. Research has identified associations between sleep and dietary patterns where consumption of low protein and carbohydrates and higher fat intakes resulted in poor sleep quality. However, incorporating sleep promoting foods such as milk, fatty fish, cherries and kiwifruit into your daily diet may provide benefits for acute and immediate sleep improvement.



Exercise

Adequate nutrient intake and regular physical activity within a balanced and healthy lifestyle are important in supporting immunity and reducing disease risk. Within research, regular exercise has been shown to have anti-inflammatory and antioxidant effects on the body, influence gut health and the regulation of the immune system and may delay the onset of immune dysfunctions that occur with ageing.

Being active is important for all age groups to reduce disease risk, support healthy growth and development and to maintain physical and mental wellbeing.

The Australian Department of Health recommends that children and young people do at least 60 minutes each day of moderate to vigorous physical activity and to limit sedentary behaviour and maintain good quality sleep patterns. For adults, it is recommended that they are active on most days to achieve 2.5 to 5 hours of moderate intensity physical activity or 1.25 to 2.5 hours of vigorous intensity physical activity per week, including muscle-strengthening activities at least two days a week. It is also important for adults to limit sedentary behaviours and to maintain good quality sleep patterns.



Become an IDFA Member today!

Are you looking for a supportive community of people who understand life with an immunodeficiency?

IDFA membership is FREE for patients living with a confirmed diagnosis of a PID or SID, their carers and healthcare professionals.*

When you become an IDFA member you have access to:

- Resources (e-resources and hard copy)
- Patient meetings and conferences (in-person and online)
- Webinars
- Member support (for patients and carers)
- Closed Facebook groups (for patients and carers)
- Patient linking - connect with others who have a similar PID/SID
- Member get-togethers supported by IDFA
- Educational programs
- Peer support programs
- Guidance on accessing NDIS and Centrelink services
- Guidance from our Medical Advisory Panel
- A wider network of medical allied healthcare professionals, researchers and medical experts through IDFA's relationships within the medical community.

*Membership is available to Australian residents only.



Join now:
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 **IDFA** Immune Deficiencies Foundation Australia



Recipes

Read on for healthy breakfast, lunch, dinner, dessert and snack recipe ideas.



Simple Overnight Oats

Simple Overnight Oats

5 minutes (Chill Time: Overnight)

Serves 2

Ingredients

- 1 cup of rolled oats
- 1 cup of choice of milk
- ½ tsp of cinnamon
- 1 tbsp of honey
- 1 tbsp chia seeds
- ½ cup Greek yoghurt, or dairy-free alternative
- 1 cup berries frozen or fresh (to serve)

Method

1. Add all ingredients into a sealable container and stir well to combine.
2. Allow the mixture to soak in the fridge overnight, then top with berries to serve.

Breakfast Smoothie Bowl

10 minutes | Serves 2

Ingredients

- 1 frozen or fresh banana
- 1 cup frozen or fresh berries
- 1 cup milk of choice
- 1 tbsp honey
- 1 tsp chia seeds
- ¼ cup Greek yoghurt, or dairy-free alternative
- 2 tbsp protein powder (optional)

Toppings

- ¼ cup granola
- ¼ cup sliced banana
- ¼ cup desiccated coconut

Method

1. Place all ingredients in a blender and blend for roughly one minute.
2. Transfer the mixture to two bowls and add toppings.



Peach & Ricotta Sourdough

15 minutes | Serves 2

Ingredients

- 4 slices wholemeal sourdough bread
- 2 fresh peaches
- 1 tbsp honey
- 1 cup reduced fat ricotta
- 1 tbsp pumpkin seeds

Method

1. Toast sourdough bread and thinly slice peaches.
2. Spread ricotta on bread, top with peaches and honey and sprinkle with pumpkin seeds.

Don't skip breakfast!

Breakfast is important to maintaining a healthy weight, gives us energy and key nutrients to function effectively throughout the day.



Breakfast Muffins

15 minutes | Serves 12

Ingredients

- 12 large eggs
- Grape tomatoes, halved
- 1 cup baby spinach
- 1 spring onion, thinly sliced
- 170g goats cheese

Method

1. Preheat oven to 170 degrees.
2. Add eggs to a bowl and season with salt and pepper. Whisk eggs until fluffy.
3. Slice bacon into small pieces, add to a frying pan over medium heat and cook until crispy. Remove cooked bacon to a paper towel to drain.
4. Spray muffin tray generously with olive oil. Halve the cherry tomatoes and combine all ingredients in a large bowl then evenly fill muffin tray and bake for 20-25 minutes.
5. Allow muffins to cool, then remove each egg muffin from the tray to serve immediately or store in fridge or freezer.



Orange Chia Pancakes

Choc Protein Balls

10 minutes | Serves 15

Ingredients

- 1 ½ cup rolled oats
- 1 cup natural nut butter
- 1 tbsp cacao powder
- 1 tbsp protein powder
- 2 tbsp chocolate chips
- ½ cup desiccated coconut

Method

1. Place oats, nut butter, protein powder, cocoa powder and chocolate chips in a large bowl and stir well to combine. If mixture is too dry or crumbly, add 1 tbsp of water or choice of milk.
2. Once well combined, use a spoon to scoop a small amount of the mixture and form into balls. Add desiccated coconut to a small bowl, and roll balls in the coconut to coat.
3. Store balls in a sealed container in fridge or freezer.

Orange Chia Pancakes

20 minutes | Serves 8 Large or 16 Small

Ingredients

- 2 cups milk of choice
- ¼ cup chia seeds
- ¼ cup honey
- 1 tsp vanilla
- 1 ½ cup self-raising wholemeal flour
- 1 tbsp orange zest

Method

1. In a large bowl, combine chia seeds, honey, vanilla, orange zest and milk and set aside for 20 minutes in the fridge. Then add flour to the mixture and mix well.
2. Heat tsp oil or butter in a frying pan over medium heat and spoon batter mixture according to desired size into pan. Cook for 2 minutes on each side and flip over when bubbles start to form and pop on top.
3. Serve with a tbsp of orange juice or maple syrup.

Low Sugar Chocolate Muffins

35 minutes | Serves 12

Ingredients

- 2 cups wholemeal flour
- 1 tsp baking powder
- ½ tsp baking soda
- 100g sour cream
- 2 large eggs
- 1 tsp vanilla
- 3 tbspc cocoa powder
- ½ cup dark chocolate chips

Method

1. Preheat oven to 170 degrees and spray muffin tray with light olive oil.
2. In a large bowl, add sour cream, egg, vanilla and whisk ingredients together. Sift flour, baking powder and baking soda into bowl, and make sure not to overmix. Gently fold through chocolate chips.
3. Transfer mixture to muffin tray and bake for 25 minutes or until a skewer comes out clean. Set aside to cool for up to 10 minutes before serving.

Limit your intake of discretionary and highly processed packaged foods in your diet. They may be convenient but they have little nutritional value.

Choose high protein or high fibre snacks

Snacks that are high protein or high fibre will keep you fuller throughout the day. Also be sure to choose snacks that are low in sugar.

Granola Snack Bars

5 minutes (Chill Time: 1 hour)

Serves 8

Ingredients

- 1 cup natural nut butter
- 2 cups whole rolled oats
- ½ cup honey
- 1 tsp vanilla extract
- ½ cup pepitas
- ⅓ cup chocolate chips

Method

1. Line a 20-25 cm square baking pan with baking paper.
2. In a large bowl, add nut butter, honey and vanilla and combine until smooth.
3. Roughly chop pepitas, then add oats, pepitas and chocolate chips to the mixture. Once the mixture is well combined, transfer to pan and press down evenly and firmly.
4. Chill for at least one hour, then slice into bars. Store bars in the fridge or freezer.

Fruit for thought

Whole fruits are a perfect snack for morning and afternoon tea, especially when you don't have time to prepare food!



Brown Rice Salad

Serve with a side of vegetables

Serve meals with a side of veggies or salad to make sure to reach your recommended servings of five vegetables a day. Steam vegetables during the cooler months, or during the warmer months add a green salad with fresh vegetables.

Drink plenty of water!

Keep a water bottle on you wherever you go. Try drinking caffeine free herbal teas such as peppermint, ginger or lemon throughout the day. Aim for at least 2 litres of water per day.

Brown Rice Salad

35 minutes | Serves 12

Ingredients

2 cups brown rice and quinoa
1 orange, squeezed
½ cup almonds
¾ cup currants
1 cup baby spinach, chopped
1 capsicum, diced

Method

1. Cook rice and quinoa as per packet instructions.
2. Preheat oven to 180 degrees and roast almonds in a single layer on a baking tray for 3-5 minutes, then roughly chop them up and set aside.
3. In a large bowl, combine cooked rice, spinach, currants, almonds, capsicum and the juice of squeezed orange.
4. Serve warm with a protein of choice, or just on its own.





Curry Lentil & Quinoa Bake

Curry Lentil & Quinoa Bake

1 hour and 15 minutes | Serves 8

Ingredients

2 cups tri-colour quinoa
 1 tbsp extra virgin olive oil
 1 brown onion
 800g canned lentils
 1 tbsp minced garlic
 1 tbsp grated ginger
 3 tbsp tomato paste
 1 tbsp garam masala
 1 tsp paprika
 1 tsp turmeric powder
 4 tbsp lemon juice
 1 medium carrot
 Salt to taste

Method

1. Preheat oven to 180 degrees and line a medium sized dish with baking paper.
2. Cook quinoa as per packet instructions.
3. In a saucepan, heat oil over medium heat and add chopped onion. Sauté until soft.
4. Add all your ingredients into a large bowl and stir to combine. Transfer mixture to baking dish and evenly spread mixture in dish, then place in oven and bake for one hour. Allow to cool for 10 minutes before serving.

Tuna & Olive Pasta

35 minutes | Serves 4

Ingredients

500g wholemeal pasta
 425g tin tuna in olive oil
 ½ brown onion
 1 tsp minced garlic
 ½ cup parsley leaves
 1 tsp olive oil
 1 cup tomato passata
 ½ cup pitted kalamata olives

Method

1. Drain tuna of olive oil into a strainer held above a saucepan. Place saucepan on stove-top and heat oil on medium heat.
2. Finely chop onion and parsley leaves, transfer to a small bowl and add minced garlic.
3. Add mixture to saucepan, stir occasionally for 5 minutes or until softened. Add tomato passata and simmer uncovered over medium-low heat for 10 minutes or until slightly thickened.
4. Cook pasta as per packet instructions in a large saucepan of salted water and drain.
5. Stir tuna and olives into the sauce over low heat until combined and heated through. Season to taste, then serve with pasta.



Salmon & Brown Rice Patties

25 minutes | Serves 9

Ingredients

- 1 cup brown rice
- 1 ½ cups diced sweet potato
- 210g tin of pink salmon
- ½ cup brown onion
- 1 tsp minced garlic
- 3 tbsp plain flour
- 1 egg
- 1 tbsp hummus
- ½ cup parsley leaves
- Salt and pepper to taste

Method

1. Cook brown rice in rice cooker for 25 minutes as per packet instructions.
2. Preheat oven to 180 degrees and place baking paper on a baking tray.
3. Finely chop brown onion and parsley. Once rice is cooked, combine all ingredients into a large bowl.
4. Roll into palm-sized balls and place patties on the baking tray and flatten the patties gently. Bake for 25 minutes and serve with choice of salad.

Roasted Vegetable Salad

45 minutes | Serves 12

Ingredients

- ½ Kent pumpkin, roughly chopped
- 1 large, sweet potato, chopped
- 2 carrots, halved and chopped
- 1 red capsicum, cut into chunks
- 1 medium red onion, roughly chopped
- ¼ cup extra virgin olive oil
- 180g light fetta, crumbled
- 4 cups baby spinach and kale
- 1 tsp sea salt

Method

1. Preheat oven to 375 degrees F (190 C) and line two baking sheets with parchment paper.
2. Add the chopped sweet potato, pumpkin, and carrots onto tray and bake for 25 minutes or until they start to brown.
3. Plate salad by adding the leafy greens to a serving platter. Add roasted vegetables, then top with feta to serve.

Eat a wide range of fruits and vegetables

“Eating a rainbow” can help you to be getting ideal amounts of key nutrients in your diet to support a healthy immune system.

Chicken & Mushroom Risotto Balls

45 minutes | Serves 8

Ingredients

1L chicken stock
30g unsalted butter
1 tbsp extra virgin olive oil
1 ¼ arborio rice
1 cup dry white wine
500g chicken thigh, chopped
1 cup white cup mushrooms
3 garlic cloves, crushed
1 cup parmesan
2 cups spinach, chopped
1 brown onion

Method

1. Cook brown rice in rice cooker for 25 minutes as per packet instructions.
2. Preheat oven to 180 degrees and place baking paper on a baking tray.
3. Finely chop brown onion and parsley. Once rice is cooked, combine all ingredients into a large bowl.
4. Roll into palm-sized balls and place patties on the baking tray. Flatten the patties gently. Bake for 25 minutes and serve with choice of salad.

Simple Chilli Con Carne

40 minutes | Serves 6

Ingredients

500g lean beef mince
1 brown onion
2 tbsp minced garlic
35g taco seasoning
800g diced tomatoes
2 tbsp tomato paste
400g kidney beans
2 cups white rice
2 baby cos lettuce

Method

1. Cook white rice in rice cooker for 25 minutes per packet instructions.
2. While rice is cooking, heat a large saucepan over medium-high heat, add meat and cook for five minutes or until brown, making sure to separate any chunks of meat.
3. Finely chop brown onion and drain and rinse kidney beans. Add brown onion and garlic into saucepan, cook for 5 minutes or until onion is soft. Stir in taco seasoning, tomatoes and tomato paste and kidney beans. Let simmer for 10 minutes.
4. Serve chilli con carne with rice and spoon mixture into lettuce to eat like a taco. Top with sour cream and cheese.

Did you know?

On average, Australians throw 1 in 5 shopping bags worth of food in the bin.

Reduce waste in your kitchen and make the most of your groceries by organising meals at the start of the week, using the entirety of food products, making sure to consume foods before they spoil.





Healthier Chocolate Brownie

Overnight Chia Pudding

10 minutes (Chill Time: 3 hours - Overnight)

Serves 4

Ingredients

- 2 tbsp cacao powder
- 2 tbsp honey
- 1 tsp vanilla extract
- 1 cup choice of milk
- ½ cup chia seeds

Method

1. Add all ingredients into a large bowl and whisk to combine. Cover bowl or transfer to a sealed container and place in the refrigerator overnight or for minimum of three hours.
2. To serve, top with fresh fruit, cinnamon and desiccated coconut or other garnishes of choice.



Healthier Chocolate Brownie

40 minutes | Serves 12

Ingredients

- 1 cup unsweetened apple sauce
- ¾ cup cocoa powder
- ½ tsp bicarbonate of soda
- ½ cup of smart sugar or sugar alternative
- ⅓ cup dark choc chips
- 70 grams chopped walnuts

Method

1. Preheat oven to 170 degrees and prepare your baking tin.
2. In a large bowl, place the apple sauce and sift in the flour, bicarb soda and cocoa powder. Then add sugar and stir through until combined. Gently fold through walnuts and choc chips.
3. Use a spatula to transfer mix into your baking tin and bake for 30 minutes.

Coconut, Pear & Raspberry Bread

125 minutes | Serves 10

Ingredients

1 punnet raspberries
 2 cups tinned pears
 2 eggs
 200ml coconut milk
 ½ cup desiccated coconut
 ½ cup raw sugar
 1 tsp baking powder
 1 tsp cinnamon, ground
 1 cup wholemeal self raising flour

Method

1. Preheat oven to 170 degrees, line a loaf baking tin with baking paper.
2. Mash pears in a large bowl until smooth. Mix in desiccated coconut, sugar and cinnamon, then sift flour and baking powder into the bowl.
3. Add pear to the mixture, then add coconut milk and eggs. Once well combined, gently fold in the raspberries and transfer mixture to baking tin. If desired, top the mixture with additional pear slices. Bake for 1 hour and 15 minutes or until a skewer comes out clean. Serve with butter and a sprinkle of cinnamon and sugar.



Simple Apple Crumble

1 hour | Serves 8

Ingredients

6 small apples
 1 lemon
 1 tsp vanilla extract
 2 tsp cinnamon
 2 tbsp corn starch
 ¾ cup brown sugar
 1 ¾ cup oats
 ½ cup almonds
 ⅓ cup light olive oil
 1 egg
 ½ tsp baking powder

Method

1. Preheat oven to 180 degrees.
2. Wash, peel and chop apples into small chunks. Juice lemon into a small glass or bowl. In a large bowl combine apple, lemon juice, corn starch, cinnamon, vanilla and ¼ cup sugar. Once well combined, transfer to a baking dish.
3. For the topping, blend ¾ oats and almonds. Then add blended mixture, remaining oats, oil, egg, remaining sugar and baking powder to a large bowl and mix until well combined. Transfer mixture evenly across the apple mixture, then bake for 45 minutes, or until the top is golden and crispy. Serve warm with ice cream or choice of cream.





For more nutritional information,
tips and recipes, scan the QR code.

Scan Me!



*Thank you to Emilia Seidel for contributing to this Lifestyle Series
content and Tammie Seidel for the recipe photography.*

Our Vision

A future where primary and secondary immunodeficiencies are diagnosed and treated early, with affected people supported by clinicians, community and government to enable optimal quality of life.

Our Mission

Raising awareness for primary and secondary immunodeficiencies; supporting and advocating for improved health outcomes for patients, carers and families.



Immune Deficiencies Foundation Australia



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