



Eating Guide

A Whole-Food, Reduced-Carbohydrate Approach to Metabolic Health

1. Introduction

Many people in Aotearoa New Zealand are living with, or at risk of, chronic conditions linked to metabolic health, including type 2 diabetes, prediabetes, heart disease, fatty liver disease, and excess weight. For these conditions, what and how we eat can play a powerful role in improving health, energy levels, and long-term outcomes.

This guide introduces a whole-food, reduced-carbohydrate way of eating as one practical, evidence-informed approach to supporting metabolic health. Reducing the overall carbohydrate load — particularly from refined and ultra-processed foods — can help stabilise blood sugar and insulin levels, improve metabolic markers, and support weight management for people with insulin resistance and related conditions. Importantly, there is no single “one-size-fits-all” approach. People vary in how they respond to carbohydrates, and the most effective approach is one that is sustainable, culturally appropriate, and fits your individual health needs and lifestyle.

2. Who is this guide for?

This guide may be useful if you:

- Have insulin resistance, prediabetes, or type 2 diabetes
- Carry excess weight around the waist
- Have high blood pressure or other markers of metabolic risk
- Are looking for practical, food-based ways to improve metabolic health

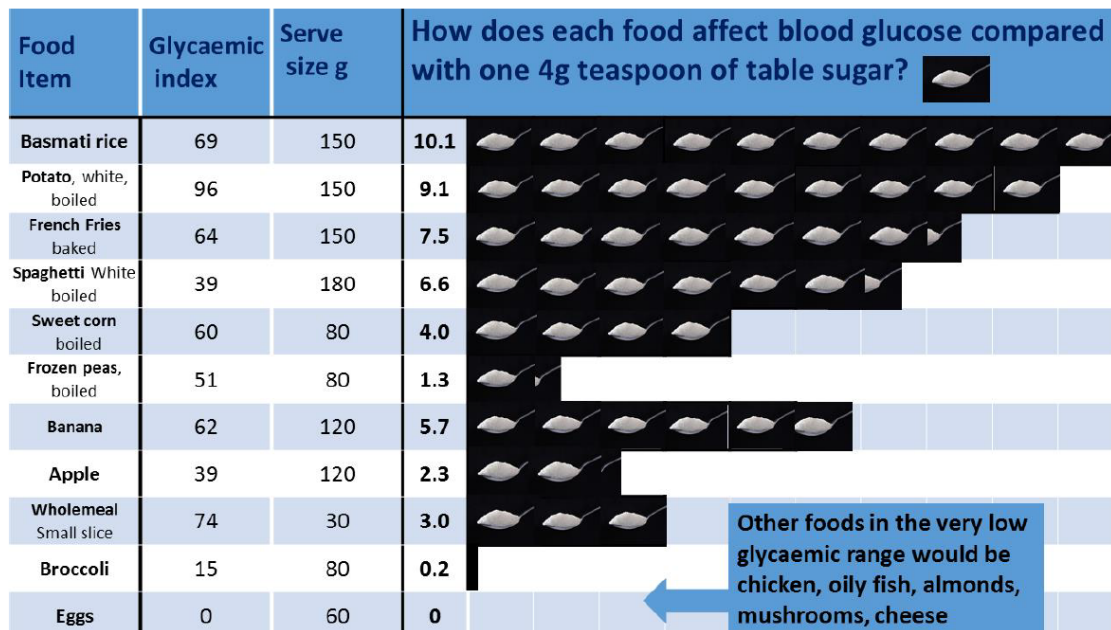
3. Getting started (simple first steps)

- Build meals around whole foods: vegetables, protein, and healthy fats
- Reduce sugar and refined starches first
- Start with a moderate reduction in carbohydrates and adjust based on how you feel and any clinical guidance

Important: If you take medication for diabetes or blood pressure, see the safety note below before making changes.

4. How carbohydrate reduction supports metabolic health

The following visual illustrates how starchy and sugary foods are broken down into glucose and contribute to overall blood sugar load.



Carbohydrates are found in foods such as bread, pasta, rice, potatoes, fruit, sugary drinks, and sweets. When we eat carbohydrate-containing foods, they are broken down into glucose, which raises blood sugar levels and triggers the release of insulin – the hormone that helps move glucose out of the bloodstream and into cells for energy or storage.

For people with insulin resistance, this process does not work as effectively. Blood sugar and insulin levels can remain elevated for longer periods, contributing over time to weight gain, fatigue, and increased risk of metabolic conditions such as prediabetes and type 2 diabetes. Starchy foods are of particular relevance because starch is made up of chains of glucose molecules. Once digested, starch is converted into glucose, which can raise blood sugar to a similar extent as sugary foods, especially when eaten in large amounts.

Reducing the overall carbohydrate load – particularly from refined and ultra-processed foods – can help stabilise blood sugar and insulin levels and

support improvements in metabolic health. Importantly, people vary in how they respond to and tolerate carbohydrates. Factors such as degree of insulin resistance, activity levels, medications, and personal preferences all influence what level of carbohydrate intake works best.

For this reason, there is no single “right” level of carbohydrate intake. In this guide, we outline three broad approaches to carbohydrate reduction to support individualisation:

Moderately Low Carbohydrate:

- Approximately 100–150 g carbohydrate per day. This may include modest amounts of grains, legumes, starchy vegetables, and fruit in their whole, minimally processed form

Low Carbohydrate:

- Approximately 50–100 g carbohydrate per day. This may include very limited quantities of fruit and minimally processed starches.

Very Low Carbohydrate (Ketogenic):

- Less than 50 grams of carbohydrate per day. This typically excludes grains, legumes, starchy vegetables, and most fruit.

5. Who benefits most from carbohydrate reduction

Carbohydrate reduction is widely recognised by diabetes organisations internationally as a legitimate therapeutic option for the management of type 2 diabetes.¹ It may be particularly helpful for people who:

- Have type 2 diabetes
- Have prediabetes or insulin resistance
- Have central weight gain or other markers of metabolic dysfunction

¹ Kelly T, Unwin D, Finucane F. Low-Carbohydrate Diets in the Management of Obesity and Type 2 Diabetes: A Review from Clinicians Using the Approach in Practice. *Int J Environ Res Public Health*. 2020 Apr 8;17(7):2557. doi: 10.3390/ijerph17072557. PMID: 32276484; PMCID: PMC7177487. Diabetes UK (2017); American Diabetes Association (2019); European Association for the Study of Diabetes (2019); Diabetes Canada (2020); Diabetes Australia (2020).

Potential benefits for some individuals include:

- Improved blood glucose control and HbA1c
- Weight loss and improved metabolic markers
- Reduced need for glucose-lowering medications (under clinical supervision)

 + **Important medication safety note:**

If you use medication for diabetes (especially insulin or sulfonylureas, and in some cases SGLT2 inhibitors), or for blood pressure, reducing carbohydrate intake can lower blood glucose and blood pressure.

Medication doses may need to be adjusted to avoid hypoglycaemia or hypotension. Always discuss dietary changes with your healthcare provider before making significant changes.

6. Metabolic Health NZ Food Guidelines

At Metabolic Health NZ, we have developed our own set of dietary guidelines to better reflect the needs of people living with, or at risk of, metabolic dysfunction. While national nutrition guidelines are designed for the general population, they do not always align with the lived realities and metabolic responses of people with insulin resistance and related chronic conditions. Our guidelines are grounded in whole-food nutrition, lifestyle approaches, and emerging evidence on carbohydrate reduction, and are intended to provide practical, flexible guidance that can be adapted to individual needs, cultural contexts, and health goals.

1. Prioritise whole, minimally processed foods.
 - Choose vegetables, fruit, eggs, meat, seafood, poultry, organ meats, dairy, nuts, seeds, and legumes (as tolerated).
 - Favour traditional fats and oils over refined alternatives.
 - Keep added sugar to a minimum.
2. Buy mostly unpackaged foods; choose simple ingredient lists when buying packaged foods.
3. Choose mostly locally-grown food.
4. Choose ethically-sourced food where possible.

5. Plan your time to make food and eating important in your life.
6. Eat meals with family, friends and your community.
7. Eat slowly, mindfully and without distraction.
8. Enjoy treats occasionally, without guilt
9. Hydrate well: drink water mainly and other drinks with minimal added sugar.
10. Limit alcohol intake. Keep more than half of your week alcohol-free. Don't drink alcohol if you are pregnant or planning to become pregnant.

7. The 10 practical principles

To make the key messages easier to remember and apply in everyday life, we've summarised our approach into 10 simple, practical principles. These aren't rigid rules, but helpful guideposts to keep you focused on what matters most and to support real, sustainable change over time. Use them as a reference point as you build habits that work for you and your lifestyle.

1. Mostly whole, unprocessed food

Base your meals on foods that are as close to their natural state as possible. Swap ultra-processed foods for foods that were recently "alive".

2. Reduce carbohydrates (down, not out)

Limit added sugars and refined starches such as bread, pasta, noodles, and commercial cereals (even "wholegrain" versions). How low you go will depend on your individual carbohydrate tolerance and level of insulin resistance.

3. Fill your plate with vegetables

Vegetables are a cornerstone of metabolic health. Aim to include them at most meals, choosing a variety of colours to increase nutrient diversity. Adding healthy fats such as olive oil or butter, along with simple seasonings like salt and pepper, can make vegetables more enjoyable and satisfying.

4. Include healthy fats

Dietary fat, especially the kind that you get naturally within foods, is an important source of energy. Choose whole-food fats such as olive oil, avocado, nuts, seeds, butter, full-fat dairy, and naturally fatty foods such as meat, chicken (with skin), and oily fish.

5. Get enough protein

Protein supports muscle, satiety, and metabolic health. Prioritise protein at each meal.

6. Eat to hunger and fullness cues

As blood sugar and insulin control improve, your appetite regulation often improves too. Eat when you're hungry and stop when you're comfortably full.

7. Set up support around you

Involve whānau, friends, or colleagues where possible. Don't be afraid to ask for support or to communicate your needs when eating out or in social settings.

8. Design your environment for success

Relying on willpower alone is hard. Make the healthy choice the easy choice by planning ahead and keeping suitable foods readily available.

9. Use the “next meal” mindset

Slip-ups happen. Rather than giving up, refocus at the next meal. Progress comes from consistency over time, not perfection.

10. Remember: It's not just about the food.

Physical activity, sleep, stress, alcohol, smoking, and other lifestyle factors all influence metabolic health. Aim for a whole-of-lifestyle approach.

8. What does it look like?

What works best will vary between individuals. Use these categories as a guide, not strict rules.

YES – What should I eat?

Good-quality whole foods that are minimally processed

- All vegetables, focusing on non-starchy, “above the ground” varieties
- Fruits, focusing on low sugar varieties and ideally in the whole, fresh form.
- Protein from minimally processed meat, fish, chicken, eggs, dairy, nuts, seeds, and tofu/tempeh where relevant.

- Fat from whole, minimally processed sources, including avocado, olive oil, nuts, fatty fish, full-fat dairy products, fat/skin on meat, butter, coconut products.

MAYBE – What needs to be limited?

- Highly processed meats and cheese.
- Naturally or artificially sweetened foods and drinks, packaged “low-carb” bars.
- Whole-grains, legumes, starchy vegetables, and fruit*

NO – What shouldn’t I eat?

- Refined and processed convenience foods and drinks containing sugar.
- Refined, nutrient-poor, packaged carbohydrate-rich foods, such as breads, cereals, pasta, rice, sugary sauces, muesli bars and crackers.
- Too much starch – even some healthy carbohydrate-containing foods eaten in excessive quantities can be problematic depending on your health situation.
- Refined seed/vegetable oils, including margarine spreads.
- Alcohol

**Whole-grains, legumes, starchy vegetables, and fruit all contain carbohydrates. These foods may or may not work for you in limited quantities, depending on your situation.*

If you are counting your carbohydrate intake, the following page has specific lists of foods with their carb count.

9. Metabolic Health NZ sample meal plan

Here are some examples of meals to try in each eating style.

	Moderately Low Carb	Low Carb	Very Low Carb Ketogenic
<i>Carbohydrate restriction</i>	<i>100–150 grams per day</i>	<i>50–100 grams per day</i>	<i>Less than 50 grams per day</i>
Breakfast	Porridge oats or granola with chia seeds and nuts, with fruit, nuts, and unsweetened yoghurt	Unsweetened yoghurt, berries, and mixed nuts and seeds (i.e. home-made or commercial low-carb granola)	Egg omelette with spinach, tomato, and cheese
Lunch	Chicken and chickpea salad: Shredded chicken, mixed salad greens and shredded cabbage, chickpeas, tomato, feta and olives, with a drizzle of olive oil	Egg salad: Boiled eggs, spinach leaves, roast pumpkin, red onion, and herbs, with an olive oil mayo dressing	Chicken salad: Lettuce greens with grated courgette, cabbage, avocado, and chicken – top with toasted nuts/seeds and creamy yoghurt dressing.
Dinner	Prawn or tofu and vegetable stir-fry with brown rice	Steak with green vegetables sautéed in garlic and butter	Chicken curry with cauliflower rice
Snack (optional)	Fresh fruit with yoghurt	Chia seed pudding with berries	Cheese and keto crackers

For more recipes, visit [Metabolic Health NZ recipes section](#)

What's IN, what's OUT

For those interested in counting their total daily carb intake, the carb count is listed in brackets after each food. A Ketogenic diet is usually <50g carbs per day and an LCHF diet typically <100g carbs per day.

VEGETABLES

1 serving = ½ cup, unless otherwise stated

YES

■ Vegetables: Non-starchy, fresh or frozen

■ Alfalfa sprouts, raw (0.1g)

■ Artichoke hearts, cooked (1.1g)

■ Asparagus, cooked (1.6g)

■ Avocado (0.6g)

■ Beans, green, cooked (1.9g)

■ Beetroot, cooked (5.6g)

■ Broccoli, cooked (0.1g)

■ Brussels sprouts, cooked (1.0g)

■ Bok choy, cooked (0.4g)

■ Butternut, cooked (7.0g)

■ Cabbage, cooked (1.1g)

■ Capsicum – red, raw (3.2g)

■ Capsicum – green, raw (1.2g)

■ Carrot, raw (2.3g)

■ Cauliflower, cooked (1.8g)

■ Celeriac, cooked (1.6g)

■ Chinese cabbage, cooked (0.8g)

■ Courgette (zucchini), cooked (1.0g)

■ Celery, raw (1.8g)

■ Chives, raw (0.7g)

■ Cucumber, raw (1.3g)

■ Eggplant (aubergine), cooked (1.1g)

■ Endive, raw (1.3g)

■ Fennel, raw (0.6g)

■ Garlic (1 clove = 0.5g)

■ Herbs and spices (trace)

■ Kale, cooked (3.0g)

■ Kohlrabi, raw (2.8g)

■ Leek, cooked (3.2g)

■ Lettuce, raw (0.4g)

■ Mushroom, raw (0.1g)

■ Okra, raw (1.2g)

■ Olives (1.3g)

■ Onion, cooked (3.0g)

■ Peas, cooked (5.9g)

■ Radish, raw (1.6g)

■ Silverbeet, cooked (2.4g)

■ Spinach, cooked (1.3g)

■ Spring onion, 1 raw (1.5g)

■ Snap peas, raw (7.1g)

■ Tomato, raw (2.6g)

■ Turnip, cooked (1.4g)

■ Watercress, raw (0.04g)

■ Witloof, 1 head, raw (2.1g)

YES, but only a little!

■ Vegetables: Starchy, fresh or frozen

■ Corn on the cob, cooked (14.8g)

■ Kumara, cooked (13.7g)

■ Pumpkin, cooked (9.9g)

■ Parsnip, cooked (9.7g)

■ Potato, cooked (10.8g)

■ Squash – butternut, cooked (20.0g)

■ Taro, cooked (18.7g)

■ Yam, cooked (19.5g)

NO

■ Any vegetable deep-fried in highly-processed vegetable oils

FRUIT

1 serving = 1 medium piece, unless otherwise stated

YES

- Apple (13.0g)
- Apricot, fresh (4.6g)
- Avocado, ½ (0.5g)
- Berries, mixed (frozen or fresh), ½ cup (4.5g)
- Cherries, fresh, ½ cup (10.5g)
- Coconut, fresh, ½ cup (1.7g)
- Feijoa (1.7g)
- Figs, fresh (4.8g)
- Grapes, ½ cup (13.2g)
- Grapefruit (11.8g)
- Kiwifruit (8.0g)
- Lemon, 1 small (10.0g)
- Lime, 1 small (9.0g)
- Mandarin (8.5g)
- Mango, ½ cup (12.9g)
- Melon, ½ cup (4.4g)
- Nectarine (11.2g)
- Orange (11.0g)
- Papaya/pawpaw (5.1g)
- Peach (9g)
- Pear (19g)
- Pineapple, ½ cup (9.3g)
- Plum (6g)
- Tamarillo (2.3g)
- Watermelon, 1 slice (10.9g)

YES, but only a little

- Banana (31g)
- Fruit, canned in juice, drained, eg. ½ cup canned peaches (9.6g)

NO

- Any fruit with sugar coating or deep-fried with highly-processed vegetable oils (e.g. toffee apples, deep-fried bananas)
- Fruit, canned in juice, not drained, ½ cup (12.4g)
- Fruit, canned in syrup, drained, ½ cup (13g)
- Fruit, canned in syrup, not drained, ½ cup (28.9g)
- Dried fruit, mixed, ½ cup (59g)

ANIMAL PROTEIN SOURCES

All these foods have minimal, if any, carbohydrate in them, therefore no values have been listed.

YES

- Eggs
- Fish: all species
- Good-quality bacon and sausages from any type of meat (no gluten or lactose fillers)
- Organ meats: liver, kidney, heart
- Poultry: any cuts or pieces of the chicken, duck, pheasant, turkey (save the carcass/bones to make a bone broth)
- Red meat: all types, any cuts – beef, lamb, pork, ham, venison, veal, goat
- Seafood: mussels, prawns, crayfish, scallops, paua, marinara mix

YES, but only a little

- Crumbed meats: frozen crumbed fish fillets, fish cakes
- Cured/pickled/smoked meats and fish
- Processed meats: bacon, salami/pepperoni, chorizo, ham, sausages

NO

- Highly processed/deep-fried meats (e.g. nuggets, canned Spam)

DAIRY

1 serving = ½ cup unless otherwise stated

YES

- Butter (trace)
- Cheese, any type (trace)
- Cream (3.5g)
- Crème fraîche (3.1g)
- Milk, full fat/raw (5.7g) Please note that if you are pregnant it is generally recommended to avoid unpasteurised (raw) milk.
- Sour cream (3.3g)
- Yoghurt, plain, unsweetened, full-fat (3-8g)
- Yoghurt, plain, unsweetened, low-fat (5.3g)

YES, but only a little

- Cheese, processed (trace)
- Yoghurt, fruit, low-fat (4.7g)

NO

- Ice-cream (21-26g)
- Yoghurt, frozen (18g)
- Yoghurt, fruit/plain, low-fat, sweetened (11-17g)
- Flavoured milk (12.3g)

NON-DAIRY

1 serving = ½ cup unless otherwise stated

YES

- Coconut milk (1-3g)
- Coconut cream (3-5g)
- Unsweetened almond milk (0.4g)

YES, but only a little

- Goat's milk (5.4g)
- Rice milk (5.5g)
- Soy milk (4.7g)

NO

- Non-dairy creamer, 1 tsp (1g)

Note: Non-dairy creamer might be low in carbs, but it is made up of many processed and unhealthy non-food ingredients.

NUTS, SEEDS AND LEGUMES

1 serving = ½ cup, unless otherwise stated

Legumes vary widely in their carb content; some are very high, so watch your portions.

YES

- Almonds, raw (5g)
- Almond meal (3g)
- Brazil nuts, raw (2.9g)
- Butter beans, cooked (1.4g)
- Cashew, raw (13.0g)
- Chia seed, 1 tbsp (6g)
- Linseed, 1 tbsp (0.5g)
- Macadamia, raw (3.2g)
- Mung beans, raw, sprouted (3.2g)
- Nut butter, 1 tbsp (0.5-4g)
- Pecan, raw (11.0g)
- Pine nut, raw (10.6g)
- Pistachio, raw (8.9g)
- Pumpkin seed (pepita), 1 tbsp (1.6g)
- Sesame seed, 1 tbsp (0.7g)
- Sunflower seed, 1 tbsp (0.6g)
- Walnut, raw (2.3g)

YES, but only a little

- Black beans, cooked (13.4g)
- Edamame beans, cooked (7.5g)
- Haricot beans, cooked (13.7g)
- Kidney beans, cooked (13.1g)
- Lentils, cooked (10-13g)
- Peanuts (6.2g)
- Tofu, cooked (0.7g)

NO

- Processed seed-based oils: sunflower, grape-seed, safflower, sesame
- Adzuki beans, cooked (24.5g)
- Chickpeas, cooked (23.3g)
- Pearl barley, cooked (20.7g)
- Split peas, cooked (21.6g)

FATS AND OILS

All these foods have minimal, if any, carbohydrate in them, therefore no values have been listed.

YES

- Avocado oil
- Butter
- Coconut oil
- Duck fat
- Hemp oil
- Lard
- Macadamia/other nut-based oil
- Olive oil

YES, but only a little

- Sesame oil
- Peanut oil

NO

- Highly-processed vegetable oils: canola, sunflower, rice-bran, soya-bean, corn, grape-seed, safflower, palm (environmental reasons)
- Margarine



CONDIMENTS, SAUCES AND DRESSINGS

1 serving = 1 tbsp, unless otherwise stated

A word on dressings. While many dressings and sauces are low in carbs (e.g. blue cheese, Caesar, ranch, French, Italian, etc), store-bought varieties are often made with processed vegetable oils such as canola and sunflower oil. Try to find some that have olive oil only, or make your own.

YES

- Aioli, olive oil-based (1.1g)
- Coconut milk/cream, ½ cup (2-3g)
- Curry paste (1.0g)
- Fish sauce (0.8g)
- Lemon/lime juice (0.3g)
- Mayonnaise, olive oil-based, low sugar (0.2-3g)
- Mustard (1.7g)
- Oyster sauce (1.2g)
- Pesto (0.7g)
- Salad dressings made from good oils and vinegar
- Soy/tamari sauce (1.2g)
- Tahini (0.2g)
- Vinegars (0.1g)
- Wasabi/horseradish sauce (1.7g)
- Worcestershire sauce (3.1g)

YES, but only a little

- Commercial, high-sugar mayonnaise or aioli that contains processed vegetable oils
- Chutney (6.3g)
- Hummus (1-3g)
- Salsa (1-7g)
- Tomato relish (2-7g)
- Tomato sauce, commercial (4g)

NO

- Honey (16.5g)
- Mint jelly (10g)
- Pasta sauce, 1 cup (26g)
- Syrup (11.4g)

BEVERAGES

1 serving = 200ml (1 small cup)

YES

- Coffee, brewed (0.8g)
- Tea (0g)
- Water, still or sparkling (0g)

YES, but only a little

- Diet drinks (0g)
- Diet soda (0g)

NO

- Cordial, concentrate, syrup, 2 tbsp (17.5g)
- Energy drinks (21.4g)
- Flavoured milk (19.7g)
- Fruit juice (16-23g)
- Soft drinks (22.5g)

CONFECTIONERY

These items are all high in sugar; part of embracing the LCHF lifestyle is about altering the "sweet" palate, so limit overall intake.

YES, but only a little

- Dark chocolate: 55% cocoa, 2 squares, 20g (1-10g)
- Dark chocolate: 70% cocoa, 2 squares, 20g (7-9g)
- Dark chocolate: 85% cocoa, 2 squares, 20g (5-8g)
- Dark chocolate: 90% cocoa, 2 squares, 20g (4-6g)

NO

- Chocolate: Dairy milk or other variety, 2 squares, 20 g (11-15g)
- Sugar-free chewing gum (0g)
- Lollies, eg. 10 small jellybeans (10.3g)
- 2 jelly snakes (40g)

SWEETENERS

All sweeteners have minimal, if any, carbohydrate in them, therefore no values have been listed.

YES, but only a little

- Natural sweeteners: stevia, Natvia
- Xylitol

NO

- Artificial sweeteners: Equal, Sucaryl, Sugromax, Splenda

MISCELLANEOUS

YES

- Japanese Konjac noodles (carb-free, made from an Asian fibrous vegetable), ½ cup (1g)

YES, but try not to!

- Carb-less protein bars, 1 bar (4-6g), watch for hidden carbs



10. FAQ and troubleshooting for getting started

I feel worse at first — is that normal?

Yes. It's common to feel headachy or tired in the first few days as your body adapts to lower carbohydrate intake. This usually settles. Extra fluids, salt, and magnesium can help.

I take medication; does that matter?

Yes. If you take medication for diabetes or blood pressure, dietary changes can affect your blood sugar and blood pressure. Talk with your healthcare provider before making major changes.

What about fibre?

You don't need wholegrains to get enough fibre. Non-starchy vegetables, fruit, nuts, and seeds can provide adequate fibre when chosen regularly.

I'm constipated – what should I do?

This can happen early on. Increase fluids, include more non-starchy vegetables, and consider magnesium if needed.

Do I need to snack?

Often, people feel less need to snack as blood sugar control improves. Focus on balanced main meals with protein, fibre, and healthy fats. If needed, choose small, whole-food snacks.

Can I still eat fruit?

Yes, in moderation. Choose whole fruit over juice and prioritise lower-sugar options.

Resources

For further resources, visit **[Metabolic Health NZ](https://www.metabolicealthnz.org)**

This guide provides general information and is not a substitute for personalised medical advice.