

Low Carbohydrate nutrition for Type 2 Diabetes

17 per cent of New Zealanders over 65 have Type 2 Diabetes (around 135,221)

Type 2 Diabetes prevalence and risks

17 per cent of New Zealanders over 65 have Type 2 Diabetes (around 135,221). This is an alarming statistic due to the complications Type 2 Diabetes can cause for a person's overall health. Type 2 Diabetes is a disorder of the endocrine system. It's an impairment in the way the body uses and regulates glucose in the blood. Subsequently too much glucose is circulating in the blood and can lead to disorders of the nervous, immune and circulatory systems.

Nutrition as a simple intervention in the aged care setting

Low carbohydrate nutrition has been researched, with good outcomes, as a therapeutic measure for those with Type 2 Diabetes. This can be of significant use in the aged care setting, as a simple measure for improving the quality of life for those with Type 2 Diabetes. Particularly where other lifestyle measures such as exercise may be limited due to mobility, nutrition is a simple daily measure that can be used to treat Type 2 Diabetes and reduce clinical costs.



Here is some practical advice around implementing this and monitoring residents. Individual advice for each resident should be sought from a Registered Clinical Nutritionist trained in low carbohydrate nutrition and the residents medical professional (GP or Diabetic Care Nurse).

Positive effects of Low Carbohydrate Nutrition on blood sugar, lipids and body weight reduction

Type 2 Diabetes is linked to obesity and elevated blood lipids. In one study following 64 obese subjects with elevated blood glucose, it is interesting to note that not only a drop in blood glucose has occurred but also a drop in body weight and a decrease in blood lipid markers for these patients. The study was conducted over a period of 56 weeks. Thus showing a really beneficial effect long term for adherence, blood glucose reduction, body weight reduction and blood lipids.

Monitoring in the initial period and ongoing

If a resident is prescribed insulin for their Type 2 Diabetes diagnosis it is really important to monitor blood glucose levels closely when embarking on a low carbohydrate lifestyle due to the high risk of hypoglycaemia. In this instance the care facility staff should monitor blood sugars four times daily (before meals and before bed or as recommended


by their registered health professional) and work closely with the resident's doctor as to when the insulin should be reduced and/or ceased.

The risk of hypoglycaemia with diabetic prescription medications is low and whether or not a patient stays on these as blood sugars lower can be discussed with the resident's doctor on an individual basis. If a resident is prescribed anti-hypertensives for high blood pressure, then blood pressure should be monitored closely when embarking on a low carbohydrate diet. The high blood pressure insulin levels can cause sodium retention, and this is often quickly resolved with a low carbohydrate diet.

How to implement a low carbohydrate lifestyle

From a practical perspective keeping it simple is best. A diet consisting of 10 per cent carbohydrate, 25 per cent protein and 65 per cent fat across total calories for the day is a good start for most. Essentially following a low carbohydrate diet is eating eggs, meat, fish, chicken, nuts, seeds, low to no lactose dairy, low sugar fruit and plenty of green vegetables (above ground), and cutting out sugar, highly processed packaged foods, starchy carbohydrates and grains. Nutrient dense, wholefoods should be consumed predominantly. Packaged foods tend to be over processed, contain added refined sugar and industrially produced oils that can lead to inflammation. If you are using any packaged foods check the ingredients first for either of these. Make sure you know what it is in the food provided.

Protein should be prioritised at each meal. Amino acids contained in protein are the building blocks of the body and increasingly important across the lifespan. As the aging process occurs the body naturally works against itself by way of a process called sarcopenia (muscle wastage). You can combat this for residents by ensuring they eat at least 1.8gms of protein per kg (note this is not the weight of the actual food but the weight of the protein content in the food) of bodyweight daily and get at least a little exercise (resistance is best for this and should be appropriate to the resident) daily.



Low Carbohydrate Berry Nut Smoothie

- 250mls cashew or almond milk
- Handful of berries
- 50 gms plain unsweetened yoghurt
- 1 tbsp peanut butter
- 1 scoop protein powder

Blend and serve

Foods high in protein include eggs, fish, meat, and chicken etc. Protein powders may also be used where a resident cannot or is struggling to consume enough protein from other sources. Bone broth and whey protein powders have the best amino acid profile. Plant based pea protein powders can be used if dairy is not tolerated. Protein powders are a convenient way to add in protein by

way of a smoothie as a snack or a complete meal with the right additions. Low to no lactose dairy includes full fat yoghurt, butter and cream. This is of course only appropriate to those who tolerate dairy.

In terms of carbohydrates, low sugar fruit consists of berries. As it is an accumulation of carbohydrate across a day it may be appropriate at times to include a small amount of vegetables such as carrots, pumpkins and onions etc. Variety will of course improve nutrient consumption also and this should be a priority. Healthy fats include cold pressed oils, and good quality dairy.

Ref: Aged Care New Zealand Issue 02 2022

Author: Rosie James, Registered Clinical Nutritionist