

Why carbohydrate counting should be explicitly allowed for Disability Tax Credit eligibility

Introduction

The Disability Tax Credit (DTC) was established nearly 20 years ago to help Canadians who live with disabilities cope with the extraordinary medical costs that treating their disabilities necessitates. Many people with type 1 diabetes¹ may be eligible for the DTC, but less than 5 per cent of them are accessing the program.

One key reason is confusion over eligibility criteria. Due to inconsistencies between the Income Tax Act and the Canada Revenue Agency's interpretation of it, Canadians with type 1 diabetes applying for the DTC are not allowed to count the time they spend counting carbohydrates in order to calculate insulin doses towards the requirement that they spend an average of 14 hours per week managing their diabetes.

Because it is *impossible* to calculate an appropriate dosage of insulin without factoring in carbohydrates, the current approach displays a fundamental misunderstanding of the disease, makes apparent a contradiction between the CRA's Operating Manual and the Act itself and must be corrected. The CRA's present approach results in much inequity as claims referencing carbohydrate calculation may be declined whereas other claims that reference dosage calculation may be approved even though both applicants must first know how many carbs have been consumed in order to calculate the appropriate dosage of insulin.

Considerations for Disability Tax Credit Eligibility

People with diabetes who qualify for the DTC generally do so under the category of Life-Sustaining Therapy (LST). The eligibility criteria for LST require that a medical practitioner certify that their patient spends at least 14 hours per week treating their disease. In the case of diabetes, eligible activities include monitoring and logging blood sugar, calibrating and preparing equipment and calculating and administering doses of insulin.

The Income Tax Act Section 118.3(1.1)(b) is explicit in including "time spent on activities that are directly related to determining the dosage of the medication" except for, as per 118.3(1.1)(d), "time spent on activities related to dietary or exercise restrictions or regimes (even if those restrictions or regimes are a factor in determining the daily dosage of medication)".

¹ Note: for the purposes of simplicity, we speak about people with type 1 diabetes in this paper, but note that the same realities may apply for some adults with type 2 who require rigorous medication and diabetes management regimes.

Unfortunately, the CRA has interpreted this provision to mean that carbohydrate calculation is excluded and has directed its reviewers in section 4.9(3)(2) of its Disability Tax Credit Operations Manual (TOM) not to count this time towards the 14 hour requirement.

DTC Operations Manual (2013)

Page 42, section 4.9(3)(2)

The activities that are considered part of following a dietary regime, such as carbohydrate calculation, as well as activities related to exercise, do not count toward the 14-hour requirement (even when these activities or regimes are a factor in determining the daily dosage of medication).

Page 43, section 4.9.1, para 3

Carbohydrate calculation is not a dietary regime. Instead, it is a critical means of assessing the amount of a life-saving medication that a person afflicted with type 1 diabetes (who has a complete inability to metabolize carbohydrates without insulin) must perform to survive.

In cases where a folio, interpretation or direction might appear to be in contradiction with the Act, the Act should take precedence. As such, carbohydrate counting should never have been excluded from activities that can be counted towards DTC eligibility.

There are two ways to address this problem. Firstly, the CRA can and should amend their thinking on carbohydrate calculation and revise the direction given in their Disability Tax Credit Operations Manual to it as an integral and necessary component in insulin dosage calculation.

For greater clarity, Section 118.3 (1.1) (d) of the Income Tax Act should also be amended by replacing the words “even if” with “except where” making clear that where what one is eating is an inseparable function for calculating appropriate dosage for life-sustaining therapy that this activity is to be counted toward the 14 hour requirement.

Carbohydrate counting and insulin dosing

Carbohydrate counting, or "carb counting," is an increasingly common method for calculating doses of insulin and managing blood glucose levels, most often used by people who take insulin twice or more times a day. All people with type 1 diabetes, who require multiple daily injections or infusions of insulin to live, are taught to count carbohydrates in order to calculate each dose of insulin.

Carb counting involves counting the number of carbohydrate grams in a meal and factoring that in when calculating the required dose of insulin to metabolize that carbohydrate. Foods like grains, starchy vegetables, fruit, dairy products and legumes all contain carbohydrates.

People determine how many grams of carbohydrate are in a meal or snack by consulting food labels, checking online tools or by estimating. The amount of fat and protein in a meal must also be calculated, as it affects how quickly the carbohydrates will be turned into blood glucose. Then a patient using carb counting must factor in their blood glucose level and other variables such as exercise, stress or illness to calculate how much insulin they need to take to manage their blood sugar following that meal.

Example

Bill lives with type 1 diabetes. He is about to sit down to have lunch. He checks his blood sugar and determines that it is 5.9 mmol/dL (which is in his target range).

He plans to eat a ham and cheese sandwich made with two slices of whole wheat bread and an apple. By consulting the packages of the bread, ham and cheese and by estimating based on the size and variety of the apple, Bill estimates that his meal will consist of 50 grams of carbohydrate. He also calculates that it will include 5 grams of fibre, 14 grams of protein and 11 grams of fat.

He subtracts the 5 grams of fiber from the 50 grams of total carbohydrate and knows that he needs to take insulin to cover 45 grams of net carbohydrate.

Bill has calculated a ratio of insulin to carbohydrate with his medical professionals (and regularly adjusted it as his metabolism has changed over time), and that ratio is 1 unit of insulin for 5 grams of carbohydrate. Thus, Bill calculates that he needs $(45/5) = 9$ units of insulin. He then estimates that the protein and fat will slow down his metabolism of that carbohydrate, so he estimates he needs half a unit of insulin less, or a total of 8.5 units.

He remembers that he plans to play tennis with a friend after lunch, and knows that aerobic exercise will likely reduce his insulin needs by a further 30 per cent.

So he decides to take $(8.5 \times 70\%) = 6$ units of insulin.

Before carb counting became commonly used, people with diabetes on multiple daily injections of insulin had to eat preset amounts of food at preset times in order to absorb insulin they had taken, often hours before. For many people with diabetes, carb counting allows them to better control their blood sugar while also allowing them the flexibility to eat when and what they want so is becoming increasingly common practice in self-management of diabetes.

Carb counting can be complicated (see text box), involving as it does education, practice, and ongoing support from a patient's health care team. For example, over time the amount of insulin a patient needs to cover the same amount of carbohydrate often changes, so the ratios they must use to calculate their insulin dose can frequently change as well.