



# PHYSICAL ACTIVITY AND DIABETES

The incidence of diabetes continues to increase in the Caribbean due to many contributing factors, but the most significant factors are directly linked to prevalence of sedentary lifestyle, diet and obesity. In this issue of **Nyam News** we will explore why it is so important to practise a healthy lifestyle through physical activity to prevent or control diabetes.

The benefits of physical activity are greatest in the early stages of the disease. In fact, studies have shown that exercise and a healthy diet can prevent the development of type 2 diabetes in people with Impaired Glucose Tolerance (IGT). IGT, often referred to as 'pre-diabetes' is a condition that is developed prior to type 2 diabetes. The problem with IGT and type 2 diabetes is that many people display no symptoms, and are therefore

unaware that they are living with the condition.

Lifestyle changes affect diabetes and can help to prevent or delay the onset of type 2 diabetes. What are some ways in which these changes can be achieved? Most of us know about eating healthy meals and staying away from certain foods, but how does exercise help, apart from obvious advantage of contributing to weight control? In people with "pre-diabetes" blood glucose levels are higher than normal, but not high enough to be defined as diabetes. During physical activity, the body uses up energy, tapping into this additional store of glucose. Regular physical activity proves beneficial by means of improved glycaemia control, increased cardio-respiratory fitness, decreased insulin resistance, improved blood pressure, improved lipid profile (a measure of the level

of fats in the blood) and endothelial function (which relates to the health of your blood vessels' inner cells) as well as maintenance of weight loss.

Large population-based studies in several developed countries suggest that moderate reduction in weight and walking each day for half an hour, reduces the incidence of diabetes by more than half in overweight individuals. Thus, regular physical activity is a primary preventive measure for individuals who may be susceptible to the condition.

## Physical Activity and Type 1 Diabetes

In spite of all that has been said about the benefits of physical activity, in individuals with type 1 diabetes, exercise can actually have its downside. This is because with this type of diabetes, formerly

experience detrimental effects if not monitored carefully. Hypoglycaemia may be experienced as a result of vigorous activity, or more so, after several hours of prolonged exercise. Therefore, individual variations in insulin and carbohydrate requirements need to be taken into consideration. Adjustment of one or the other may be sufficient to prevent hypoglycaemia. The most important factor is the duration and intensity of physical activity. With longer and more intense activity, an individual needs less insulin and/or more supplemental carbohydrate.

When engaging in physical activity and exercise, diabetics should also assess their blood glucose levels in order to monitor complications which may arise. For example, people with Type 2 diabetes who manage the disease by meal planning and physical activity are not at risk for hypoglycaemia while exercising; however, those who use insulin or some other hypoglycaemic drug are

at risk. Furthermore, people with diabetes who engage in physical activity and exercise may have a decreased need for, or better utilization of, exogenous insulin, and thus may enjoy a decrease in diabetes medications.

Dangers which may result as a result from physical activity include complications from foot injuries, risks of myocardial infarction and even sudden death especially among older persons, proliferative retinopathy (for example, detached retina) as well as coronary atherosclerosis. However, these risks can be managed by balancing the level of physical activity in each individual within the context of these specific conditions.

#### Helpful Hints for Diabetics

Here is some general information that diabetics should bear in mind with regard to diabetes and physical activity:

- Exercise and participate in physical activities and sports.
- Make sure blood glucose monitoring equipment is available at all physical activity sites.
- Check blood glucose levels as required.
- Be aware that hypoglycaemia can occur during and after physical activity.
- Recognize and respond to the signs and symptoms of hypoglycaemia and hyperglycaemia and take relevant precautions.
- Drink extra water as hydration is important for anyone before and during sustained physical activity (exercise), but particularly for people with diabetes, given the effect of dehydration on blood glucose.
- Be prepared to treat post-exercise hypoglycaemia that may occur up to 24 hours after intense exercise. ♦

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