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DIABETES TYPE II INFORMATION SHEET

Diabetes Type II is on the increase in the UK, the number of confirmed cases of Type II Diabetes is expected to double between 2005 and 2010. If you have been diagnosed with Type II Diabetes you will have received information from your GP on your condition.

This information sheet supplements the information provided by your GP. It is intended to help you understand the implications of this disease on the lifestyle choices you now need to make if you are to remain healthy – your Personal Trainer can support you through this process.

What is Diabetes?

Diabetes is the partial or complete failure of the body's blood sugar regulation system. Diabetes Type I and Type II affect different stages in the blood sugar regulation system. Diabetes Type II usually occurs later in life and has in the past been called 'Late onset Diabetes'. This term is no longer used to describe the disease as more and more younger people and even children have been diagnosed in recent years.

It is useful to have a basic understanding of the blood sugar regulation system in order to better understand the disease in its two main variants – Type I and II.

How the body's blood sugar regulation system works - overview

The body uses hormones to maintain blood sugar within required limits at all times – neither too high nor too low. When the blood sugar level is too high, the hormone insulin is secreted from the pancreas into the blood. Insulin instructs the liver, fat and muscle cells to 'open up' and absorb blood sugar (glucose) from the blood and to store it.

Conversely when blood sugar levels are too low, a different hormone called glucagon is released from the pancreas into the blood. When glucagon makes contact with cells in the liver it chemically instructs them to release stored glucose (blood sugar) back into the blood to raise blood sugar to an acceptable level. The balance between the effect of these two hormones ensures that blood sugar levels are kept within acceptable limits. Glucose is the primary fuel for the brain, so it is essential that the correct levels are maintained in the blood.

- **Diabetes Type I is the failure of the pancreas to manufacture or secrete insulin into the blood.** It is usually associated with a genetic defect, which results in the faulty operation of the pancreas. Type I Diabetes manifests itself in childhood and requires the patient to inject insulin (to replace that not provided by the pancreas) and to follow strict dietary constraints for the rest of their life.

- **Diabetes Type II occurs when the body's cells become resistant to the action of insulin (it is often referred to as 'Insulin Resistance')**. This means cells do not 'open up' to store excess glucose when blood sugar is too high - even though insulin is present to instruct them to do so. With the loss of the correct response to insulin, the body cannot reduce blood sugar levels by storing excess glucose (blood sugar) in cells. As a result, any excess glucose has to be filtered from the blood by the kidneys and excreted in urine, however the kidneys are not really designed for this purpose and not only struggle to keep up, but often get damaged in the process.

What causes Type II Diabetes?

The major cause of Type II Diabetes is prolonged exposure to processed or inappropriate foods combined with lack of sufficient exercise.

Changes in the lifestyle of the populations in the Western World over the last thirty years have led to huge rises in the incidence of Type II Diabetes in the USA and Europe – it is now a major disease, pre-Second World War it was a very rare disease.

Sadly the vast majority of this increase is a direct result of our modern lifestyle.

Who is at risk of Type II Diabetes?

Not everyone who eats processed foods and does not do enough exercise will get Type II Diabetes of course; Mother Nature is unfair in these matters. You are more at risk of Type II Diabetes if you...

- Are carrying excessive weight – (clinically or morbidly obese)
- Are of West Indian, Afro-Caribbean or Asian genetic decent
- Have high blood pressure (Hypertension)
- Have been prescribed certain medications over a long period

If you do not have Diabetes but are in one or more of the above groups, do not be alarmed – *being in one of the above groups does not cause Type II Diabetes*, but it does put you at more risk of developing it if you do not follow a healthy diet and perform regular exercise.

How does Type II Diabetes affect me?

If Type II Diabetes is not managed properly, it can result in very serious complications. These complications result from prolonged exposure to high blood sugar levels, excess sugar in the blood will form syrupy deposits in blood vessels, which will start to clog up and restrict veins and arteries. Your eyes contain many small blood vessels which are easily blocked by these syrupy deposits resulting in eye damage - Diabetes is now the biggest cause of non-accident related sight loss in the UK.

Your kidneys will be strained by their attempts to filter out excess sugar from your blood – a job they were not intended to perform. As a result kidney damage or even failure can occur if you do not manage your condition well.

The syrupy deposits in arteries will furr them up in the same way that fatty deposits do, this can lead to Angina, Coronary Heart Disease and Strokes.

The same clogging of blood vessels results in loss of circulation. Extremities, particularly the feet, are at risk of restricted circulation and this can result in localised tissue death, which manifests itself as blackened areas – these **MUST** be reported to your doctor immediately.

If you have Type II Diabetes it is essential that you modify your lifestyle and manage your condition if you are to avoid the very serious complications of this disease.

How do I fight back against Type II Diabetes?

The best way to fight back is to urgently review your lifestyle, work on adopting a regular and health eating pattern based on natural foods and ensure you get half an hours moderate exercise at least five days a week – a brisk walk is ideal. Because your body has lost the ability to control it's blood sugar levels automatically, you will have to manage your blood sugar consciously by ensuring you follow the correct dietary control procedures and that you get regular exercise.

Why diet control?

Managing your diet is key to preventing the serious complications of Type II Diabetes. You need to avoid eating sugary foods - small amounts of sugar can be eaten as long as it is with a main meal – but *never* on it's own. Increased sugar in the diet is the single biggest cause of Type II Diabetes, so it is highly likely that your diet up to now has contained a lot of sugar, (either knowingly or unknowingly). This must now stop! Sugar is almost pure glucose (blood sugar). When you eat it, your body absorbs it very quickly into the blood. This will send your blood sugar levels soaring. Insulin would normally lower this for you, but although insulin is still produced, your cells are now resistant to it, so it has little or no effect, so there is nowhere for the excess sugar to go. You will now have to do the job of insulin for yourself by avoiding sugar at all times and ensuring your blood sugar is maintained within acceptable limits using your eating habits.

Why Exercise?

Exercise stimulates hormone releases and produces chemical reactions in the body that reduce Insulin Resistance. Insulin Resistance is the key marker of Type II Diabetes. Exercise will allow your body's cells to absorb more blood sugar in response to the chemical message from insulin. This reduces the relative severity of the disease and will help alleviate the fatigue often felt with diabetes – the more you exercise, the more your body will respond to insulin and the less fatigue you will experience.

Regular exercise will lesson the severity of your Type II Diabetes by reducing your body's Insulin Resistance. It will also hugely benefit your general health.

OK, what does all this mean for me in a nutshell?

In a nutshell

- **Eat regular modest, healthy meals – never skip a meal.**
- **Don't eat ANY sugary snacks.**
- **NEVER consume canned drinks such as colas, or the like that contain sugar – an average can contains 16 teaspoons of sugar!!!**
- **Go for a brisk (feeling reasonably out of breath) walk for at least 30 minutes five days a week – walking the dog is probably perfect!**

How about a little more detail?

The best nutritional advice I can give you is to eat natural foods. Traditional meals that contain good quality carbohydrates (potato, pasta, rice, bread) with a protein source (meat, fish, dairy or goats cheese) and several portions of veg or fruit (carrots, peas, broccoli, spinach, cabbage etc) are a good example. The old meat and two veg was good for previous generations. Make it meat and four veg and it's absolute tops!

When choosing carbohydrates ALWAYS go for the brown option...

Brown or wholemeal bread, brown or wholemeal pasta and brown or wholemeal rice and don't over cook them, leave them a bit 'el dente' as the Italians would say. These forms of carbohydrates are STRONGLY ADVISED for diabetics as they release their energy (sugars) slowly, which prevents blood sugar levels rising quickly after a meal.

Eat NATURAL FOODS. What does that mean? Well, when selecting food, ask yourself does this grow in the ground on a tree or plant, or does it get made in a factory. It's easy – go for the natural option and you won't go far wrong. Mother Nature knows best!

Exercise! Walking is great; you don't need any special equipment (perhaps an umbrella – this is England after all!) *Just do it!* You'll feel great after a few sessions. It is, quite simply *the* most natural and effective exercise you can do. For enhanced results, work with your Personal Trainer on an exercise programme to achieve weight loss and a better body shape to help you feel better about yourself and further enhance the health benefits.

Meal Ideas

This is all very well, but how about some hands-on meal advice.

Breakfast:

- Large glass of water, modest glass of freshly squeezed orange juice. Muesli with some fresh fruit (Kiwi, raspberries, strawberries are great) and topped with natural low fat yoghurt is perfect.
- Large glass of water, modest glass of freshly squeezed orange juice. Porridge – made from real oats, not some synthetic branded stuff, don't add sugar, if it needs sweetening add a little honey – remember Mother Nature knows best!

Lunch:

- Large glass of water, one or perhaps two wholemeal pitta breads with humus, some cherry tomatoes. Finish off with fruit of your choice.
- Large glass of water, low fat cottage cheese, half an avocado, cherry tomatoes, four slices of beetroot, one or two slices of wholemeal or granary bread. Finish off with a piece of fruit of your choice.

Evening meal:

- Large glass of water, baked salmon steak with wholemeal pasta, broccoli, carrots & peas (veg all steamed)
- Large glass of water, grilled chicken breast with organic brown rice and three steamed vegetables of your choice.

Snacks and nibbles:

For when you get the munchies (and we are all human!), stock up on natural nibbles... Mixed nuts (NOT salted or dry roasted!) and raisins are full of vitamins and minerals, olives, dried figs, mixed dried fruit – all can be kept in a Tupperware type container for easy nibbling access - Natural, healthy and nutritious.

Don't let Type II Diabetes get you down. If you manage your diabetes using diet and exercise as outlined above, not only will you hugely reduce the chances of complications, you will also improve your general health so much, that within six months you will be astounded by the positive changes in your health, fitness and sense of well-being.