

UNDERSTANDING DIABETES

Who's at risk of diabetes?

There is no way of knowing who will develop Type I or type 2 diabetes – anyone could, but some people are more susceptible than others. These are the factors that put you at a greater risk of developing diabetes.

Age

Type 2 Diabetes is the most common form of the disease, and, as its former name adult – or maturity – onset diabetes implies, it usually occurs among the over – 40s. The older you get, the great the risk of developing this form of diabetes.

Diabetes in the family

Diabetes isn't passed down directly from parent to child, but if someone in your family has diabetes, then you are at a slightly increased risk. The closer the relative or the more relatives you have with diabetes, the greater the risk, if both of your parents have diabetes, the risk is raised considerably.

Ethnic origin

People in Afro-Caribbean or South East Asian origin are three to five times more likely to have diabetes than Caucasians. Recent studies have shown that over 20% of Indian men over the age of 50 have diabetes.

Weight

Some 80% of the million people in the UK with Type 2 diabetes are overweight. The more overweight you are, the greater your risk of diabetes, not to mention heart disease, high blood pressure and other health problems.

Diabetes and pregnancy

When you are pregnant, you can develop gestational diabetes that lasts for the duration of your pregnancy. Having gestational diabetes means you are more at risk of developing Type 2 diabetes in later life, and more likely to give birth to a big baby weighing more than 4 kg.

High blood pressure

Having high blood pressure doesn't cause diabetes, but if you do have high blood pressure, you are automatically putting yourself a higher risk group for diabetes. And if you have diabetes already, having high blood pressure

makes it worse, and can accelerate complications. It makes sense to keep your blood pressure under control, whether or not you have diabetes.

Sedentary lifestyle

If you have sedentary job, and don't take regular exercise, you are increasing your risk of developing diabetes. You're more likely to be carrying extra weight as well, and this is another risk factor.

High cholesterol

Having elevated cholesterol levels is bad for your health in all sorts of ways – it increases your risk of heart disease and stroke, as well as diabetes.

Pancreatic problems

If you have suffered damage to your pancreas – often brought on by long-term alcohol abuse - or you have had an operation on it, your beta cells may be damaged or you may not be producing enough digestive acids to break your food down properly. And either of these conditions can affect blood sugar.

Steroids

The higher the amount of steroids you're taking, the greater your chance of getting diabetes. The greater the amount of steroids, the greater the boost to

your blood sugar. However they create a dependency that means that, even if you stop taking them, you will still have diabetes.

The side effects of diabetes

If you have diabetes, your healthcare regime shouldn't stop at the condition itself. Unfortunately, uncontrolled diabetes can bring on a number of related conditions that you will have to guard against as well.

Because diabetes affects your blood sugar levels, it can reach every part of your body, from head to toe, via the blood stream. Having diabetes means you have a higher risk of developing other health problems, including heart disease, stroke, high blood pressure and circulation problems. This in turn can lead to nerve damage, kidney damage and problems with your feet. There is also risk of damage to your eyesight; one of the most common concerns of those diagnosed with diabetes is going blind. But don't panic. Blindness, kidney failure and heart disease are very serious complications, but they only arise if someone who has diabetes goes untreated, and does not manage their condition for a very long time. With the right medication and the right diet and exercise routine, you and your healthcare team can eliminate almost all the side effects of diabetes, and any potential problems can be addressed as soon as they crop up. Early diagnosis and prompt treatment will keep you healthy and prevent any major complication before they arise.

Feet

High blood sugar levels can damage your nerve endings. This is called diabetic neuropathy, and results in an uncomfortable tingling, pain or numbness in the hands and feet, especially during the night. Combine this with possible circulatory problems and your feet are vulnerable. If you have lost some of the sensation in your feet, and the blood flow to them is restricted, any blisters, cuts or other small problems can escalate and become infected.

Around 5% of people with diabetes in the UK develop ulcers on their feet every year. You can minimize the risk to your feet by always wearing roomy, comfortable shoes, and thick, soft socks. Check your feet regularly for calluses, cuts, bruises, and wash and dry them thoroughly including between your toes. As romantic as it sounds, avoid walking barefoot on beach and other outdoor places where there could be sharp stones, shells, rock etc underfoot – if you can't feel your feet as well as you used to, you might not notice a small nick that would cause problems if left untreated. Foot spas may not be suitable for people with diabetic neuropathy, so check with your healthcare team before using one.

If you have any problems with your feet, mention them to your doctor next time you go for a check up. If your feet become suddenly swollen or discoloured, don't wait until your next scheduled appointment, it is vital to go and see your doctor immediately.

Skin

There is a vast network of capillaries carrying blood to and from the surface of your skin. When you have diabetes, these blood vessels can be affected and in turn this can cause skin problems. **Necrobiosis** is a skin condition associated with diabetes that can be unsightly and painful. It is much more prevalent in female diabetics than males, but the risk of developing it is not altered by ethnic origin. Necrobiosis starts with small patches of skin becoming raised, almost like scar tissue, and it can be itchy or painful. Although it can make you feel self-conscious, it is not too serious unless the skin breaks, in which case there is a danger of ulceration or infection. Possible treatments include UV light, or cortisone either as a cream or by injection, but there is no magic cure. Necrobiosis can happen to people with diabetes even if they keep their blood sugar levels within strict limits.

Kidneys

One in four of all people with diabetes will go on to develop nephropathy, or kidney disease. It is a slow process, and a sufferer may have had diabetes for 20 years or more before developing it. The best way to avoid it is simply to keep your blood sugar level between 4 and 8 mmol/l.

Your kidneys act as a filter, cleaning your blood and removing waste products into your urine. They also regulate salt levels in your system to control your blood pressure, and release certain hormones into your body. All of these functions can be impaired when kidney disease occurs. If you can't get rid of waste products from your blood effectively, they will build up in your body and make you extremely ill. If you have diabetes you should have your urine tested every year to monitor your kidney functioning, so that any problems can be caught as early as possible. If you do develop kidney disease, you will have to control your blood pressure, and possibly modify your diet. In extreme cases, when your body cannot clean and filter your blood itself, dialysis may be the best option.

Heart

People with diabetes are at least twice as likely as people who don't have diabetes to develop heart disease, but, just like everybody else, there is plenty you can do to minimize your risk. First and foremost, quit smoking. Smoking just five cigarettes a day doubles your chance of heart disease, so don't just cut it out completely. Maintain a healthy weight, do regular exercise, let go of all stress, and keep your cholesterol in check – all these common sense health tips are even more important when you have diabetes.

Stomach

As your body tries to cope with the effects of diabetes, it can play havoc with your digestion. Up to half of all people who have Type 1 diabetes suffer from gastro paresis, a condition that makes the stomach take too long to empty, although the majority of diabetics only have it mildly. Food travels through the intestines as it is digested, and that movement is controlled by a series of muscles that are in turn is controlled by the Vagus nerve. High blood sugar levels can damage this nerve and the blood vessels that supply it inhibiting your body's ability to digest properly.

If food stays partially digested in your stomach for too long, it can form hard lumps (bezoars) that can block the small intestine. Alternatively, the undigested food can start to ferment inside you, causing nausea and vomiting. Of course these are symptoms of many conditions, or even food poisoning, so if you suffer from them, see your doctor to get a diagnosis. **Gastro paresis** is a chronic condition, so in most cases the next course of action is to regulate blood sugar levels carefully and discuss with your doctor or health care team how to alter your diet.

Sexual health

Diabetes affects men's and women's sexual health differently, but none of the problems are incurable. Poor blood sugar control can affect a woman's oestrogen levels, causing vaginal dryness and even urinary tract infections, while Type 2 effects can make sex uncomfortable to the point to causing pain and very likely to have a negative effect on a woman's enthusiasm for sex. However, dealt with promptly, these problems are treatable, and lubricants dealt are widely available.

Although it's not true that diabetes causes impotence, there is greater than average chance that men with diabetes over the age of 50 will, at some point, experience difficulties in getting an erection. The secret is not to keep it a secret: talk to your partner and your doctor about what remedies may be appropriate. If you are having difficulty in this area, be careful not to drink too much and monitor your cholesterol level, as both can influence your ability to get and maintain an erection. ‘

Osteoporosis

Osteoporosis, the debilitating loss of bone density, has been linked in both types of diabetes as a possible side effect. Studies have suggested that girls and young women with type 1 diabetes have lower bone density than people

without diabetes, considerably increasing their risk of bone fractures. While low insulin levels may be the cause, research is also examining levels of oestrogen linked to the bone-building hormone osteocalcin. Adult women with type 1 diabetes should have a bone scan at the first sign of menopause, and young or adolescent girls should make sure they get plenty of calcium.

In a US study of 10,000 women over the age of 65, those with type 2 diabetes were found to have an 80 to 90% greater risk of hip and shoulder fractures than non-diabetics. However, research is thus far, inconclusive as to why these figures are so high.

Understanding the Glycemic Index

Everyone seems to be talking about the glycemic index (GI) and good health, but what does it all mean? And how can the GI help you?

What is the GI?

The glycemic index (GI) is a ranking of carbohydrates according to their effects on blood glucose levels (BGLs). Foods with a high GI are digested and absorbed quickly by the body which results in a rapid rise in BGLs. Low GI foods on the other hand are digested and absorbed slowly by the body and produce a slow gradual rise in BGLs.

How can the GI help me?

Choosing a low GI diet has been shown to have many benefits for good health including reducing insulin resistance, blood lipid levels and assisting with weight control. These benefits may help to reduce the risk of long term health problems such as heart disease and metabolic syndrome.

In fact, recent studies from the Harvard School of public health indicate that the risks of diseases such as Type 2 diabetes and coronary heart disease are strongly related to the GI of the overall diet. Key health authorities world wide now recommended diets based on low GI foods in order to prevent the common health conditions, such as coronary heart disease, diabetes and obesity.

For people with existing diabetes, low GI diets have also been shown to have many benefits. These include improving both glucose and lipid levels, which may help reduce the risk of long term complications.

What do the numbers mean?

Every food that has had its GI tested is allocated a number. This number is calculated based on the blood glucose response to the food over a two hour period compared with that of pure glucose. A low GI food has a GI of less than

or equal to 55, an intermediate GI food is between 56 and 69 and a high GI is that with a GI greater than 70.

While the numbers are important for calculating GI and identifying low GI foods, you don't need to memorise these, just remember which carbohydrate foods are the best low GI choice.

Does everything I eat have to be low GI?

Despite what many people think, not everything that you eat must be low GI. The idea is to aim to a well balanced diet that includes low GI carbohydrate choices. The easiest way is to try and include one low GI foods where possible. For example, choose grain bread instead of white, basmati rice instead of jasmine or natural muesli instead of cornflakes. Or if choosing a higher GI food, either reduce your serve size or simply serve with a low GI food, such as low GI yoghurt and fruit with a high GI cereal.

Why don't all foods have a GI value?

The GI only relates to foods containing carbohydrate. Protein, fats and alcohol do not have GI values as they don't directly affect blood glucose levels.

How can I work out the GI of a food when I'm shopping?

The GI doesn't appear on the nutrition information panel like other nutrients. However, there are a number of resources including books and web based information available to help you identify low GI food choices. The New Glucose Revolution: Shopper's Guide to GI Values is a useful booklet which provides information that can help you put together a low GI meal, check the GI of your favorite food, find healthy low GI alternatives, or find the lowest GI values within a food group. The glycemc index official website also contains a database of low GI foods. Go to **www.glycemicindex.com**

Are all low GI foods healthy choices?

The GI refers only to the blood glucose response to a particular food, it doesn't tell you about whether or not the food is low in fat, or salt or high in fibre. When choosing low GI foods remembers to read the nutrition information panel and make sure that the food is a healthy choice. The GI Symbol found on some food products can also help, as these foods have been GI tested plus meet strict nutrient criteria.

What is the glycemic load (GL)?

The glycemic load (GL) is an additional tool that takes into account the GI as well as the amount of carbohydrate in a food. The GL helps to explain the effect of different carbohydrate foods on BGLs.

How can I cook the low GI way?

Low GI cooking is simple – just look for recipes with low GI ingredients or modify your favorite recipes to include low GI carbohydrate ingredients such as legumes, sweet potato, paste, basmati, rice, corn, noodles, fruit or grains. There are also a number of low GI cookbooks now available. Go to the glycemic index website www.glycemicindex.com for more information on low GI cookbooks.

How can I make the switch to a low GI diet?

The easiest way to choose a low GI diet is to simply swap high GI carbohydrates for low GI alternatives. Try some of these nutritious choices to lower the GI of your diet.

- Breakfast cereals based on oats, barley and bran
- Breads with whole grains, stone ground flour or sour dough
- Sweet potato or corn
- Fresh or canned fruit

- Basmati or Doongara rice
- Pasta, Noodles or quinoa
- Salad vegetables with vinaigrette dressing (the vinegar lowers the GI of your meal).

HERBS in Diabetes

- ❖ Cedar berries are excellent nourishment for the pancreas.
- ❖ Ginseng tea is believed to lower the blood sugar level.

Caution: Do not use this herb if you have high blood pressure.

- ❖ Huckleberry helps to promote insulin production.
- ❖ Other herbs that may be beneficial for diabetes include bilberry, buchu, dandelion root, goldenseal, and uva ursi.

Caution: Do not take goldenseal on a daily basis for more than one week at a time, and do not use it during pregnancy. If you have a history of cardiovascular disease, diabetes, or glaucoma, use it only under a doctor's supervision.

Recommendations

- Eat a high – complex carbohydrate, low fat, and high – fiber diet including plenty of raw fruits and vegetables as well as fresh vegetable juices. This reduces the need for insulin and also lowers the level of fats in the blood.

Fiber helps to reduce blood sugar surges. For snacks, eat oat or rice bran crackers with nut butter or cheese. Legumes, root vegetables, and whole grains are also good.

- Supplement your diet with spirulina. Spirulina helps to stabilize blood sugar levels. Other foods that help normalize blood sugar include berries, brewer's yeast, dairy products (especially cheese), egg yolks, fish, garlic, kelp, sauerkraut, soybeans, and vegetables.
- Get your protein from vegetable sources, such as grains and legumes. Fish and low – fat dairy products are also acceptable sources of protein.
- Avoid saturated fats and simple sugars (except when necessary to balance an insulin reaction).
- Eat more carbohydrates or reduce your insulin dosage before exercise. Exercise produces an insulin like effect in the body. Talk to your doctor about the right approach for you.
- Do not take fish oil capsules or supplements containing large amounts of para-aminobenzoic acid (PABA), and avoid salt and white flour products. Consumption of these products results in an elevation of blood sugar.
- Do not take supplements containing the amino acid cysteine. It has the ability to break down the bonds of the hormone insulin and interferes with absorption of insulin by the cells.
- Do not take extremely large doses of vitamins B₁ (thiamine) and C. Excessive amounts may inactivate insulin. These vitamins may, however, be taken in normal amounts.

- If symptoms of hyperglycemia develop, go to the emergency room of the nearest hospital. This is a potentially dangerous situation. Intravenous administration of proper fluids, electrolytes, and insulin may be required.
- Avoid taking large amounts of vitamin B₃ (niacin). However, small amounts (50 to 100 milligrams daily), taken by mouth, may be beneficial.
- If you have a child with diabetes, be sure his or her teacher knows how to respond to the warning signs of hypoglycemia and hyperglycemia.
- If symptoms of hypoglycemia develop, immediately consume fruit juice, soda pop, or anything else that contains sugar. If the second treatment fails, or if you cannot ingest food, seek immediate medical attention and / or administer a glucagon injection. Anyone who has insulin – dependent diabetes should always carry a glucagon kit and know how to use it.
- Avoid tobacco in any form; it constricts the blood vessels and inhibits circulation. Keep your feet clean, dry, and warm, and wear only white cotton socks and well-fitting shoes. Lack of oxygen (because of poor circulation) and peripheral nerve damage (with loss of pain sensation) are major factors in the development of diabetic foot ulcers. Try to avoid injury, and take measures to improve the circulation in the feet and legs.

PRAMEHA

CLASSIFICATION OF PRAMEHA

A/C CHARAKA

KAPHAJA PRAMEHA

10 TYPES

UDAKA, IKSHU, SANDRA, SANDRA PRASADA, SUKLA, SUKRA, SITA, SHANAIH, LALA, SIKATA.

PITTAJA PRAMEHA,

6 TYPES

KSHARA, KALA, NILA HARIDRA, MANJISTA, RAKTA

VATAJA PRAMEHA

4 TYPES

MAJJA, VASA, HASTI, **MADHU**

LINE OF TREATMENT A/C TO AYURVEDA

**STHoola PRAMEHI BALAVAN HAIKAHA
KRUSHASTHATHAIKAHAPARIDURBALASCHA
SAMBRUMHANAM TATRA KRUSHASYA KAARYAM
SAMSHODHANAM TATRA BALADHIKASYA.**

**(STHoola PRAMEHI - SAMSHODHANA, APATARPANA USING
GURU DRAVYA**

**KRUSHAPRAMEHI - BRUMHANA, SANTARPANA- LAGHU
DRAVYA, BECAUSE OF DHATU KSHAYA)**

IN THE CONTEXT OF **MADHU MEHA** (VATAJA MEHA) WHICH CAN BE
CORRELATED TO **MATURITY ONSET DIABETES MELLITUS**, THE DIET
SHOULD CONTAIN DARVI, SURAHVA, TRIPHALA, MUSTA WITH HONEY. HE
MAY ALSO TAKE HARIDRA ALONG WITH THE JUICE OF AMALAKI.

**DAARVI SURAAHVAAM TRIPHALAAM SAMUSTAAM
KASHAAYA MUT KWATHYA PIBETH PRAMEHI
KSHOUDRENA YUKTAAMATAVA HARIDRAAM
PIBEDRASENA AMALAKI PHALANAAM**

DIET:

**SAARODAKA (WATER BOILED WITH THE HEART WOOD OF KHADIRA,
KUSHODAKA, MADHUDAKA, & TRIPHALARASA.**

**IT IS QUOTED THAT PERSONS HABITUALLY TAKING ROASTED BARLEY,
DRY CORNFLOUR, MUDGA AND AMALAKA DO NOT SUFFER FROM
PRAMEHA (CH. CHI 6/46-48)**

OTHER DRAVYA CHIKITSA IN MEHA-

- COMBINATION OF TRIPHALA KSHAYA+ DARUHARIDRA+ MUSTA
- GUDUCHI SATWA + MADHU

OUSHADI CHIKITSA

- MEHAKALANALA RASA(RASASINDHOORA, VANGA BHASMA , MADHU)
- CHANDRAKALAA GUTIKA (YELA, KARPOORA, SHILAJATU, AMALAKI, SHALMALI...)
- MEHAMUDGARA VATIKA(RASAANJANA, VIDA DAARU, BILWA, GOKSHURA, DAADIMA)
- PANCHANANRASA (KAJJALI, LOHA, ABRAGA, SWARNA MAKSHIKA, VANGA BHASMA+ MADHU) PRAMEHAKULANTAKA RASA.
- VANGAASTAKA
- MEHAVAJRA RASA
- CHANDRAPRABHA VATI(KARPOORA, VACHA MUSTA, BHUNIMBA, SHILAJATU., GUGGULU, LOHABHASMA, DWOU KSHAARA, TRIKATU, SWARNA MAKSHIKA

- .VASANTHAKUSUMAAKARA RASA(SWARNA, RAJATA,VANDGA NAGA KAANTHA LOHA, ABHRAKA, PRAVAALA, MUKTA)
- MEHAKUNJARAKESARI RASA
- PRAMEHASETU RASA
- MEHAKESARI RASA.
- MEHANTAKA RASA VANGESHWARA(VANGA PAARADA , RASA SINDHOORA)
- SWARNA VANGA (KOOPI PAKWA) PRAMEHA CHINTAAMANI RASA.
- APOORVA MALINI VASANTHA RASA
- SHAALMALI GRITHA
- DHANWANTARI GRITHA
- DAADIMADYA GRITHA
- MEHAMIHIRA TAILA
- PRAMEHAMIHIRA TAILA

SPECIFICALLY FOR MADHUMEHA

- KADARA, KADHIRA. PUGA KASHAYA
- SHILAJATUSEVANA AFTER SHODHANA

APATHYA

- | | |
|-----------------|----------------|
| ○ MOOTRAVEGA | ○ MAITHUNA, |
| ○ DHARANA | ○ MAJJA |
| ○ DHOOMA PANA | ○ KOOSHMANDA |
| ○ SWEDANA KARMA | ○ IKSHU |
| ○ RAKTAMOKSHANA | ○ SWAADHU AMLA |
| ○ DIWASWAPNA | ○ LAVANA RASA |
| ○ NAVANA | ○ ABHISHYANDI |
| ○ DADHI | ○ DRAVYANI |
| ○ ANOOPA MAMSA | |