

DIABETES

Diabetes, or diabetes mellitus, is a condition that causes a person's blood sugar level to become too high. In many cases it is a life-long condition.

The amount of sugar in the blood is usually controlled by a hormone called insulin, which is produced by the pancreas.

When food is digested and enters the bloodstream, insulin moves glucose out of the blood and into cells, where it is broken down to produce energy.

However, with diabetes, the body is unable to break down glucose. This is because there is either not enough insulin to move the glucose, or the insulin produced does not work properly.

The two main types of diabetes are type 1 and type 2. Type 1 diabetes can develop quickly, over weeks or even days, while many people have type 2 diabetes for years without realising, because early symptoms tend to be general. Type 2 is far more common.

Other types of diabetes are: gestational diabetes which is first diagnosed during pregnancy and diabetes insipidus, which is a rare condition where you produce a large amount of urine and often feel thirsty. It is not related to diabetes mellitus but it does share some of the symptoms.

Gestational diabetes can be controlled with diet and exercise and receiving shiatsu will help keep it under control.. However, some women with gestational diabetes will need medication to control blood glucose levels.

If gestational diabetes is not detected and controlled, it can increase the risk of birth complications.

In most cases, gestational diabetes develops in the third trimester (after 28 weeks) and usually disappears after the baby is born. However, women who develop gestational diabetes are more likely to develop type 2 diabetes later in life.

Type 1 diabetes is often known as insulin-dependent diabetes. It is also sometimes known as juvenile diabetes or early-onset diabetes because it usually develops before the age of 40, often during teenage years.

Type 2 diabetes is often associated with obesity. Obesity-related diabetes is sometimes referred to as maturity-onset diabetes because it is more common in older people.

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CAUSES

Type 1 diabetes is an autoimmune condition. The immune system mistakes the cells in the pancreas as harmful and attacks them. It is not known exactly what triggers the immune system to do this.

Type 1 diabetes is usually inherited (runs in families), so the autoimmune reaction may also be genetic. If you have a close relative, such as a parent, brother or sister with type 1 diabetes, you have about a 6% chance of also developing the condition. The risk for people who do not have a close relative with type 1 diabetes is just under 0.5%.

In type 2 diabetes, there are several reasons why the pancreas doesn't produce enough insulin.

You are more likely to develop type 2 diabetes if you:

- are over 40 years old
- have a relative with the condition
- are of South Asian, African-Caribbean or Middle Eastern origin
- are overweight or obese

SIDE EFFECTS

The most common long-term effect of type 2 diabetes is damage to blood vessels. Because of this, people with diabetes are up to five times more likely to develop heart disease or have a stroke.

Besides damage to the blood vessels, chronic diabetes may also lead to the following complications:

- eye problems including retinal detachment, diabetic retinopathy, glaucoma, or cataracts
- foot problems: These are primarily due to circulation difficulties, which can result in skin infections or deformities to the foot. Because diabetes can damage nerves, you may not feel an injury to the foot until a sore or infection develops.
- sexual dysfunction
- miscarriage and stillbirth
- kidney disease, also known as diabetic nephropathy
- nerve damage, also known as diabetic neuropathy

SYMPTOMS

The main symptoms of diabetes are:

- feeling very thirsty
- urinating frequently, particularly at night
- feeling very tired
- weight loss and loss of muscle bulk

THE PANCREAS

The pancreas is a glandular organ in the upper abdomen, but really it serves as two glands in one: a digestive exocrine gland and a hormone-producing endocrine gland. Functioning as an exocrine gland, the pancreas excretes enzymes to break down the proteins, lipids, carbohydrates, and nucleic acids in food. Functioning as an endocrine gland, the pancreas secretes the hormones insulin and glucagon to control blood sugar levels throughout the day.

REGULATION OF PANCREATIC FUNCTION

The pancreas is controlled by both the autonomic nervous system (ANS) and the endocrine system.

Nerves of the sympathetic division become active during stressful situations, emergencies, and exercise. Sympathetic neurons stimulate the alpha cells of the pancreas to release the hormone glucagon into the bloodstream. Glucagon stimulates the liver to begin the breakdown of the energy storage molecule glycogen into smaller glucose molecules. Glucose is then released into the bloodstream for the organs, especially the heart and skeletal muscles, to use as energy. The sympathetic nerves also inhibit the function of beta cells and acini to reduce or prevent the secretion of insulin and pancreatic juice. The inhibition of these functions provides more energy for other parts of the body that are active in dealing with the stressful situation.

Nerves of the parasympathetic division of the ANS become active during restful times and during the digestion of a meal. Parasympathetic nerves stimulate the release of insulin and pancreatic juice by the pancreas. Pancreatic juice helps with the digestion of food while insulin stores the glucose released from the digested food in the body's cells.

The endocrine system uses 2 hormones to regulate the digestive function of the pancreas: *secretin* and *cholecystinin (CCK)*.

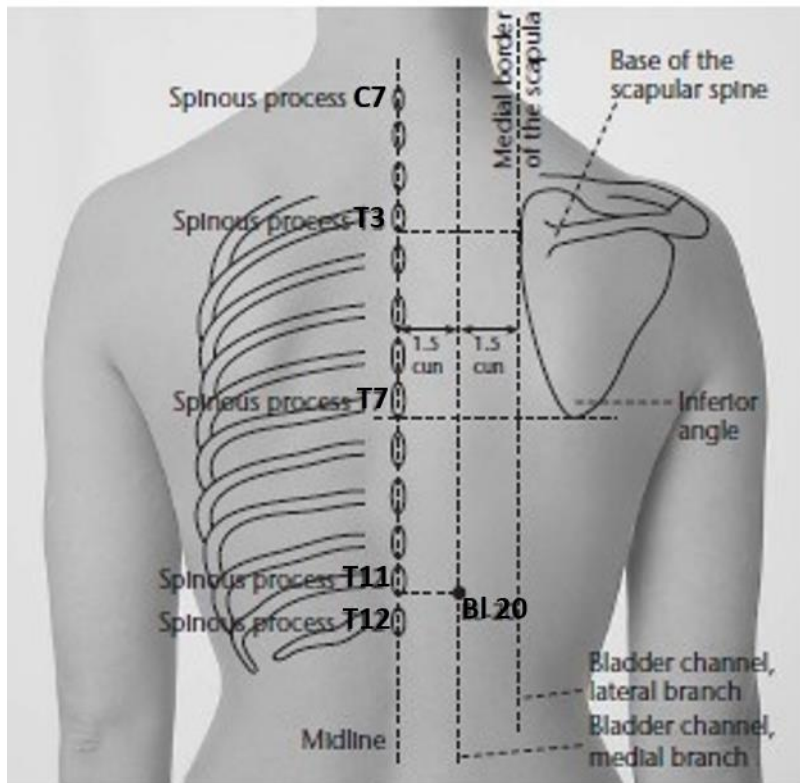
SHIATSU TREATMENT

1. **Warning:** be very careful with the diabetic foot. Always ask if they regularly see a doctor to check for possible peripheral neuropathy. If this is not the case, avoid touching the feet.
2. Bear in mind that type 1 diabetes has no cure. We can only help. Whether type 2 is curable depends on a lot of factors.
3. Rotations. Any you consider appropriate except toes and ankles.
4. Think of treating the back many times, especially T5 to T12 which innervate the pancreas via the ganglia on either side of the spine.

5. However, it is important to work on the whole nervous system when it is type 1 because it is an auto-immune disease.

6. Urinary Bladder 20 is the shu point for the spleen (or spleen – pancreas) in TCM. Shu points are corresponding points on the back for the TCM organs. Back-Shu points have a direct therapeutic effect on the diseases of organs in TCM.

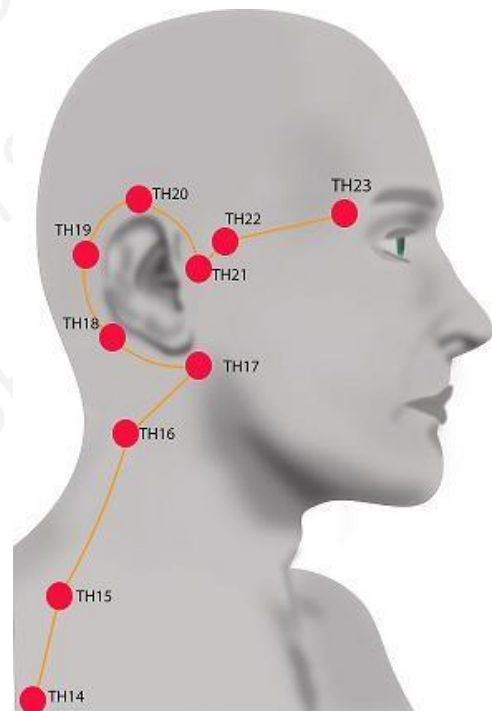
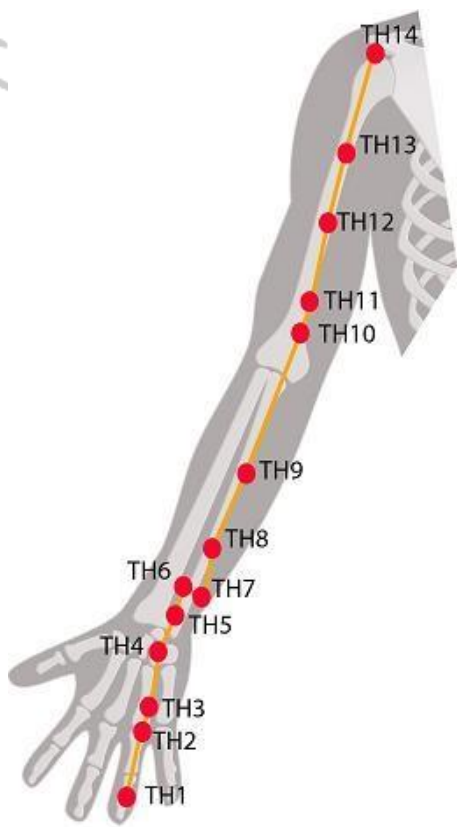
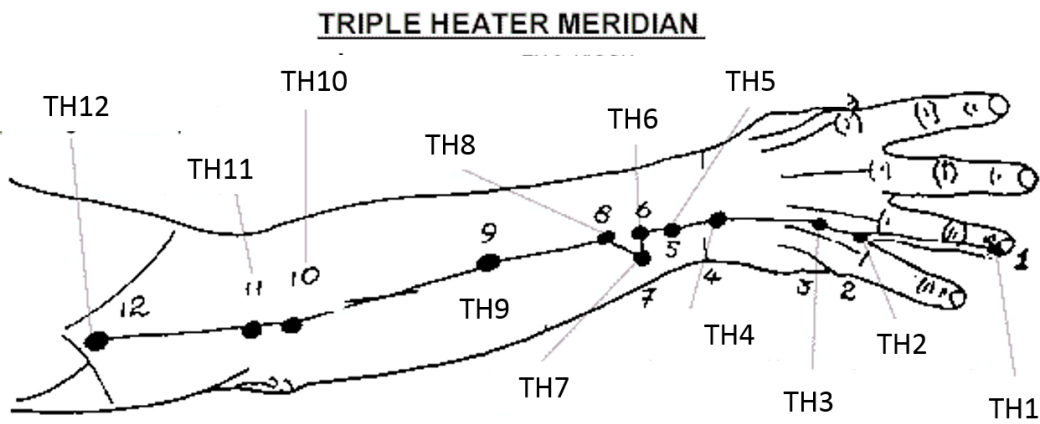
It is found 1.5 cun lateral to the spine, at the level of the lower border of the spinous process of the eleventh thoracic vertebra.



7. Think of treating the inside of legs and medulla oblongata many times to balance the endocrine system.

8. Work a lot on the abdomen, especially on the three stomach points of the 16-point circle to stimulate pancreas functions.

9. Try to balance the triple heater (triple warmer) meridian (TCM)



VIEW FROM TCM

Diabetes mellitus is known in traditional Chinese medicine as depletion-thirst disease.

Diabetes is classically divided into three types: upper, middle, and lower heater. Each has characteristic symptoms. The upper type is characterised by excessive thirst, the middle by excessive hunger, and the lower by excessive

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urination. These types are closely associated with the lungs, stomach, and kidneys, respectively, and all three are associated with Yin deficiency. At some point during the course of their illness, most people with diabetes manifest symptoms of all three types.

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1. Upper-heater depletion-thirst diseases.
Pathogenic heat consumes the lung yin, thus affecting the upper-warmer.
Thirst accompanied by dryness of the mouth and tongue, polyuria, reddened tip and margin of the tongue with thin, yellow coating, and full and rapid pulse.

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Special points: Lu 5 (clears lung heat), Sp 6 (tonify yin), St 36 (tonify Qi)

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2. Middle-heater depletion-thirst disease
Excessive fire of the stomach consumes the stomach yin fluids.
Polyphagia, emaciation, constipation, reddened tongue with dry, yellow coating, and slippery and strong pulse.

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Special points: St 44 (clears stomach heat and dryness), Kd 3 (tonify kidney yin and yang deficiencies) Sp 6 (tonify St and Sp), St 36 (tonify Qi)

3. Lower-heater depletion-thirst disease

a). Kidney yin deficiency.

Polyuria, turbid urine, dry mouth, reddened tongue with little coating, and weak and rapid pulse.

b). Deficiency of kidney yin and yang.

Polyuria, turbid urine, spontaneous sweating, shortness of breath, impotence, dark complexion, pale tongue with white coating, and deep and weak pulse.

Special points: Kd 1 (tonify yin) Sp 6 (tonify St and Sp and yin), CV 4 (tonify yin)

RECOMMENDATIONS

1. Aerobic exercise is very important to maintain glucose levels in the blood.

2. Seek dietary advice. Some vegetables are recommended by TCM, and have been proved to be effective to fight diabetes, most notably bitter melon (*momordica charantia*). Careful, bitter melon is contraindicated during pregnancy.

3. TCM remedy. Slice thinly 1000 g of pumpkin. Sun-dry or dry in an oven at a very low temperature. Make a powder. 20g once a day.

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