

## Diabetes and your thyroid

### Key Points

- Thyroid problems are not a complication of diabetes, but do occur more often in people with diabetes.
- The thyroid is a small gland that makes thyroid hormones
- Problems can happen if it makes too much thyroid hormone (hyperthyroidism), or too little thyroid hormone (hypothyroidism)
- People with diabetes who develop either hypothyroidism or hyperthyroidism may find it hard to manage their diabetes
- Both thyroid conditions are treatable

### What is the thyroid?

The thyroid is a small gland in the lower part of the neck. It manufactures essential hormones that help regulate cell activity in our bodies. For example:

- Some cells depend on thyroid hormones to regulate metabolism. Metabolism is a broad term referring to all the chemical reactions that are carried out in the body's cells, including digestion
- Other cells, such as cells in the bones, hair and teeth, use thyroid hormones to grow and mature

All of the glands in our bodies depend upon one another to function properly. The thyroid gland, for example, depends upon the pituitary gland to help control the production of thyroid hormones. The pituitary gland produces thyroid stimulating hormone (or TSH). This hormone promotes thyroid hormone production and releases the hormones into the blood stream.

When the thyroid hormone level is low, the pituitary gland senses this and releases TSH, which, in turn, tells the thyroid gland to make and release thyroid hormone into the bloodstream.

This process is often compared to the working of a furnace: a thermostat senses cold air, tells the furnace to turn on and produce heat, and when the air is warm enough, the thermostat tells the furnace to shut off.

### Hypothyroidism

Hypothyroidism is when there is too little thyroid hormone circulating in the body. Its symptoms include:

- Fatigue
- Hair loss
- Weight gain
- Constipation
- Listlessness and depression
- Memory loss and mental "dullness"
- Muscle and joint pain
- High cholesterol levels
- Feeling cold (when no one else is)
- Husky voice
- Dry skin
- Heavy periods (in women)

Hypothyroidism does not cause only one of the above symptoms. If several of these symptoms are present, have your doctor check for hypothyroidism. Furthermore, weight gain and being very overweight are not always caused by thyroid problems.

People with hypothyroidism will probably need to take a synthetic thyroid hormone for life. Your doctor will help you decide how much of this medication you need by doing blood

tests and assessing how you feel.

## **Hyperthyroidism**

Hyperthyroidism is the opposite of hypothyroidism - too much thyroid hormone is being produced. Common symptoms include:

- Weight loss
- Diarrhoea
- Feeling hot (when no one else is)
- A pounding heart
- Tremor of the hands
- Hair loss
- Feelings of nervousness and irritability
- Insomnia or restlessness
- In women, light or decreased periods

Hyperthyroidism may be treated with medication, radioactive iodine or surgery. Your doctor will do blood tests and assess your symptoms in order to help you get treatment.

## **Diabetes and Hypothyroidism**

Studies have shown that the incidence of hypothyroidism seems to be increased in both people with type1 and type2 diabetes, especially women over the age of 40. If you have type1 or type2 diabetes, it is a good idea to have your doctor check your TSH levels every 5 years to pick up any hypothyroidism that might be starting.

People with diabetes who develop hypothyroidism may find it hard to manage their diabetes. This is because the way their body uses glucose is altered.

Fatigue may set in and you won't feel like undertaking any physical activity. This may lead to weight gain from the decreased physical activity and a slower metabolism.

However, once a person with hypothyroidism receives thyroid replacement medication, their thyroid levels usually return to normal, as does their diabetes medication requirements.

## **Diabetes and Hyperthyroidism**

The start of hyperthyroidism in a person with diabetes means that their blood glucose levels may rise slightly. If the condition remains untreated and becomes more severe, diabetes management can be much harder. Weight loss may occur, too many ketones (which are the end result of fat breakdown) may begin circulating in the blood, and more insulin or medication will be required to lower blood glucose levels. Once hyperthyroidism is successfully treated, however, diabetes management is improved.

## **Am I at risk?**

You can't prevent thyroid disease, but by being informed, you can take steps should symptoms appear. Some of the risk factors for thyroid disease are:

- You have a family history of thyroid disease
- You already have a condition that affects the immune system such as type1 diabetes or rheumatoid arthritis
- You are a women over the age of 40
- You are a women who has recently given birth
- You are a man over the age of 65

*Information for this section comes from an article found on the web site of the Canadian Diabetes Association (CDA) - [www.diabetes.ca](http://www.diabetes.ca)*

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