How to Thwart a Thyroid Problem

An untreated condition of the butterfly-shaped thyroid gland can have a significant impact on your body and daily life. Find out how to spot the signs and what you can do about it.

By Michelle Foisy

Hundreds of millions of people around the world have one. As do roughly one out of every 10 Canadians—although half of us aren’t aware of it. We’re talking about thyroid problems.

A thyroid problem can be so unobtrusive that you don’t even notice it, or it can affect the way you look, feel and act. When the small gland at the base of the neck doesn’t function properly, it can contribute to fertility problems, heart disease, diabetes, arthritis and many other health problems. It can also affect your mood: An overactive thyroid can make you anxious and irritable, while an underactive thyroid can drag you down, making you feel tired and depressed.

It seems that people with HIV are slightly more likely than the general population to develop a thyroid problem, though most will never experience a thyroid problem of any kind. All the same, it’s one of those things that’s worth being aware of because treatments exist to manage such conditions effectively. The better equipped you are to detect signs of imbalance, the sooner you can have it checked out and, if need be, take steps to redress the imbalance.

Here are two stories that highlight thyroid problems that can affect people living with HIV. Selena’s hypothyroidism is more common and Patrick’s Graves’ disease, relatively uncommon.

Selena, 32, was first diagnosed with HIV five years ago and started taking antiretroviral therapy (ART) within a few months of her diagnosis. During her last visit to the HIV clinic, she reported feeling fatigued and sluggish and had gained 10 pounds over the past several months despite a stable diet. Blood tests confirmed that she had an underactive thyroid (hypothyroidism), which may have been due to HIV or to the HIV medications she was taking. To treat the condition, her doctor prescribed a thyroid hormone supplement. After two months, Selena felt more energetic and had even started working out. Her subsequent blood tests showed that her thyroid had stabilized.

When Patrick, 40, was diagnosed with HIV, his immune system was very suppressed. He had a CD4 count of 50, so he started HIV treatment immediately. He responded extremely well to treatment and his CD4 count rapidly increased to 300 within a year. However, 19 months later, he was experiencing new symptoms: He felt hot all the time and was “sweating like a machine.” He was irritable and shaky and, despite drinking no coffee, his heart was racing like he was “on a bad caffeine trip.” Over the past year he had made great strides to gain weight but more recently had been shedding pounds despite eating all the time. Based on Patrick’s description of his symptoms and the results of a blood test, his doctor diagnosed him with a type of overactive thyroid (hyperthyroidism) known as Graves’ disease, likely triggered by the strong immune response he had to his HIV treatment. Patrick was prescribed an anti-thyroid medication and another drug to slow his heart rate and...
decrease the tremor. After a couple of months on these meds, his thyroid levels stabilized and he felt much more like his old self again.

**How It Works**

The thyroid gland is a small butterfly-shaped gland that sits in the front of the neck, just below the Adam’s apple and above the collarbone. It produces the thyroid hormones thyroxine (T4) and tri-iodothyronine (T3), which affect a person’s metabolism. They control how our bodies store and use energy and they help regulate our mood and weight.

The release of thyroid hormones into the bloodstream is a complex process, controlled by several glands and hormones in the body. One of these hormones—thyroid stimulating hormone (or TSH), produced by the pituitary gland, a tiny gland attached to the base of our brains—regulates the amount of hormones the thyroid releases into the bloodstream.

When a person does not produce enough thyroid hormone and their metabolism slows down as a result, as Selena’s did, they are said to have an underactive thyroid, or hypothyroidism. Hypothyroidism can be tricky to recognize because many of the symptoms are not specific to thyroid disease and can be caused by other conditions that people living with HIV may have.

The most common symptoms of hypothyroidism, which generally develop slowly over time, are fatigue, weight gain, dry skin, and hair on the head that is dry, thinning or falls out easily. Other symptoms include feeling cold easily, a slow heart rate, brittle fingernails, a hoarse voice, numbing or tingling of the hands and/or feet (a pins and needles sensation), constipation, a decreased ability to sweat, depression and memory problems. Some people also develop a visibly enlarged thyroid, called a goiter.

On the other end of the spectrum, some people, like Patrick, produce too much thyroid hormone due to an overactive thyroid, or hyperthyroidism. Instead of slowing down as it does with hypothyroidism, the body’s metabolism speeds up. Hyperthyroidism is usually associated with an enlarged thyroid and can cause a rapid heart rate, weight loss, tremor, anxiety and increased appetite. Other symptoms include bulging eyes, heat intolerance, warm moist skin, excessive sweating, heart palpitations, muscle weakness and frequent bowel movements.

**Medications that Can Affect the Thyroid**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Effect</th>
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<tbody>
<tr>
<td>ritonavir (Norvir, also in Kaletra)</td>
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<tr>
<td>heart drug amiodarone (Cordarone)</td>
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</tr>
<tr>
<td>hepatitis C drug interferon-alfa (Pegasys, Pegeptron)</td>
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<tr>
<td>TB drug rifampin (Rifadin, Rifater)</td>
<td>hypothyroidism</td>
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<tr>
<td>anti-seizure medications carbamazepine (Tegretol), phenytoin (Dilantin) and phenobarbital</td>
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<tr>
<td>anti-manic drug lithium (Carbolith)</td>
<td></td>
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<tr>
<td>hyperthyroidism medications* methimizole (Tapazole) and propylthiouracil (Propycil)</td>
<td></td>
</tr>
<tr>
<td>d4T (stavudine, Zerit)</td>
<td>a mild form of hypothyroidism that causes either very mild symptoms or no symptoms at all</td>
</tr>
</tbody>
</table>
efavirenz (Sustiva, Atripla)
heart drug amiodarone (Cordarone)
hepatitis C drug interferon-alfa (Pegasys, Pegtron)
iiodinated contrast dye (sometimes used in imaging tests)
hypothyroidism medication* levothyroxine (Synthroid, Eltroxin)

*When the dose of a medicine used to treat hyperthyroidism is too high, it can lead to hypothyroidism. On the flip side, when the dose of a medicine used to treat hypothyroidism is too high, hyperthyroidism can result.

Who Gets Thyroid Disease

Anybody can develop a thyroid problem, but women are much more likely than men and older adults are more likely than young people to develop one. People with HIV may also have somewhat higher rates of thyroid abnormalities than the general population, due to changes to the immune system caused by HIV or due to certain infections and cancers. Antiretrovirals and medications used to treat certain illnesses that are more common among people living with HIV, such as hepatitis C and tuberculosis, can also affect a person’s thyroid function (see “Medications that Can Affect the Thyroid” for a list of some meds to watch for).

Infectious diseases specialist Dr. Stephen Shafran, from Edmonton’s University of Alberta Hospital, says, “Overall, thyroid disease is not very common in people living with HIV, perhaps because thyroid disease is much more common in women than men, and in Canada the ratio of HIV infection for males to females is approximately 3:1.” He also notes that in his HIV practice, he sees more hypothyroidism than hyperthyroidism.

Cause and Effect

The most common cause of hypothyroidism is called Hashimoto’s thyroiditis, an autoimmune disease that involves the body’s own immune cells damaging the thyroid. Iodine deficiency, thyroid surgery, radiation therapy to treat cancers of the head and neck, and other endocrine disorders are usually considered in the diagnosis of hypothyroidism. For people who have more advanced HIV, doctors might also check for infections or cancers that can invade the thyroid.

Although uncommon, people with HIV can develop a form of hyperthyroidism called Graves’ disease one to three years after starting ART due to a strong immune response. As a result of starting HIV treatment, Patrick’s immune system improved, but because his response to the medication was so strong, he also produced antibodies that caused his thyroid to become overactive and produce too much thyroid hormone.

A number of medications can also affect the thyroid, which is yet one more reason for people to talk to their doctors and pharmacists about all the drugs they’re taking.

Pinpointing the Problem

Diagnosing a thyroid problem is key to feeling better and preventing other problems from ensuing. Had Selena’s hypothyroidism gone undiagnosed, her lack of energy and weight gain would have likely continued to take a toll on her quality of life and sense of well-being. As for Patrick, if his Graves’ disease had gone undiagnosed and untreated, he could have developed more serious complications, such as heart disease and bone loss, down the road.

Luckily for both of them, the diagnosis of thyroid disease is generally based simply on symptoms, a physical exam
and blood tests. Blood tests that reveal a low level of thyroxine and a high level of TSH indicate hypothyroidism. And blood tests that reveal high levels of thyroxine and low levels of TSH indicate an overactive thyroid. (To sort out more complex cases, other tests such as a thyroid scan or a thyroid biopsy may be ordered.)

**Offsetting the Imbalance**

Dr. Shafran notes that treating an underactive thyroid tends to be more straightforward than treating an overactive one: “Hypothyroidism is easy to manage with the drug levothyroxine [Synthroid, Elietroxin], which is available in many strengths.” On the other hand, he says, “managing hyperthyroidism tends to be more complex and patients should be treated by an endocrinologist—a doctor who specializes in treating hormone problems.” In cases of hyperthyroidism, two types of medicine are usually prescribed: an anti-thyroid drug and a heart drug called a beta-blocker, to control uncomfortable symptoms like a rapid or irregular heartbeat and shakiness. Sometimes, radioactive iodine is prescribed to destroy the overactive thyroid gland. Most patients who receive radioactive iodine subsequently become hypothyroid and then require levothyroxine therapy.

To treat hypothyroidism, levothyroxine is the most commonly prescribed medication (see “Tips for Levothyroxine Users”). To ensure that your treatment is working well, your healthcare team will monitor its effects to make sure your symptoms improve and your hormone levels return to normal. A person’s TSH level will usually normalize after several weeks of treatment. If it remains elevated, this indicates that the dose of levothyroxine is too low. The dose may then need to be increased gradually until the TSH normalizes. Patience is needed as it can take several weeks or months to get you on the right dose and for your symptoms to resolve. After your treatment is stabilized, your doctor will probably recommend that you continue taking this dose and that your levels be monitored regularly.

The good news is that thyroid disease is a manageable condition that is fairly simple to diagnose and treat. In terms of prevention, the best thing a person can do to stay healthy is report any unusual symptoms to their healthcare team. For people on ART, there is only a small chance that the thyroid will be affected—most people do just fine. If you have suspicious symptoms or several risk factors, your doctor may screen you for thyroid disease to detect it early.

**Tips for Levothyroxine Users**

**Take your dose daily:** Take your dose as prescribed every day and avoid missing any. If you do miss one, let your healthcare team know. If you are not taking enough medication, your symptoms may not fully improve; however, if you take too much, this can swing the balance and lead to an overactive thyroid.

**How to take your medication:** Try to take levothyroxine at around the same time each day. Unless your doctor or pharmacist suggests otherwise, it is best to take it first thing in the morning with a full glass of water on an empty stomach (about 30 to 60 minutes before eating). If a morning dose is not convenient, try taking it at bedtime instead. Discuss the best way to take all of your medicines with your doctor and pharmacist to avoid any interactions with foods or other medicines.

**Keep an eye out for side effects and drug interactions:** Levothyroxine usually causes few or no side effects provided you are on the correct dose and your healthcare team is monitoring you regularly. If you experience any symptoms—such as heart palpitations, excessive sweating, rapid weight loss or restlessness—be sure to let your healthcare team know, as this may indicate that your dose is too high.

To prevent drug interactions, make sure your healthcare team has a complete list of all of the medicines you take, including vitamins, herbs and complementary therapies as well as other prescription and over-the-counter medicines.

Levothyroxine should be taken at least four hours before or four hours after taking other drugs that interfere with how well it gets into the bloodstream. These include cholestyramine, calcium, magnesium and aluminum salts (found in antacids and supplements), iron supplements, sucralfate (Sulcrate) and dietary fibre supplements.

**The scoop on ritonavir:** The HIV medication ritonavir (Norvir)—used to boost other protease inhibitors and also found in Kaletra—can speed up the clearance of levothyroxine from your body. To offset this interaction, higher doses of levothyroxine may be required. Your doctor and pharmacist can ensure that you are on the correct dose of levothyroxine based on the way you respond to thyroid treatment.
**Pregnancy planning:** If you are planning to become pregnant or you are pregnant, your doctor should monitor your thyroid hormone levels more closely. He or she may recommend adjusting your dosage.

**A word of caution:** Although there is a lot of hype about the use of levothyroxine to speed up metabolism and help you lose weight, this is not recommended and can be dangerous. Too much thyroid hormone can cause heart palpitations and lead to bone loss.

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