CONDITION

Subacute thyroiditis

Subacute thyroiditis is temporary, painful inflammation of the thyroid gland that can disrupt thyroid hormone levels.

WHAT IT IS
Temporary painful inflammation of the thyroid gland

BODY SYSTEM
Hormone system

MAIN SYMPTOMS
Neck pain, fever, tiredness, fast heartbeat

WHAT CAUSES IT
Immune reaction, often after a viral infection

HOW IT IS DIAGNOSED
Blood tests and low radioactive iodine uptake

MAIN TREATMENT
Anti-inflammatory medicines and symptom control

CAN IT BE CURED?
Yes - usually resolves over several months

IS IT AN EMERGENCY?
Sometimes - very fast heartbeat with fainting

LONG-TERM OUTLOOK
Full recovery is usual; permanent hypothyroidism can occur

Overview

Subacute thyroiditis is inflammation of the thyroid, a small gland at the front of your neck. The thyroid makes hormones that help control your heart rate, temperature, energy use, digestion, and many other body functions.

The condition usually causes pain and tenderness over the thyroid. The pain may spread to your jaw, ears, or upper chest. Unlike many other thyroid conditions, it often develops after a recent respiratory infection and usually settles over several months.

Inflammation can damage thyroid cells and release stored thyroid hormones into your bloodstream. This may first cause thyrotoxicosis , meaning there is too much thyroid hormone in your body. As the stored hormone runs out, some people enter a temporary hypothyroid phase, when thyroid hormone levels are too low. Thyroid function then returns to normal for

most people.

Subacute thyroiditis is different from an overactive thyroid caused by Graves disease. In Graves disease, the thyroid actively produces too much hormone. In subacute thyroiditis, the gland is leaking hormone that was already stored. This difference affects which treatments work.

Symptoms

Pain over the thyroid is the most characteristic symptom. It may begin on one side of your neck before spreading to the other. Turning your head, swallowing, coughing, or touching the area can make it worse.

Other early symptoms can include:

If thyroid hormone levels become high, you may have a fast or pounding heartbeat, sweating, shakiness, anxiety, trouble sleeping, heat intolerance, or unplanned weight loss. These symptoms usually last for several weeks, but the timing is not the same for everyone.

A later period of low thyroid hormone can cause tiredness, feeling cold, dry skin, constipation, low mood, slower thinking, or modest weight gain. Some people do not notice this phase.

Neck pain has many possible causes. Pain alone does not show that you have subacute thyroiditis, especially if you also have marked throat redness, swollen lymph nodes, dental symptoms, or a new neck lump.

- Fever, chills, or a general unwell feeling
- Tiredness, muscle aches, and reduced appetite
- Pain spreading to the jaw, ear, throat, or upper chest
- A tender or mildly enlarged thyroid
- Difficulty or discomfort when swallowing

Causes and risk factors

The exact cause is not fully understood. Subacute thyroiditis often begins after an infection that causes cold-like or flu-like symptoms. The leading explanation is that the immune system continues reacting after the infection and temporarily inflames the thyroid. A virus has not consistently been found inside the thyroid itself.

The condition is not usually caused by bacteria. Bacterial infection of the thyroid is a different

and potentially more urgent condition.

Some people may have inherited immune features that make this reaction more likely, but subacute thyroiditis is not inherited in a simple, predictable way. Having an affected relative does not mean that you will develop it.

Subacute thyroiditis is also separate from painless thyroiditis and postpartum thyroiditis. Those conditions can cause similar changes in thyroid hormone levels but generally do not cause the same painful, tender thyroid.

Diagnosis

Diagnosis begins with your symptoms, a neck examination, and thyroid blood tests. A clinician may check whether the thyroid is enlarged or tender and whether the pain moves when you swallow.

Blood tests usually include thyroid-stimulating hormone , or TSH, and the thyroid hormones free T4 and sometimes T3. During the early phase, TSH is often low because thyroid hormone levels are high. During a later hypothyroid phase, TSH may rise.

Tests called ESR and CRP measure inflammation in the body. They are often raised in subacute thyroiditis, although they do not identify the cause by themselves. A complete blood count may help look for signs of infection or another explanation for your symptoms.

A radioactive iodine uptake test may be used when the diagnosis is uncertain. It measures how much iodine the thyroid takes up. Uptake is usually low because the inflamed gland is releasing stored hormone rather than making new hormone. Graves disease usually causes increased uptake. This test is not used during pregnancy or breastfeeding.

Ultrasound may show patchy areas of inflammation and reduced blood flow within the thyroid. It can also help examine a persistent lump or unusual swelling. Ultrasound is not always needed and does not replace blood tests.

Further testing may be required if the pattern is unusual. For example, high fever, redness, or a collection of fluid could suggest a bacterial infection. A firm lump that does not improve may need separate assessment. Rarely, sampling thyroid tissue with a thin needle is needed to rule out another cause.

Treatment and management

Treatment aims to control inflammation, relieve pain, and manage temporary changes in

thyroid hormone levels. The best approach depends on symptom severity and the phase of the condition.

Mild or moderate pain is often treated with a non-steroidal anti-inflammatory drug like ibuprofen or naproxen , or NSAID. These medicines reduce inflammation as well as pain. They are not suitable for everyone, including some people with stomach ulcers, kidney problems, bleeding risks, or certain heart conditions.

If pain is severe or does not improve, a corticosteroid may be considered. Corticosteroids like prednisone or hydrocortisone can reduce thyroid inflammation quickly, but symptoms can return if treatment is reduced too rapidly. These medicines also have possible side effects, so treatment is supervised and adjusted over time.

A beta blocker like metoprolol or propranolol may be used for troublesome symptoms such as a fast heartbeat, tremor, or shakiness. It helps control how your body responds to thyroid hormone but does not shorten the inflammation.

Antithyroid medicines generally do not help subacute thyroiditis. They reduce the production of new thyroid hormone, while this condition causes stored hormone to leak from injured cells.

If you develop a significant hypothyroid phase, temporary thyroid hormone replacement may be offered. Whether it is needed depends on your blood results, symptoms, pregnancy plans, and other health factors. If treatment is started, thyroid function is usually reassessed later to see whether the medicine is still necessary.

Repeat blood tests are an important part of management. Symptoms can improve before thyroid hormone levels have fully settled, and the condition can move from a high-hormone phase to a low-hormone phase.

Complications

Most people recover without lasting thyroid problems. However, possible complications include:

Permanent hypothyroidism affects a minority of people. Follow-up blood tests help identify it, including when symptoms are mild.

A persistently fast heartbeat can be harder on the body if you already have heart or circulation problems. New chest pain, fainting, or severe breathing difficulty should not be assumed to be part of thyroiditis.

- A temporary period of low thyroid hormone
- Permanent hypothyroidism requiring long-term thyroid hormone replacement

- Return of pain during or after anti-inflammatory treatment
- Recurrence of the condition after recovery
- Heart rhythm symptoms during the high-hormone phase

Prevention

There is no proven way to prevent subacute thyroiditis. Because it appears to involve an immune reaction after an infection, ordinary infection-control steps may reduce your chance of some respiratory infections but cannot guarantee prevention of thyroid inflammation.

There is no specific diet or supplement known to prevent the condition or stop it from returning. Taking high-dose iodine or "thyroid support" supplements can interfere with thyroid tests and may worsen thyroid hormone problems. Tell your clinician about any supplements you use.

Subacute thyroiditis is not caused by failing to care for your thyroid. It is also not usually linked to everyday stress, although stress can make symptoms such as poor sleep or a racing heartbeat feel more noticeable.

Living with it and what to expect

Subacute thyroiditis usually changes over weeks and months rather than resolving in a few days. Neck pain and high-thyroid symptoms often occur first. Pain may improve before tiredness and thyroid blood results return to normal.

Some people then pass through a low-thyroid phase. This may cause a new pattern of tiredness, feeling cold, constipation, or low mood after the pain and racing heartbeat have settled. Others move directly back to normal thyroid function.

Follow-up appointments commonly focus on symptoms and repeat TSH and free T4 tests. Testing continues until thyroid function is stable. If low thyroid hormone persists, longer-term monitoring or treatment may be needed.

During painful or high-hormone phases, you may need to reduce intense exercise, especially if you have a fast heartbeat or feel weak. Gentle activity is often more manageable. You can gradually return to usual activity as your symptoms settle.

Most people can continue normal work and family life, although pain, poor sleep, and changes in energy may require temporary adjustments. Recovery is usually complete, but the timeline cannot be predicted exactly for one person.

When to get medical help

Arrange a routine appointment if you have ongoing pain or tenderness at the front of your neck, unexplained symptoms of high or low thyroid hormone, or a neck swelling that does not settle. Medical assessment is also appropriate if symptoms return after treatment.

Seek prompt medical advice if you have a high fever with increasing neck redness or swelling, severe pain that is rapidly worsening, or difficulty swallowing fluids. These features may point to an infection or another cause that needs faster assessment.

Get urgent or emergency help if you have:

Pregnancy can change how thyroid tests and treatments are handled. If you are pregnant or trying to conceive, contact your maternity or thyroid care team promptly about possible thyroid symptoms rather than waiting for routine follow-up.

- Severe difficulty breathing or rapidly increasing neck swelling
- Chest pain, fainting, or a very fast or irregular heartbeat
- New confusion, extreme weakness, or inability to stay awake
- Signs of a serious medicine reaction, such as facial swelling or breathing trouble

Common questions

How long does subacute thyroiditis last?

The painful phase often lasts several weeks, while thyroid hormone changes may continue for several months. Some people recover faster, and others have symptoms that return while inflammation is settling. Blood tests may remain abnormal after the neck pain improves.

Is subacute thyroiditis contagious?

No. The thyroid inflammation itself does not spread from person to person. It may follow a contagious respiratory infection, but the later immune reaction affecting the thyroid is not contagious.

Will I need thyroid medicine forever?

Usually not. Most people regain normal thyroid function. Temporary thyroid hormone replacement may be used during a low-hormone phase. A minority develop permanent hypothyroidism and need long-term treatment.

Can subacute thyroiditis come back?

It can recur, although recurrence is not the usual course. New neck pain or thyroid symptoms

should be reassessed rather than assumed to be the same condition, because other problems can cause similar symptoms.

Can I exercise with subacute thyroiditis?

Light activity may be reasonable if you feel well enough. Avoid pushing through a racing heartbeat, dizziness, marked weakness, fever, or significant pain. Return to strenuous exercise gradually as symptoms and thyroid levels improve.

Why do antithyroid medicines not work for this condition?

These medicines slow the production of new thyroid hormone. In subacute thyroiditis, high hormone levels come from stored hormone leaking out of inflamed cells, so blocking new production usually does not address the cause.

Sources

- American Thyroid Association. Thyroiditis . Patient information on thyroiditis types, symptoms, phases, and treatment.
- Hennessey JV. Subacute Thyroiditis . Endotext . National Center for Biotechnology Information.
- Martinez Quintero B, Yazbeck C, Sweeney LB. Thyroiditis: Evaluation and Treatment. American Family Physician . 2021;104(6):609-617.
- Ross DS, Burch HB, Cooper DS, et al. 2016 American Thyroid Association Guidelines for Diagnosis and Management of Hyperthyroidism and Other Causes of Thyrotoxicosis. Thyroid . 2016;26(10):1343-1421.
- Fatourechi V, Aniszewski JP, Fatourechi GZE, Atkinson EJ, Jacobsen SJ. Clinical features and outcome of subacute thyroiditis in an incidence cohort. The Journal of Clinical Endocrinology & Metabolism . 2003;88(5):2100-2105.