CONDITION

Tietze syndrome

Tietze syndrome causes painful inflammation and swelling where an upper rib joins the breastbone.

WHAT IT IS
Painful inflammation and swelling where upper ribs meet the chest

BODY SYSTEM
Bones, joints and muscles

MAIN SYMPTOMS
Localised chest pain, rib-joint swelling, tenderness, pain with movement

WHAT CAUSES IT
Unknown; chest strain or coughing may trigger inflammation

HOW IT IS DIAGNOSED
Clinical examination; tests rule out heart and lung causes

MAIN TREATMENT
Activity changes, pain relief, and sometimes local injections

CAN IT BE CURED?
Yes - most cases eventually settle

IS IT AN EMERGENCY?
Sometimes - new chest pain may signal heart or lung trouble

LONG-TERM OUTLOOK
Most improve, but pain or swelling can recur

Overview

Tietze syndrome is inflammation of the cartilage where one or more upper ribs join the breastbone. Cartilage is the firm, flexible tissue that connects the ribs to the front of the chest.

The condition causes a tender, visible or noticeable swelling over the affected joint. It usually involves one side of the chest, often around the second or third rib. Pain may begin suddenly or build over time.

Tietze syndrome is not a heart or lung condition. It does not damage these organs or turn into cancer. However, its pain can feel similar to pain caused by more serious problems. New or unexplained chest pain therefore needs appropriate medical assessment rather than being assumed to be Tietze syndrome.

Tietze syndrome is often confused with costochondritis. Both cause pain where the ribs meet the breastbone. The main feature pointing toward Tietze syndrome is local swelling. Costochondritis usually affects several rib joints and does not normally cause swelling. In practice, these terms are not always used consistently.

Symptoms

The main symptom is pain in a small area of the upper front chest. The painful spot is usually tender when pressed, with swelling over the rib joint.

The pain may be aching, sharp, burning, or pressure-like. It can be mild or strong enough to limit ordinary movement. It may spread toward the shoulder, arm, neck, or nearby chest, which can make it worrying.

Pain commonly gets worse with actions that move or put pressure on the chest wall, such as:

The swelling may feel firm or slightly soft. It can remain after the worst pain has eased. Mild warmth or redness is possible, but marked redness, spreading warmth, fever, or feeling generally unwell is not typical and needs medical review.

Symptoms usually affect one side. Pain across many joints, widespread swelling, or symptoms elsewhere in the body may suggest another explanation.

- Taking a deep breath, coughing, or sneezing
- Twisting, reaching, lifting, or pushing
- Exercise involving the upper body
- Lying on the affected side
- Pressing directly over the swollen joint

Causes and risk factors

The exact cause of Tietze syndrome is unknown. It is thought to involve inflammation after repeated small stresses to the rib cartilage, but this has not been proven in every case.

Symptoms sometimes begin after:

These are possible triggers rather than definite causes. Many people cannot identify any injury or event before their symptoms began.

Tietze syndrome is not considered contagious. It is not usually inherited, and it is not caused by blocked arteries in the heart. Having anxiety does not cause the swelling, although worry and

muscle tension can make chest pain harder to cope with.

- Frequent or forceful coughing
- A respiratory infection
- Repeated lifting or upper-body exercise
- Vomiting or other repeated straining
- A minor injury to the chest
- Surgery or a medical procedure involving the chest

Diagnosis

There is no single blood test or scan that confirms Tietze syndrome. Diagnosis is based on the pattern of symptoms, examination of the swollen rib joint, and exclusion of other causes of chest pain.

A healthcare professional may ask when the pain began, what makes it worse, and whether you have had an injury, infection, cough, or recent change in activity. They may gently press different areas of the chest to identify the source of the tenderness.

Reproducing pain by pressing the swollen joint can support a chest-wall cause. It cannot, by itself, rule out a heart or lung problem.

Tests are chosen according to your symptoms, age, health history, and examination. They may include:

Imaging may show inflammation around the rib cartilage, but these findings are not unique to Tietze syndrome. Tests may also be normal.

Other possible causes include costochondritis, a rib injury, arthritis, infection, lung conditions, acid reflux, and heart-related chest pain. A new lump may need further investigation to make sure it is not caused by a different condition. Biopsy, which means removing a small tissue sample, is not routinely needed but may be considered if the diagnosis remains uncertain.

- An electrocardiogram, or ECG, to examine the heart's electrical activity
- Blood tests, including tests for heart injury or inflammation
- A chest X-ray to look for some lung, rib, or other chest problems
- Ultrasound or MRI to examine swelling and soft tissues

Treatment and management

Treatment aims to reduce pain and inflammation while the affected joint settles. There is limited research comparing treatments because Tietze syndrome is uncommon.

Temporarily reducing activities that clearly worsen the pain can help. This does not usually mean complete bed rest. Gentle everyday movement is preferable if it is comfortable, followed by a gradual return to lifting, sport, or demanding upper-body activity.

A wrapped cold pack may ease recent swelling. Some people find gentle warmth more comfortable once the pain is less acute. Protect the skin and use either for short periods rather than applying extreme temperatures directly.

Pain-relieving medicines may be considered. These can include paracetamol or non-steroidal anti-inflammatory drugs like ibuprofen or naproxen , known as NSAIDs. NSAIDs reduce inflammation and are available as tablets or topical gels in some places.

These medicines are not suitable for everyone. Your options may be affected by stomach ulcers, kidney or heart problems, asthma, pregnancy, other medicines, or a history of bleeding. Follow the product directions and ask a pharmacist or clinician if you are unsure what is safe for you.

If symptoms remain severe or persistent, a specialist may consider injecting a local anaesthetic, sometimes with a corticosteroid like prednisone or hydrocortisone , around the painful joint. This is not usually the first treatment. Injections have potential risks and should follow an assessment confirming where the pain comes from.

Physiotherapy may help when pain has led to stiffness, guarded movement, or difficulty returning to normal activity. Treatment may include gentle mobility work and a paced strengthening plan. Exercises that repeatedly increase swelling or sharp pain may need to be adjusted.

Surgery is very rarely considered. It is generally reserved for prolonged, disabling symptoms when other causes have been excluded and less invasive approaches have not helped.

Complications

Tietze syndrome is considered a benign condition, meaning it does not usually cause lasting damage to the heart, lungs, or ribs. Serious physical complications are unusual.

The main possible problem is persistent or recurring pain. This can interfere with sleep, exercise, work, and activities involving the upper body. Avoiding movement for a long time may also lead to stiffness or reduced strength.

Chest pain can cause understandable worry, particularly if symptoms return without warning. Repeatedly assuming that every episode is Tietze syndrome is not safe, however. A change in the location, character, or associated symptoms should be assessed on its own merits.

Treatment can also have unwanted effects. For example, NSAIDs can cause stomach irritation, bleeding, kidney problems, or other complications in some people. Injections can cause temporary soreness and, rarely, infection or tissue changes.

Prevention

Tietze syndrome cannot be reliably prevented because its cause is uncertain. There is no established screening test, supplement, exercise, or diet that prevents it.

If coughing or repeated chest strain seems to trigger symptoms, treating the underlying cough and adjusting the activity may reduce further irritation. Use gradual increases when returning to lifting or upper-body exercise, especially after a painful episode.

Good lifting technique and regular breaks from repetitive tasks may reduce chest-wall strain, but they cannot guarantee that symptoms will not return.

Living with it and what to expect

Many episodes improve over weeks or months, although the timing is different for each person. Pain may settle before the swelling disappears. A small area of swelling can remain noticeable for some time without meaning that the condition is worsening.

Symptoms may fluctuate. You may have several comfortable days followed by pain after coughing, lifting, or an unfamiliar activity. Some people have recurring episodes, while a smaller group develops longer-lasting discomfort.

Tietze syndrome does not normally progress into heart disease, lung disease, or cancer. It also does not usually damage the chest wall permanently. Even so, an existing diagnosis should not be used to explain every future episode of chest pain automatically.

During recovery, it may help to identify specific movements that trigger pain rather than avoiding all physical activity. Activities can then be adjusted and reintroduced gradually. If pain is affecting sleep, work, mood, or exercise for an extended period, routine follow-up can help review the diagnosis and management plan.

When to get medical help

Call emergency services for new, severe, or unexplained chest pain, especially if it feels like pressure, squeezing, heaviness, or tightness. Emergency assessment is also important if chest pain occurs with:

Do not drive yourself if you may be having a medical emergency. Tietze syndrome cannot be safely identified from symptoms alone during a new episode.

Seek prompt medical advice if the swollen area becomes increasingly red, hot, or painful, or if you develop a fever. These features may indicate infection or another cause. Significant chest injury, difficulty breathing, an enlarging lump, or pain that is rapidly worsening also needs timely assessment.

Arrange routine follow-up if pain or swelling is not improving, keeps returning, or limits normal activities. Review is also appropriate if the pattern changes or if recommended pain relief is ineffective or causes side effects.

- Shortness of breath
- Sweating, nausea, faintness, or collapse
- Pain spreading to the arm, jaw, back, or neck
- A very fast or irregular heartbeat
- Coughing up blood
- Sudden severe symptoms after a period of immobility or a recent operation

Common questions

Is Tietze syndrome the same as costochondritis?

They are closely related but are usually described as separate conditions. Tietze syndrome causes local swelling, often at one upper rib joint. Costochondritis more often affects several rib joints without swelling. Both can cause tenderness and pain with movement or deep breathing.

Can Tietze syndrome feel like a heart attack?

Yes. Chest-wall pain can be sharp or pressure-like and may spread toward the shoulder or arm. Pain that is tender to touch or worsens with movement suggests a chest-wall source, but this does not safely exclude a heart problem. New or unexplained chest pain needs appropriate assessment.

How long does Tietze syndrome last?

Pain often improves over weeks or months, but there is no exact timetable. Swelling may remain after the pain eases, and symptoms can occasionally return. Persistent or changing symptoms should be reviewed to confirm that another condition has not been missed.

Can I exercise with Tietze syndrome?

Gentle activity is often possible if it does not clearly increase pain or swelling. Heavy lifting, forceful pushing, and strenuous upper-body exercise may need to be reduced temporarily. Return gradually rather than trying to push through sharp pain.

Does a lump from Tietze syndrome go away?

The swelling often becomes smaller as inflammation settles, but it may take longer to improve than the pain. Any new, enlarging, hard, or unexplained chest-wall lump should be examined rather than assumed to be Tietze syndrome.

Can stress cause Tietze syndrome?

Stress is not known to cause the inflamed, swollen rib joint. It can increase muscle tension, disturb sleep, and make pain feel more intrusive. Managing stress may support coping and recovery, but it does not replace assessment of chest pain or swelling.

Sources

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