CONDITION

Colorado tick fever

Colorado tick fever is a viral infection spread by infected Rocky Mountain wood ticks.

WHAT IT IS
Tick-borne viral infection causing an acute fever

BODY SYSTEM
Whole body, blood, and nervous system

MAIN SYMPTOMS
Fever, headache, muscle aches, fatigue

WHAT CAUSES IT
Infection with Colorado tick fever virus

HOW IT IS DIAGNOSED
Blood PCR or antibody tests

MAIN TREATMENT
Rest, fluids, and symptom relief

CAN IT BE CURED?
Yes - most infections clear with supportive care

IS IT AN EMERGENCY?
Sometimes - seizures, confusion, or severe bleeding

LONG-TERM OUTLOOK
Most people recover fully within weeks

Overview

Colorado tick fever is a viral infection spread mainly by the Rocky Mountain wood tick. It occurs in mountainous parts of the western United States and western Canada, usually during spring and summer when these ticks are active.

Despite its name, the condition is not limited to Colorado. It is linked to the range of the tick that carries the virus.

Colorado tick fever usually causes a sudden fever, headache, muscle aches, and marked tiredness. Some people improve and then have another period of fever a few days later. This "saddleback" fever pattern can suggest the condition, but it does not confirm it.

Most people recover with rest, fluids, and treatment for symptoms. There is no antiviral medicine specifically approved to eliminate the virus. Rarely, the infection affects the brain,

heart, or blood-clotting system.

The virus can remain inside red blood cells for several months after the initial illness. This does not usually mean that symptoms continue, but it matters for blood donation because the infection has rarely been passed through donated blood.

Symptoms

Symptoms usually begin within about two weeks of an infected tick bite. The bite may have gone unnoticed because ticks can be small and may attach in a hidden area.

Common symptoms include:

Some people have one period of fever. Others feel better for a short time before the fever returns. The second period is usually part of the same infection rather than a new illness.

A rash can occur, but it is not a main feature. The infection may also lower the number of white blood cells, which help fight infection, and platelets, which help blood clot. These changes are found through blood tests and may not cause noticeable symptoms.

Children can have the same symptoms as adults. Rare nervous system complications, such as inflammation around or within the brain, are reported more often in children.

Symptoms overlap with several other infections carried by ticks. Fever after a tick bite should not automatically be assumed to be Colorado tick fever.

- Sudden fever and chills
- Headache, often around or behind the eyes
- Muscle and joint aches
- Tiredness or weakness
- Nausea, vomiting, or abdominal discomfort
- Sensitivity to light

Causes and risk factors

Colorado tick fever is caused by Colorado tick fever virus, a type of coltivirus. The virus is mainly passed to people through the bite of an infected Rocky Mountain wood tick, called Dermacentor andersoni .

These ticks live in wooded, brushy, and grassy mountain areas. Exposure is more likely when hiking, camping, hunting, working outdoors, or spending time around cabins and trails in

affected regions.

Risk is highest during the warmer months when adult ticks are active. A tick can attach anywhere, but commonly attaches around the scalp, hairline, waist, groin, armpits, or behind the knees.

The infection does not normally spread through coughing, touching, food, or everyday contact. Rare transmission through blood transfusion has occurred because the virus can remain in red blood cells after symptoms improve.

Having Colorado tick fever once is thought to produce long-lasting immunity, although it is still sensible to prevent future tick bites because ticks can carry other infections.

Diagnosis

A healthcare professional will consider your symptoms, recent travel, outdoor activities, and possible tick exposure. Tell them if you have recently visited a mountain area in the western United States or Canada, even if you did not see a tick.

Blood tests can confirm the infection. A molecular test called reverse-transcription polymerase chain reaction, or RT-PCR, looks for the virus's genetic material. It is most useful early in the illness.

Antibody tests look for immune proteins produced in response to the virus. These antibodies may not be detectable at the start of the illness. A second blood sample taken later may be needed to show that antibody levels have risen.

A complete blood count may show low white blood cell or platelet levels. These findings can support the diagnosis, but they cannot confirm Colorado tick fever by themselves.

Testing the removed tick is not a reliable way to diagnose your illness. An infected tick may not have passed on the virus, and a negative tick result does not rule out another tick exposure.

Other conditions can cause similar symptoms, including Rocky Mountain spotted fever, ehrlichiosis, anaplasmosis, tularemia, and common viral infections. Some of these require different treatment, so the timing and location of exposure are important.

Treatment and management

There is no specific antiviral treatment for Colorado tick fever. Management focuses on keeping you comfortable while your immune system clears the infection.

Rest and adequate fluids are important, especially when fever, sweating, nausea, or vomiting

increase fluid loss. Return to usual activity gradually because tiredness can continue after the fever has settled.

Over-the-counter medicines may help with fever or pain, but they are not suitable for everyone. Follow the label and ask a healthcare professional or pharmacist which option is appropriate if you have liver or kidney problems, take blood-thinning medicine, or have low platelets.

Children and teenagers with a viral infection should not take aspirin unless it has been specifically prescribed. Aspirin use during some viral illnesses is associated with Reye syndrome, a rare but serious condition affecting the brain and liver.

Antibiotics like amoxicillin or doxycycline do not treat Colorado tick fever because antibiotics act against bacteria, not viruses. They may be needed only if a different bacterial infection is diagnosed or strongly suspected.

Hospital care is uncommon but may be needed for severe dehydration, major bleeding, heart inflammation, or nervous system complications. Hospital treatment can include intravenous fluids and close monitoring.

If you donate blood, tell the blood donation service about the infection. Because the virus can remain in red blood cells after recovery, you may need to wait before donating.

Complications

Most infections improve without lasting problems. Complications are uncommon but can be serious.

Inflammation of the brain or its surrounding tissues can cause a severe headache, stiff neck, confusion, unusual sleepiness, or seizures. These complications are reported more often in children than adults.

Rarely, Colorado tick fever can cause inflammation of the heart muscle or the sac around the heart. Possible symptoms include chest pain, shortness of breath, or a fast or irregular heartbeat.

Very low platelet levels or disruption of normal clotting can cause unusual bruising or bleeding. Death is rare.

Prevention

There is no vaccine for Colorado tick fever. Prevention depends on reducing contact with ticks

and removing attached ticks promptly.

When spending time in tick habitat:

Check hidden areas carefully, including the scalp, behind the ears, under the arms, around the waist, between the legs, and behind the knees.

To remove an attached tick, use fine-tipped tweezers. Grasp it close to the skin and pull upward with steady pressure. Clean the bite area and your hands afterward. Do not burn the tick or cover it with petroleum jelly, nail polish, or other substances.

Tick prevention cannot remove every risk, but it also helps protect against other tick-borne infections found in the same regions.

- Use an insect repellent intended for ticks, following its label
- Wear long sleeves, long trousers, and closed shoes
- Walk near the centre of trails where practical
- Treat clothing and outdoor gear with an appropriate permethrin product
- Check your body, clothing, children, pets, and gear after returning indoors
- Shower soon after outdoor activity to help find unattached ticks

Living with it and what to expect

Colorado tick fever is usually a short-term infection. Fever and aches often settle over several days, although the fever may disappear and then return briefly.

Tiredness and weakness can last for several weeks. During recovery, you may need more rest than usual. Increase exercise and other demanding activities gradually rather than trying to return to your full routine immediately.

Most people return to their usual health without long-term treatment. Colorado tick fever is not generally considered a chronic condition and is not known to cause repeated attacks years later.

The virus may remain in red blood cells for months even when you feel well. This persistence usually does not cause ongoing symptoms, but it is why blood donation requires special care after the infection.

Arrange routine follow-up if fatigue is not steadily improving, fever keeps returning, or symptoms interfere with school, work, sleep, or daily activities. Persistent symptoms may need reassessment for another condition rather than being assumed to come from Colorado tick fever.

When to get medical help

Seek prompt medical advice if you develop fever, headache, or strong muscle aches after a possible tick bite or recent outdoor exposure in an affected region. Mention where and when you travelled.

Contact a healthcare professional promptly if you:

Seek emergency care for:

A mild, improving fever without these features usually does not require emergency care. It may still need routine assessment, especially when there has been likely tick exposure.

- Cannot keep fluids down
- Are urinating much less than usual
- Develop unusual bruising, nosebleeds, or bleeding gums
- Have symptoms that are worsening instead of improving
- Improve and then develop a new or more severe illness
- A seizure
- Confusion, fainting, or difficulty waking
- A severe headache with a stiff neck
- Trouble breathing
- Chest pain or a sustained irregular heartbeat
- Heavy bleeding or bleeding that will not stop
- Signs of severe dehydration, such as collapse or extreme weakness

Common questions

Is Colorado tick fever the same as Rocky Mountain spotted fever?

No. Colorado tick fever is caused by a virus. Rocky Mountain spotted fever is caused by bacteria and requires antibiotic treatment. Their symptoms and geographic ranges can overlap, so testing and clinical assessment may be needed.

Can you get Colorado tick fever without seeing a tick?

Yes. A tick may detach before you notice it, and bites in the scalp or other hidden areas can be missed. Your travel history and outdoor exposure still matter even when no tick was found.

How long does Colorado tick fever last?

The main fever and body aches usually last for days, sometimes with a brief improvement followed by another fever. Tiredness may continue for several weeks. Symptoms lasting longer or getting worse should be reassessed.

Is Colorado tick fever contagious?

It does not spread through ordinary contact, coughing, or sharing food. Rare spread through donated blood has occurred because the virus can remain inside red blood cells for months.

Can I get Colorado tick fever again?

Past infection is thought to provide long-lasting immunity. You should still use tick precautions because the same areas can contain ticks carrying other infections.

Do I need antibiotics after a Rocky Mountain wood tick bite?

Antibiotics do not prevent or treat Colorado tick fever because it is viral. A tick bite alone does not confirm infection. Medical assessment may be needed if symptoms develop because other tick-borne conditions are treated differently.

Sources

- Centers for Disease Control and Prevention: About Colorado Tick Fever
- Centers for Disease Control and Prevention: Clinical Signs and Symptoms of Colorado Tick Fever
- Centers for Disease Control and Prevention: Clinical Testing and Diagnosis for Colorado Tick Fever
- Centers for Disease Control and Prevention: Treatment and Prevention of Colorado Tick Fever
- Centers for Disease Control and Prevention: Preventing Tick Bites
- Centers for Disease Control and Prevention: What to Do After a Tick Bite