CONDITION

Livedo reticularis

Livedo reticularis is a netlike red, blue, or purple pattern caused by changes in blood flow near the skin.

WHAT IT IS
Netlike red or purple skin discoloration

BODY SYSTEM
Skin and circulation

MAIN SYMPTOMS
Netlike mottling, color changes, cold sensitivity, occasional discomfort

WHAT CAUSES IT
Cold-related vessel narrowing or an underlying condition

HOW IT IS DIAGNOSED
Skin examination, with targeted tests for suspected causes

MAIN TREATMENT
Warming, trigger avoidance, and treatment of any underlying cause

CAN IT BE CURED?
Sometimes - cold-related or secondary forms may clear

IS IT AN EMERGENCY?
Sometimes - stroke symptoms, severe pain, or blackened skin

LONG-TERM OUTLOOK
Often harmless; persistent forms reflect the underlying cause

Overview

Livedo reticularis is a red, blue, or purple pattern on the skin. It usually looks like a lace, net, or series of connected rings. The name describes an appearance rather than one specific disease.

The pattern develops when blood flow changes in the small and medium-sized blood vessels near the skin. Cold temperatures can temporarily narrow these vessels and make the pattern more visible. This common form often fades after the skin warms.

Livedo reticularis most often appears on the legs, but it can affect the arms, trunk, or other areas. It may occur on both sides of the body.

Some people have a persistent pattern without an identifiable cause. In other people, it is linked to a medicine or a condition affecting blood vessels, blood clotting, or the immune

system. This is why a new, persistent, painful, or otherwise unexplained pattern may need assessment.

A related pattern called livedo racemosa is usually more irregular, broken, and widespread. It is more likely than a regular, cold-related pattern to be associated with an underlying condition.

Symptoms

The main sign is mottled skin with branching or circular lines. The lines may appear red at first and become blue or purple when the skin is cold.

The pattern may:

Simple cold-related livedo reticularis does not usually cause swelling, open sores, or significant pain. Those features can suggest a different or more serious problem affecting the circulation or blood vessels.

Persistent livedo may occur with other symptoms caused by an underlying condition. These can include joint pain, unusual tiredness, fever, headaches, numbness, skin lumps, ulcers, or symptoms of a blood clot. The skin pattern itself does not reveal the cause.

A brown, netlike mark caused by repeated exposure to a heater, hot-water bottle, or heating pad may be erythema ab igne , sometimes called toasted skin syndrome. It can resemble livedo reticularis but has a different cause.

- Become clearer in cold weather or an air-conditioned room
- Fade partly or completely with gentle warming
- Affect both legs in a similar way
- Come and go or remain visible
- Be painless, although some people notice aching, tingling, or cold skin

Causes and risk factors

Livedo reticularis develops when blood moves unevenly through vessels close to the skin. Some vessels may narrow, while blood collects in nearby veins. This makes the branching vessel pattern visible through the skin.

Cold is a common trigger. The body narrows skin blood vessels to reduce heat loss. In some people, this normal response produces noticeable mottling. Babies and young children can also develop temporary marbling of the skin because their temperature control is still developing.

When there is no underlying condition, the pattern may be described as primary or idiopathic livedo reticularis. Idiopathic means that no specific cause has been found.

Secondary livedo reticularis is associated with another condition or exposure. Possible mechanisms include:

Associated conditions include antiphospholipid syndrome, lupus, inflammation of blood vessels known as vasculitis, cryoglobulinemia, and certain disorders that increase blood clotting. Cholesterol fragments can occasionally block small vessels, often after a blood-vessel procedure. Some infections and cancers can also produce livedo, although these are less common explanations.

Amantadine, a medicine used for certain movement disorders and other indications, is a well-recognised medication cause. Other medicines have also been reported. Do not stop a prescribed medicine on your own; a prescriber can assess whether it may be involved.

- Inflammation or damage in blood vessel walls
- Blood clots or material blocking small vessels
- Unusual thickness or clumping of blood proteins
- Immune system conditions affecting vessels or clotting
- Reduced blood flow from another circulation problem
- A medicine-related change in small blood vessels

Diagnosis

Livedo reticularis is usually identified by examining the skin. A healthcare professional will look at the shape, distribution, color, and persistence of the pattern. They may check whether it fades with warming or gentle pressure.

You may be asked when the pattern began, whether cold triggers it, and whether it affects one or both sides. Other useful details include pain, ulcers, recent procedures, new medicines, pregnancy history, blood clots, headaches, neurological symptoms, joint problems, and immune system conditions.

There is no single blood test that confirms every case. Tests are chosen according to the appearance and any other symptoms. They may include a full blood count, clotting-related tests, tests for inflammation or autoimmune conditions, and tests for unusual proteins in the blood. Broad testing is not always needed for a mild pattern that clearly appears with cold and disappears after warming.

A skin biopsy may be considered when the pattern is persistent, painful, irregular, or associated with ulcers or other concerning features. During a biopsy, a small sample of numbed skin is removed and examined under a microscope. Because the vessel changes can be patchy and may lie deeper in the skin, a biopsy does not always identify the cause.

Treatment and management

Treatment is based on the type of livedo reticularis and whether an underlying cause is present.

Temporary, cold-related livedo often needs no medical treatment. Moving to a warmer environment and using loose, insulating clothing may allow the normal skin color to return. Warm the skin gradually rather than placing it directly against a heater or very hot water, which can cause burns.

For primary livedo reticularis, treatment options are limited. Keeping the whole body warm may reduce episodes. Stopping smoking can support circulation and has wider health benefits. Medicines that widen blood vessels are sometimes considered for troublesome symptoms, but they do not work reliably for everyone.

When a medicine may be responsible, the prescriber may consider changing or stopping it. The decision should take account of why the medicine is being used and whether alternatives are suitable.

Secondary livedo is managed by treating its cause. Depending on the diagnosis, this may involve treatment for blood clotting, vessel inflammation, infection, or another medical condition. Blood-thinning or immune-suppressing medicines are appropriate only for specific diagnosed causes; they are not general treatments for all livedo reticularis.

Skin ulcers or damaged areas may need wound care and pain management. Protecting numb or poorly perfused skin from injury is also important.

Complications

Cold-related or primary livedo reticularis usually does not damage the skin or cause broader health problems. The appearance may still be distressing, especially when it is persistent or visible on large areas.

Complications are more likely when an underlying condition reduces blood flow or inflames the vessels. Possible problems include painful nodules, ulcers, infection in broken skin, or tissue damage. These are not expected features of simple cold-related mottling.

The main health risk comes from the underlying cause rather than the skin pattern. For example, a clotting disorder can raise the risk of clots elsewhere, while vasculitis can affect organs as well as the skin. The risks differ greatly between conditions, so the skin appearance alone cannot predict what will happen.

Prevention

Livedo reticularis cannot always be prevented. There may be no avoidable cause, and some associated immune or blood-clotting conditions are not preventable.

If cold brings on the pattern, dressing warmly and avoiding rapid temperature changes may reduce episodes. Layers, warm socks, and keeping the trunk warm can be more helpful than heating only the affected skin.

Avoid repeated direct contact with heating pads, hot-water bottles, or space heaters. These can burn the skin or cause a separate netlike discoloration.

If a medicine is suspected, do not adjust it without medical advice. A medication review can identify whether a safe alternative is available.

Managing a diagnosed underlying condition and avoiding smoking may reduce circulation-related problems, although neither guarantees that the skin pattern will disappear.

Living with it and what to expect

For many people, livedo reticularis is a temporary response to cold. It appears during exposure, fades with warming, and does not progress. Episodes may be more noticeable in winter or after sitting still in a cool place.

Primary livedo may continue to come and go over months or years. In some people, the pattern gradually becomes more persistent. It can remain a cosmetic concern without causing skin damage or limiting everyday activities.

Secondary livedo follows the course of its underlying cause. It may improve when that condition is controlled or when a responsible medicine is changed. In other cases, some discoloration remains despite treatment.

It can help to photograph the skin when the pattern is clear, especially if it fades before an appointment. Note whether you were cold, how long it lasted, and whether there was pain or another symptom. Photographs do not establish the cause, but they can show how the pattern changes over time.

Arrange routine follow-up if the pattern becomes more frequent, stops fading with warmth, spreads, or develops alongside other symptoms. Follow-up is also important if you already have a condition affecting clotting, blood vessels, or the immune system.

When to get medical help

Make a routine appointment if livedo reticularis is new and persistent, has no clear link to cold, affects only one limb, or does not improve after warming. It should also be assessed if it begins after a new medicine or repeatedly occurs with headaches, joint symptoms, numbness, or unusual tiredness.

Seek prompt medical care for:

Call emergency services if the discoloration appears with signs of a stroke, such as facial drooping, arm weakness, speech difficulty, sudden loss of vision, or sudden severe imbalance. Emergency help is also needed for severe chest pain, sudden shortness of breath, a suddenly painful cold limb, or skin that is rapidly becoming black. These symptoms can indicate blocked blood flow or another urgent condition.

- Increasing pain, tenderness, or swelling
- Skin ulcers, blisters, firm lumps, or signs of infection
- A foot or hand that becomes unusually cold, pale, blue, or numb
- Fever or feeling unwell with a new, persistent skin pattern

Common questions

Is livedo reticularis dangerous?

Usually not. A symmetrical pattern that appears in the cold and disappears after warming is often harmless. Persistent, painful, ulcerated, one-sided, or irregular livedo needs assessment because it can sometimes reflect a circulation, clotting, or immune system condition.

Why do my legs look purple and blotchy when I am cold?

Cold narrows blood vessels near the skin to conserve heat. Uneven blood flow can make the vessel network visible as purple or red mottling. If your skin returns to normal with gentle warming and there are no other symptoms, this often represents a normal cold response.

Does livedo reticularis go away?

Cold-related livedo usually fades after warming. Medicine-related livedo may improve after the

medicine is safely changed, although fading can take time. Primary or secondary forms may remain visible. The outlook is mainly determined by the cause.

Is livedo reticularis an autoimmune condition?

Not by itself. It is a skin pattern, not a single autoimmune disease. Autoimmune conditions such as lupus or antiphospholipid syndrome can sometimes cause it, but many people with livedo do not have an autoimmune condition.

Can anxiety cause livedo reticularis?

Anxiety can affect body temperature and blood-vessel tone, which may make mottling more noticeable in some people. However, persistent livedo should not automatically be attributed to anxiety, especially when it is painful, one-sided, or accompanied by other symptoms.

Can livedo reticularis be caused by poor circulation?

Yes, but "poor circulation" covers many different processes. Temporary vessel narrowing from cold is common. Less often, inflammation, clotting, or blockage affects blood flow. The pattern and accompanying symptoms help determine whether further investigation is needed.

Sources

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