CONDITION

Scleredema diabeticorum

Scleredema diabeticorum is diabetes-associated thickening and hardening of the skin on the neck, shoulders, and upper back.

WHAT IT IS
Diabetes-associated thickening and hardening of upper-body skin

BODY SYSTEM
Skin and connective tissue

MAIN SYMPTOMS
Thick skin, upper-back stiffness, reduced neck movement, shoulder tightness

WHAT CAUSES IT
Unclear; linked to collagen and skin-mucin buildup

HOW IT IS DIAGNOSED
Skin examination, often supported by skin biopsy

MAIN TREATMENT
Diabetes management, physical therapy, and specialist skin treatments

CAN IT BE CURED?
No - skin thickening often persists

IS IT AN EMERGENCY?
No - except severe breathing or swallowing trouble

LONG-TERM OUTLOOK
Usually chronic, sometimes stabilising or improving slowly

Overview

Scleredema diabeticorum is a condition in which skin becomes unusually thick and firm. It mainly affects the back of the neck, shoulders, and upper back. It may extend to the face, chest, or upper arms.

The condition is associated with diabetes, particularly diabetes that has been present for many years or has been difficult to control. It is also more often reported in people with a larger body size. However, it is not caused by poor effort or personal failure.

The thickening develops because collagen and gel-like substances called glycosaminoglycans build up within the skin. Collagen normally gives skin strength. Glycosaminoglycans, sometimes called mucin when seen in tissue, hold water. Their accumulation makes the skin feel firm, tight, or sometimes rubbery.

Scleredema diabeticorum is not the same as systemic sclerosis, which is also called scleroderma. Systemic sclerosis can affect the fingers and internal organs. Scleredema usually begins on the neck and upper back, while the fingers are generally spared.

The condition matters because skin tightness can restrict neck and shoulder movement. In uncommon cases, extensive thickening may contribute to problems with swallowing or breathing. Most people do not develop these serious effects.

Symptoms

Changes usually develop slowly. Because the upper back is difficult to see, you may first notice stiffness or reduced movement rather than a visible skin change.

Common features include:

The edges of the affected area may be difficult to define. Unlike ordinary swelling, pressing the skin usually does not leave a dent.

The condition can make activities such as dressing, driving, reaching overhead, or looking over your shoulder harder. Some people have discomfort, itching, or pain, but the skin changes may also be painless.

Scleredema generally does not affect the hands and feet. Thickening that begins in the fingers, causes fingers to change colour in the cold, or is associated with fingertip sores may suggest a different condition and should be assessed.

Rarely, extensive tissue involvement may restrict chest movement or affect swallowing. New breathing or swallowing problems need prompt medical attention rather than being assumed to come from scleredema.

- Thick, firm, or hard skin on the back of the neck
- Tightness across the shoulders and upper back
- Reduced ability to turn or bend the neck
- Difficulty raising the arms fully
- Skin with a slightly red, brown, or dimpled appearance
- Reduced sensation or sweating in affected areas

Causes and risk factors

The exact reason scleredema diabeticorum develops is not known. High blood glucose may

change how collagen is produced, broken down, or linked together. Diabetes may also affect small blood vessels and the activity of skin cells. These changes may encourage collagen and mucin to accumulate.

The condition has a strong association with long-standing diabetes. It can occur with either type 1 or type 2 diabetes, although many reported cases involve type 2 diabetes.

Factors commonly associated with it include:

Having these factors does not mean you will develop scleredema. Many people with long-standing or difficult-to-control diabetes never develop it.

Other forms of scleredema can follow an infection or occur with an abnormal protein in the blood. These are separate clinical patterns. If your skin findings are unusual, your healthcare team may check for other possible associations rather than assuming diabetes is the only explanation.

Scleredema is not contagious. It is not caused by touching another person, poor hygiene, or an allergic reaction.

- Diabetes present for many years
- Blood glucose that has often been above its target range
- Diabetes-related blood vessel or nerve complications
- A larger body size
- Male sex

Diagnosis

Diagnosis begins with an examination of the skin and a review of how the changes developed. The location is important. Firm skin across the back of the neck and upper trunk, with the fingers spared, is a typical pattern.

A skin biopsy may be used to support the diagnosis or rule out similar conditions. During a biopsy, a clinician numbs a small area and removes a sample for examination under a microscope. In scleredema, the deeper layer of skin is thickened. Broad collagen bundles are separated by deposits of mucin.

A biopsy can be helpful, but its findings must be considered alongside your symptoms and examination. There is no single blood test that confirms scleredema diabeticorum.

Blood tests may be used to assess diabetes control and general health. These can include an HbA1c test, which estimates average blood glucose over the previous two to three months. If

the presentation is not typical, testing may also look for an abnormal antibody protein, known as a monoclonal protein.

Other conditions can cause firm or tight skin. These include systemic sclerosis, scleromyxedema, eosinophilic fasciitis, and limited movement of the joints related to diabetes. A dermatologist may be involved when the diagnosis is uncertain.

Treatment and management

There is no treatment that reliably removes the skin thickening for everyone. Management aims to protect your health, maintain movement, ease symptoms, and limit further disability.

Good diabetes care remains important. Keeping blood glucose within a range agreed with your diabetes team reduces the risk of many diabetes complications. However, improved glucose control does not always reverse established scleredema. A lack of visible skin improvement does not mean diabetes treatment is failing.

Physical therapy can help preserve neck, shoulder, and arm movement. A therapist may provide stretching, posture work, and exercises suited to your current ability. Regular movement is generally more useful than forcing a stiff joint or stretching until it is painful.

If weight management is relevant to your health goals, support may be offered as part of diabetes care. Weight loss cannot be promised to clear scleredema, and care should not focus on weight alone.

A dermatologist may consider light-based treatment. UVA1 phototherapy uses a controlled wavelength of ultraviolet light that reaches deeper layers of skin. PUVA combines ultraviolet A light with a medicine that makes the skin more sensitive to light. Published evidence suggests phototherapy can help some people, but access and response differ. Treatment requires repeated visits and carries risks such as burns, premature skin ageing, and longer-term skin cancer risk.

Medicines that alter inflammation or immune activity have been tried, including methotrexate and ciclosporin. Intravenous immunoglobulin has also been reported in difficult cases. Evidence for these options is limited, mostly coming from small studies and individual case reports. They can have important side effects and require specialist monitoring.

Radiotherapy has occasionally been used when other treatment has not helped. Because it has potential long-term risks, it is not routine treatment.

Moisturisers may help dryness or itching, but they do not reach deeply enough to remove the underlying collagen and mucin deposits.

Complications

The most common problem is loss of movement. Tight skin may gradually make it difficult to turn your head, lift your arms, or complete tasks that involve reaching. Reduced activity can add to shoulder stiffness.

Changes around the upper body may also affect confidence, clothing choices, sleep, work, or social activities. These effects are valid reasons to discuss additional support, even when the condition is medically stable.

Uncommon complications include:

Breathing and swallowing problems have many possible causes. They should be evaluated rather than automatically attributed to scleredema.

- Marked restriction of chest expansion
- Shortness of breath related to extensive tissue stiffness
- Difficulty swallowing
- Reduced movement severe enough to affect daily independence
- Skin cracking or infection, especially where skin is rubbed or moist

Prevention

There is no proven way to prevent scleredema diabeticorum. Even well-managed diabetes does not provide a guarantee that it will not occur.

Keeping blood glucose, blood pressure, and cholesterol within agreed target ranges remains worthwhile for protecting the eyes, kidneys, nerves, heart, and circulation. It may also reduce processes that contribute to skin damage, although research has not shown that glucose control alone prevents scleredema.

Routine skin care can reduce dryness, friction, and cracking. It cannot prevent collagen or mucin from collecting in the deeper skin.

Living with it and what to expect

Scleredema diabeticorum is usually long lasting. In some people it stabilises, while in others thickening or restricted movement slowly progresses. Improvement can occur, particularly with physical therapy or specialist treatment, but complete clearing is uncommon.

Changes generally occur over months or years rather than from day to day. Keeping track of neck rotation, shoulder reach, and daily tasks may be more useful than judging skin firmness each morning.

Movement work often needs to continue even when the skin looks unchanged. The goal may be to preserve function and prevent additional stiffness rather than to make the skin feel completely normal.

Practical adjustments can help. These may include arranging frequently used items within easy reach, adapting a workstation, or using mirrors and driving aids if turning your neck is difficult. An occupational therapist can help identify safe ways to manage work and household tasks.

Continue routine diabetes appointments and skin follow-up as advised. Follow-up may focus on glucose management, range of motion, treatment side effects, and whether the skin changes are stable. New symptoms should be reviewed rather than waiting for a scheduled visit.

When to get medical help

Arrange a routine appointment if you develop persistent thickening or hardening across your neck, shoulders, or upper back. Assessment is also appropriate if stiffness is affecting driving, dressing, sleep, work, or exercise.

Contact your healthcare team promptly if:

Seek emergency help for severe or rapidly worsening breathing difficulty, choking, inability to swallow saliva, blue or grey lips, fainting, or sudden chest pain. These symptoms are not typical of uncomplicated scleredema and need immediate assessment.

- Skin tightness is progressing noticeably
- Neck or shoulder movement is becoming more limited
- You develop new difficulty swallowing
- You have unexplained shortness of breath
- Affected skin becomes hot, increasingly painful, broken, or drains fluid
- Treatment causes burns, infection symptoms, or other concerning effects

Common questions

Is scleredema diabeticorum the same as scleroderma?

No. Both can cause hard skin, but they have different patterns and risks. Scleredema usually affects the neck and upper back and spares the fingers. Systemic sclerosis often affects the fingers and may involve internal organs.

Can better blood sugar control make it go away?

Better glucose control protects your overall health and may help prevent additional tissue damage. Established skin thickening often remains, however, so glucose management is usually combined with movement therapy and, when appropriate, dermatology treatment.

Does scleredema diabeticorum spread?

It can extend slowly from the neck and upper back to the shoulders, upper arms, face, or chest. It does not usually spread to the fingers or feet. A different pattern deserves reassessment.

Can weight loss cure scleredema?

Weight loss is not a proven cure. If changing your weight is appropriate for your health, it may help diabetes management and movement, but the thickened skin may persist.

Is scleredema contagious or cancerous?

It is neither contagious nor a skin cancer. Some non-diabetic forms of scleredema are associated with abnormal blood proteins, which is why additional testing is sometimes needed when the clinical pattern is unusual.

Can I exercise with scleredema diabeticorum?

Movement is usually encouraged because it helps preserve neck and shoulder function. Exercises should stay within a comfortable range. A physical therapist can help if stiffness, pain, balance, or other diabetes complications make activity difficult.

Sources

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