CONDITION

Cellulite

Learn why cellulite causes dimpled skin, how it is diagnosed, which treatments may improve its appearance, and when skin changes need medical attention.

WHAT IT IS
Normal cosmetic skin dimpling

BODY SYSTEM
Skin and connective tissue

MAIN SYMPTOMS
Dimpled skin, uneven texture, rippling, puckering

WHAT CAUSES IT
Fat and connective tissue structure

HOW IT IS DIAGNOSED
Visual and gentle skin examination

MAIN TREATMENT
Cosmetic procedures and lifestyle measures

CAN IT BE CURED?
No, treatments cannot remove it permanently

IS IT AN EMERGENCY?
Sometimes, sudden one-leg swelling with chest pain

LONG-TERM OUTLOOK
Harmless, but dimpling may persist

Overview

Cellulite is the dimpled or uneven skin texture that often appears on the thighs, buttocks, hips, or abdomen. People may describe it as looking like an orange peel, cottage cheese, or a mattress surface. It develops when fat beneath the skin pushes upward while firm bands of connective tissue pull parts of the skin downward.

Cellulite is a normal cosmetic feature, not a disease. It is very common after puberty and can occur in people of any body size or fitness level. It is seen more often in women because the structure of fat and connective tissue under the skin differs between women and men.

Cellulite does not damage the skin or internal organs. Treatment is not medically necessary. However, some people feel self-conscious about its appearance or want to understand whether a new skin change is harmless.

Cellulite is different from cellulitis . Cellulitis is a bacterial skin infection that usually causes spreading redness, warmth, swelling, and pain. Cellulitis may require prompt antibiotic treatment. Ordinary cellulite does not cause fever, redness, or a painful swollen area.

No available treatment reliably removes cellulite forever. Some procedures can make dimpling less noticeable, but results vary and may fade. Understanding the likely benefits, risks, cost, and recovery time can help people decide whether treatment is worthwhile for them.

Symptoms

Cellulite changes the surface texture of the skin. It does not usually cause physical symptoms.

Typical features include:

The thighs and buttocks are the most common locations. Cellulite can also appear on the hips, lower abdomen, upper arms, or breasts.

Cellulite may become more visible with age. Skin gradually becomes thinner and less elastic, making the structures beneath it easier to see. Weight gain can make the dimpling more noticeable in some people, but thin and physically active people can also have cellulite.

Pain, warmth, marked swelling, drainage, open sores, or rapidly spreading redness are not expected features. These symptoms may have another cause and should not automatically be assumed to be cellulite.

- Small dimples, shallow depressions, or deeper puckering
- An uneven, rippled, or lumpy skin surface
- Changes that become more visible while standing, sitting, squeezing the skin, or tightening nearby muscles
- Dimpling on both sides of the body, although one side may be more noticeable
- Skin that otherwise has a normal color and temperature

Causes and risk factors

Skin is attached to deeper tissue by bands of collagen-rich connective tissue. Collagen is a strong protein that helps support the skin. Between these bands are pockets of fat. When fat pushes toward the surface while the bands pull downward, dimples and raised areas can develop.

Several factors affect how visible this pattern becomes.

Sex-related anatomy plays an important role. In women, many connective tissue bands run more vertically beneath the skin, allowing fat to bulge between them. In men, the bands are more likely to form a crossing pattern that may hold fat in place more evenly. Hormones may also influence fat distribution and connective tissue, although the exact hormonal contribution is not fully understood.

Genetics can affect skin thickness, body shape, fat distribution, and connective tissue structure. Cellulite often runs in families.

Age can make cellulite more apparent. Skin loses collagen, strength, and elasticity over time. The connective bands may also become tighter or more obvious.

Body fat and weight changes can affect appearance but are not the sole cause. More fat under the skin may make bulging more visible. Weight loss may improve cellulite for some people, especially when it reduces excess fat. For others, loose skin after weight loss can make dimpling easier to see.

Muscle tone and skin quality may influence the overall contour of an area. Stronger muscles can create a firmer base under the skin, but exercise does not remove the connective bands that cause individual dimples.

Cellulite is not caused by "toxins," poor hygiene, or a personal failure to exercise. Claims that a product can detoxify the body and eliminate cellulite are not supported by good medical evidence.

Diagnosis

A healthcare professional can usually identify cellulite by looking at and gently examining the skin. Blood tests, scans, and skin biopsies are not normally needed.

During an evaluation, the clinician may examine the area while the person is standing and while the muscles are relaxed. Standing can make dimples easier to see. The clinician may also ask when the changes began, whether they are painful, and whether there has been swelling, redness, injury, or a recent cosmetic procedure.

A medical assessment is especially useful when the skin change is new, affects only one limb, or occurs with pain or swelling. Conditions such as cellulitis, a blood clot, fluid buildup, lipedema, or problems with veins can alter the skin's appearance but require a different evaluation. Lipedema, for example, is an abnormal and often painful buildup of fat that usually affects both legs and may cause easy bruising.

Before a cosmetic procedure, the treating professional should review the person's health history, medicines, previous surgeries, tendency to scar, and expectations. Skin color also

matters because some treatments can cause light or dark patches, especially after inflammation or injury.

Treatment and management

Cellulite does not need treatment unless its appearance is bothersome to the person who has it. The goal of cosmetic treatment is improvement rather than a complete or permanent cure.

A balanced diet, regular physical activity, and weight management may improve the overall contour of the body. Strength training can build muscle under affected areas, while aerobic activity can support general health and weight goals. These steps cannot change all of the connective tissue bands, so some dimpling may remain.

Moisturizers can temporarily make dry skin look smoother. Products containing caffeine may briefly tighten or dehydrate the skin, but the effect usually fades when the product is stopped. Retinol products may gradually thicken the outer skin and make dimpling less visible for some people. Improvement, when it occurs, takes months. Retinol can cause dryness or irritation, and people who are pregnant, planning pregnancy, or breastfeeding should discuss retinoid products with a healthcare professional.

Many creams and supplements are marketed for cellulite without strong evidence. Herbal ingredients can still cause allergic reactions or interact with medicines. A "natural" label does not establish that a product is effective or safe.

Office-based treatments include several different approaches:

Procedures that remove or reduce fat do not necessarily treat cellulite. Traditional liposuction removes deeper fat but does not release the surface bands and may make skin irregularity more noticeable. Noninvasive fat-freezing treatments have not been shown to be a dependable cellulite treatment.

Choosing an experienced, appropriately licensed clinician is important. A dermatologist or plastic surgeon familiar with cellulite procedures can explain which type of dimpling a treatment addresses. People should ask whether a device is cleared for the proposed use, how long results generally last, and who will manage complications. Cosmetic treatment is often not covered by health insurance.

- Subcision places a needle or small blade under the skin to release the tight bands causing selected dimples. Improvement can last longer than with surface treatments, but bruising, tenderness, bleeding, contour changes, and infection are possible.

- Vacuum-assisted tissue release uses suction and a small cutting device to release connective bands. It is intended for specific depressions rather than general fat removal.
- Laser and radiofrequency treatments deliver energy into deeper tissue. Depending on the device, treatment may release bands, warm fat, or stimulate new collagen. Several sessions may be needed, and results differ between devices.
- Acoustic wave therapy sends pressure waves through the skin. It may modestly improve texture after a series of sessions, but maintenance treatment may be needed.
- Mechanical massage or suction treatments move fluid and temporarily alter tissue shape. Any improvement is usually short-lived.

Complications

Cellulite itself does not lead to infection, cancer, poor circulation, or damage to nearby tissue. Its main effect may be dissatisfaction with appearance. If concern about cellulite causes persistent distress, avoidance of activities, or severe restriction of eating or exercise, discussing those feelings with a healthcare professional may help.

Most medical risks come from treatment rather than from cellulite. Depending on the procedure, possible complications include pain, bruising, swelling, burns, skin discoloration, numbness, infection, scarring, or an uneven contour. Some effects are temporary, while others can last longer or require additional care.

Aggressive massage, injections of unproven substances, or procedures performed by an unqualified provider may increase the chance of injury. Before-and-after photographs and marketing claims do not guarantee that another person will have the same result.

Follow up

Routine medical follow-up is not needed for stable, painless cellulite. People using a nonprescription skin product should stop and seek advice if it causes persistent burning, blistering, marked swelling, or a severe rash.

After an office procedure, follow the treating clinician's instructions about wound care, activity, sun protection, and follow-up appointments. Mild bruising, tenderness, or swelling may be expected after some treatments, but the clinician should explain what is normal for the specific procedure.

Contact a healthcare professional promptly if an area becomes increasingly red, warm,

swollen, or painful, especially after a procedure. Drainage, an opening in the skin, fever, or worsening discoloration also needs prompt assessment.

Seek emergency care for severe symptoms such as difficulty breathing, fainting, confusion, or sudden swelling of one leg with chest pain or shortness of breath. These are not symptoms of ordinary cellulite and may indicate another urgent condition.

Sources

- American Academy of Dermatology Association. "Cellulite treatments: What really works?" Patient guidance on the evidence, expected duration, and limitations of cellulite treatments.
- Mayo Clinic Staff. "Cellulite: Symptoms and causes" and "Cellulite: Diagnosis and treatment." Mayo Clinic, November 3, 2021.
- Bass LS, Kaminer MS. "Insights Into the Pathophysiology of Cellulite: A Review." Dermatologic Surgery . 2020;46(Suppl 1):S77-S85.
- Friedmann DP, Vick GL, Mishra V. "Cellulite: A Review With a Focus on Subcision." Clinical, Cosmetic and Investigational Dermatology . 2017;10:17-23.
- Luebberding S, Krueger N, Sadick NS. "Cellulite: An Evidence-Based Review." American Journal of Clinical Dermatology . 2015;16(4):243-256.