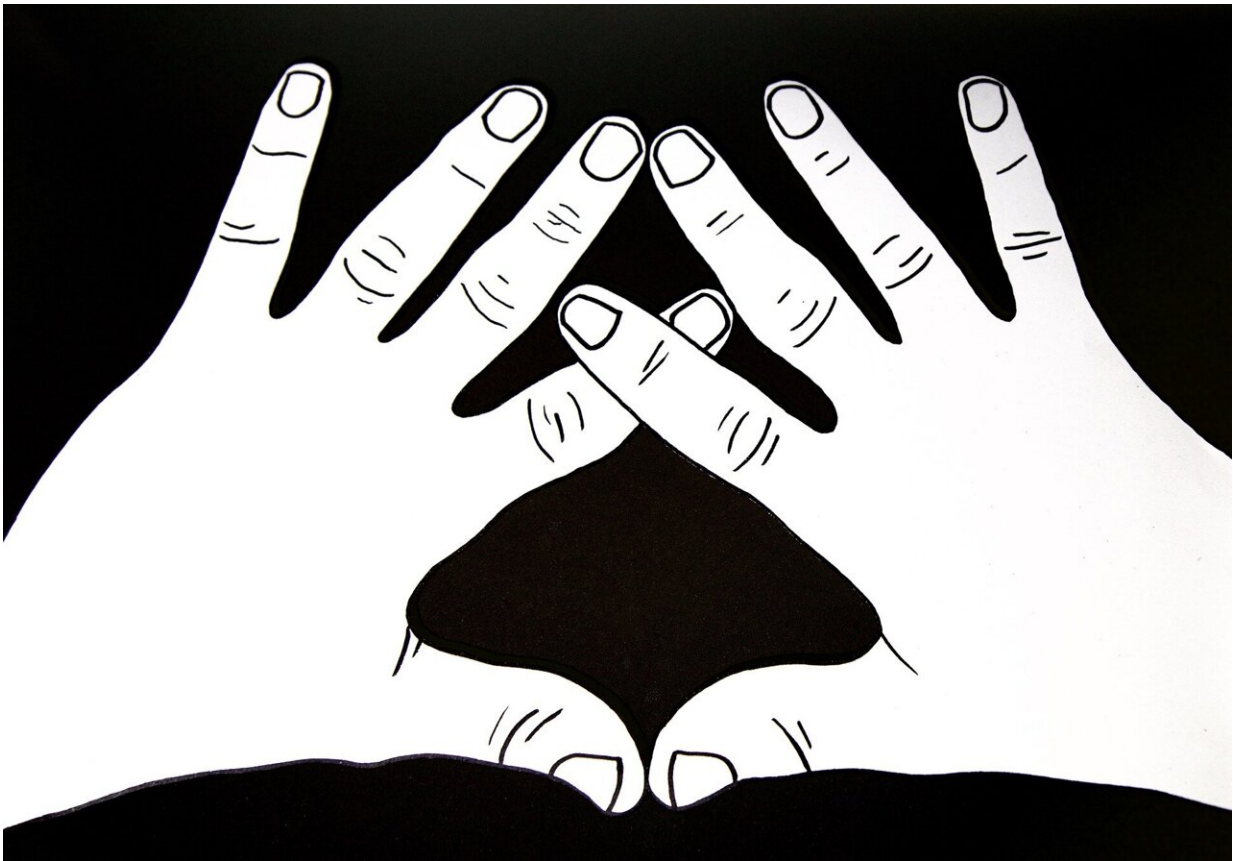


What your nails can tell you about your health

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When I was a medical student, nails were one part of my anatomy course that I really struggled with. I found it difficult, at first, to stomach the sight of [painful nail injuries](#).

My squeamishness may have stemmed from witnessing someone sharply removing a plaster from their stubbed big toe—only to take the whole toenail away with it. Ouch. I've recovered now, which is lucky since nails can tell doctors a lot about the health of a patient.

[Toe and fingernails](#) are an extension of your skin, like hair. They are formed of keratin, a tough material that grows in the direction of your fingertip into a [hard plate](#). [The cuticle](#) (the strip of skin covering the junction between skin and nail) offers extra protection against injury and infection.

Keep an eye on any changes in the appearance and texture of your nails—they can give important clues about your health. Here are some key things to look out for.

Spoon-shaped nails

Your toe and fingernails should have a slight convex curve without any dips or depressions in them. In contrast, [koilonychia](#) is a condition where the nail is concave—in some cases, forming a central depression deep enough to hold a drop of fluid, like medicine in a spoon (hence the common name of "spoon nails"). Typically, nails affected in this way also look thinner and can become more brittle.

Koilonychia can indicate anemia, meaning there are not enough [red blood cells](#) in a person's circulation to carry oxygen to the body's tissues. This is associated with [iron deficiency](#). Low iron can be caused by poor nutrition, [celiac disease](#), or cancer of the gastrointestinal tract, for example.

[Mechanics and hairdressers](#) can be at particular risk of developing koilonychia because of their work with [petroleum-based solvents](#) found in engine oils and perm agents. However, the possible underlying causes

of spoon-shaped nails are [extensive](#), so it's worth checking with your doctor if you have this condition over a long period.

Discolored nails

Normally, the nail beds (the skin beneath the nail) should be of a well-perfused pink color. Discoloration of either the bed or the entire nail can occur as a result of disease or infection. Yellow nails, for instance, might indicate a [fungal infection](#) or changes due to a skin condition such as [psoriasis](#).

Then there is [leukonychia](#)—the technical term for white discoloration of the nails, which can take several forms.

In some cases, white marks on nails can indicate [heavy metal](#) poisoning by [lead](#) or [arsenic](#)—both of which remain a problem in [many countries worldwide](#) because of pollution in the water system.

If the whiteness extends over the whole of the nail and involves multiple nails, the problem is more likely to be a deficiency of protein in the circulation. This could potentially indicate either liver or kidney disease.

However, small white marks on your nail most likely suggest some form of traumatic damage—ranging from stubbing or dropping something heavy on your toe, to closing a door on your finger. Even the common practices of nail biting and overenthusiastic manicuring can lead to damage to the nail.

And if you've ever stubbed your toe or trapped a finger, you may also have noticed a resulting dark purple, blue or red discoloration to the nail. This is a [subungual hematoma](#)—a collection of blood between the nail and its bed after trauma. These typically heal themselves over time, but can also trigger infections or separation of the [nail from the bed](#).

Emergency nail tests

During a [medical emergency](#), a patient's nails are often checked by doctors for blood oxygen saturation. This is measured by a [pulse oximeter](#), which attaches to a finger and shines light through the fingertip, then measures the amount of blood passing through. This demonstrates how much oxygen is entering the bloodstream, and therefore how effectively your heart and lungs are working.

Another indication of how well your circulation is functioning is the [capillary refill time \(CRT\)](#) test, when a clinician presses on a nail or fingertip for five seconds to make the skin underneath blanch.

After they stop pressing, the skin should return to its prior color within two seconds. Longer than this and you could be dehydrated, cold, or have [poor peripheral perfusion](#)—where the heart isn't pumping hard enough or something is making it harder for enough blood to reach the furthest parts of your body, possibly as [a result of shock](#).

Nails can also be pressed to check a patient who is drowsy or unconscious. This test forms part of the [Glasgow Coma Scale](#), which measures responsiveness and the extent of impaired consciousness in patients.

What to do if you notice something unusual

There are many more examples of nail problems besides these, including crumbling nails, pitted or lined nails, [clubbed](#) or swollen nails, and those with red marks under them. And the list of potential diagnoses is extensive, ranging from the mild to the serious.

If you're worried about nail discoloration or a change in the shape of

your nails, do get them checked by your GP. This can also go for serious nail injuries—especially if you end up pulling off the nail. If you injure the skin under your [nail](#), it's important to care for it properly to prevent complications such as an infection—while also checking for other damage like a broken bone.

And a final word of warning: false or painted nails can hide visible changes. So, be careful not to gloss over your nails, and take note of what they might be telling you about your health.

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