

Paronychia (Infection Beside the Nail)

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What you're feeling

You may notice redness, swelling, and pain around the edge of your nail. In chronic cases, this inflammation often lasts for more than 6 weeks. The swelling and redness are usually less intense than in sudden, acute infections, but the discomfort can be persistent. You might find that the skin fold at the base of your nail becomes raised and separates slightly from the nail plate underneath.

Your symptoms may flare up episodically, particularly after your hands are exposed to moist environments. This prolonged exposure to water allows organisms like yeast and bacteria to thrive. You might feel a dull ache or tenderness when you touch the area. Daily tasks can become difficult because even light pressure on the nail fold hurts. Simple actions like typing on a keyboard, opening jars, or handling wet dishes may cause sharp twinges of pain. You might also notice changes to the nail itself, such as ridging, grooving, or a change in colour and shape.

If you are a parent, you may observe these signs in a child who frequently sucks their thumb. Thumb-sucking creates a pocket where moisture collects, leading to irritation and infection. In rare cases, persistent inflammation can affect the tissue deeper near the joint. If your nail abnormality does not improve with standard care, your surgeon will consider other causes to ensure you receive the right treatment. For now, focus on keeping the area dry and avoiding further irritation to help manage your symptoms.

What's actually happening

Paronychia is an infection that takes hold in the skin folds surrounding your fingernail or toenail. You can think of the nail fold as a protective seal, much like the rubber gasket around a window. This seal keeps water, dirt, and germs out of the delicate space where your nail grows. When that seal is broken, bacteria or fungi can slip inside and start an infection.

Most of these infections begin with a tiny, often unnoticed injury. A hangnail, a cut from trimming your nails too short, or even habitual nail biting can create a small opening in that protective seal. Once the skin is compromised, common

germs like Staphylococcus or Candida yeast can move in. In chronic cases, the fungus may simply be living on the surface without being the main cause of the problem. The real issue is often that the seal itself has not healed properly, allowing moisture and irritants to keep the area inflamed.

If left untreated, the infection can cause significant swelling and pain. The pressure from pus buildup can be intense. In severe cases, we may need to create a small drainage point to release the pressure. This provides immediate relief. Simple measures are usually tried first because many cases resolve without needing to remove the nail entirely. Keeping the area dry and protected helps the seal heal. For stubborn chronic cases, it can take around 20.4 ± 18.32 days of specific treatments like low-level laser therapy to see full resolution. The goal is always to restore that protective barrier so your nail can grow back healthy and strong.

What we can do about it

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. We begin by managing symptoms at home. You can apply warm soaks to reduce swelling and pain. If the issue is fungal, topical treatments may help. For chronic cases lasting more than six weeks, we might use a nail polish sealer or cyanoacrylate glue to seal the gap between your skin and nail. This allows the area to heal within six to eight weeks. Low-level laser therapy is another option, typically requiring about 20 days of treatment. We also advise keeping your hands dry to prevent flare-ups, as moisture often triggers symptoms.

If home care is not enough, we move to medical management. We may prescribe antifungal medications like fluconazole to treat underlying yeast infections. In some cases, we lift the cuticle and insert a sterile rubber ribbon. This simple step often cures the infection without removing the nail. If there is pus, we may drain it using a heated wire or a small incision. For pain, we recommend standard over-the-counter pain relief. We do not typically use cortisone or hyaluronic acid injections for this condition, as they are not supported by the current evidence for paronychia.

Surgery is considered only when conservative care has not provided enough improvement or if the infection is severe. We may remove part or all of the nail if there are irregularities or if the infection involves both sides of the nail fold. Techniques like the Swiss roll or square flap method can help repair the area and prevent recurrence. We discuss these options with you to ensure you understand the benefits and risks. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. A clinic assessment, including examination and imaging if needed, establishes the diagnosis. We aim to resolve the infection and restore function while minimising disruption to your daily life.

What to expect

Paronychia is an infection or inflammation of the skin beside your nail. It often comes and goes, especially if your hands are frequently wet or exposed to irritants. You might notice redness, swelling, or pain around the nail edge. In many cases, this condition does not resolve on its own and can become a long-term issue.

If you have chronic paronychia, the skin fold above your nail may separate from the nail plate. This gap can trap moisture and bacteria, making it hard for the area to heal. You may find that simple care helps, but the problem often persists without specific treatment. Some people find that their symptoms improve when they avoid harsh soaps or keep their hands dry, but this is not always enough to clear the infection completely.

With treatment, you can expect gradual improvement. If your surgeon uses a chemical sealant to close the gap between the skin and nail, you should see healing within 6–8 weeks. This helps restore the protective barrier and provides relief from chronic symptoms. For some patients, low-level laser therapy is used, which typically takes an average of 20.4 ± 18.32 days to reach the treatment endpoint.

It is important to know that fungal infections, such as *Candida*, are often found in these cases. However, getting rid of the fungus does not always mean your symptoms will disappear. This is because the fungus may just be living on the skin rather than causing the main problem. In severe cases where pus builds up, a simple procedure to drain it can provide instant relief. You may be able to return to full duty by the fifth morning after such a drainage.

Most patients recover well with simple procedures first. Nail removal is rarely needed. Your surgeon will likely start with the least invasive options. If left untreated, the inflammation can continue, and the nail may grow abnormally. By following your care plan, you give your nail fold the best chance to heal properly and stay healthy.

When to see someone

See your GP if you have pain, swelling, or redness around your nail that lasts for more than 6 weeks. This is called chronic paronychia. It often happens after exposure to water or irritants. You might notice the skin lifting from the nail or changes to the nail shape. Ask for a specialist review if the area does not improve with basic care. Go to an emergency department if you notice a new lump under or beside the nail that does not respond to treatment. This could be a sign of something serious that needs urgent checks. Do not ignore persistent inflammation, as it can sometimes damage the joint underneath.

In more depth

This section goes further than you need for your own treatment decisions. Paronychia is worth the extra reading because one word covers two conditions that behave differently, respond to opposite treatments, and are routinely confused — and because the surgical answer for the chronic form is older, simpler and better supported than most people expect.

TWO CONDITIONS, ONE NAME

Acute paronychia is a bacterial infection of the nail fold, most often *Staphylococcus aureus*, developing over 24 to 48 hours after the seal between nail and skin is breached [1]. It is red, hot, tense and disproportionately painful, and it forms pus.

Chronic paronychia, by convention lasting beyond six weeks, is not primarily an infection at all. It is an inflammatory dermatitis of the nail fold driven by repeated wet exposure and irritants, in which loss of the cuticle seal allows further

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irritant entry, producing a cycle that sustains itself [2]. Candida is frequently cultured from these folds, which is precisely why the condition was long treated as a fungal infection — but its presence is better understood as colonisation of an already-damaged fold than as the cause.

THE TRIAL THAT REFRAMED THE CHRONIC FORM

The evidence that settles this is a randomised, double-blind, double-dummy trial comparing a **topical steroid** (methylprednisolone aceponate) against **two systemic antifungals**. Of 48 nails treated with the topical steroid, **41 were improved or cured**, against **30 of 57** on terbinafine and **29 of 64** on itraconazole — a statistically significant advantage to the steroid [3].

The same trial contains the more decisive observation. Candida presence was **not strictly linked to disease activity**, and eradicating Candida was associated with clinical cure in only **2 of the 18** patients who carried it at baseline [3].

That is hard to reconcile with a fungal aetiology and easy to reconcile with an inflammatory one: the yeast is a passenger in a damaged fold, not the driver. It reframes the condition as a barrier problem: the cuticle is the seal, wet work destroys it, the fold swells, the swollen fold cannot re-seal, and organisms colonise the gap. Treating the colonisers leaves the mechanism untouched.

The practical corollary is unglamorous and is the part patients most often skip: the single most effective intervention is keeping the hands dry and out of irritants. Gloves outperform prescriptions here.

ACUTE PARONYCHIA: DRAINAGE, AND HOW MUCH TO DISTURB

Once pus has formed, antibiotics alone will not clear it — the collection has to be released [1]. The traditional approach lifts the nail fold off the nail plate to decompress the abscess, removing part of the nail where pus has tracked beneath it.

A nail-preserving alternative is the **Swiss roll technique**, in which the nail fold is elevated and rolled back over a suture rather than incised or excised, held for a few days and then unrolled [4]. The attraction is that it drains a collection that has spread across the fold without sacrificing nail plate or nail fold, which matters where the alternative would be a wide incision.

The general principle across both is that the incision should decompress the fold rather than enter the pulp of the finger, since the pulp is a separate compartment and opening it converts a straightforward paronychia into a more troublesome wound.

EPONYCHIAL MARSUPIALISATION

For chronic paronychia that has not settled, the operation is one described in 1976 and essentially unchanged since.

Keyser and Eaton's procedure removes a crescent of the thickened proximal nail fold, taking the inflamed tissue while stopping short of the germinal matrix, and leaves the defect open to heal by contraction — which draws the fold back down onto the nail plate and restores the seal the disease destroyed [5].

The anatomy is what makes the margin critical. Beneath the cuticle sits a **two-to-three-millimetre cul-de-sac of germinal matrix** that produces the nail plate, and the subcutaneous layer over it governs the nail's surface. Disturb that layer — by

infection, pressure or trauma — and nail production is deranged in proportion: brief episodes give transverse ridges, long-standing disease gives the longitudinal grooving and thickening that characterises chronic paronychia [5].

So sparing the germinal matrix is what prevents a permanent nail deformity, and leaving the wound open is what produces the contraction that reseals the fold — closing it would defeat the purpose.

THE REFINEMENT THAT REMOVED THE RECURRENCES

The most useful piece of outcome data is a small series with a clear internal comparison. As reported, fingers **with nail irregularities** treated by marsupialisation alone went on to recur in a minority of cases, whereas a subsequent group of fingers with nail irregularities treated by marsupialisation **plus removal of the nail plate** did not; fingers **without** nail irregularities healed with marsupialisation alone [6].

The series is small and sequential rather than randomised, so this is a signal rather than a proof — and the full text was not available to us, so the figures above are as summarised in the secondary literature rather than read from the paper. But it gives a concrete intraoperative rule: an irregular or ridged nail is evidence that the disease has already involved the matrix beneath, and in that finger the nail plate should come off as well. A normal-looking nail can be left.

That is an unusually actionable finding for a condition this common, and it is the reason the state of the nail plate — not just the fold — is worth examining before deciding on the operation.

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