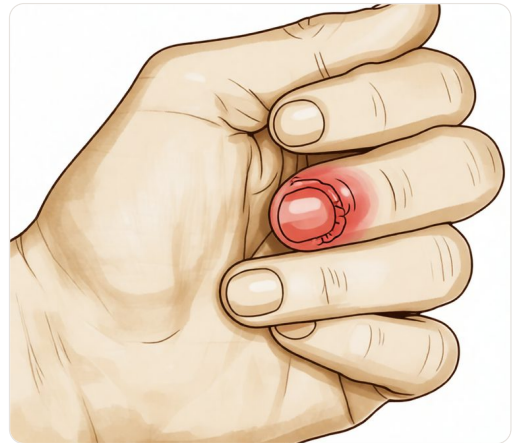


Hand Infections

A hand with cellulitis — a soft-tissue infection presenting with redness, swelling and warmth.

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What you're feeling

You may notice a deep, throbbing pain in your hand or finger. This discomfort often feels like it is coming from inside the tissue itself. The area will likely look red and feel warm to the touch. You might also see swelling that makes your skin look shiny or tight.

The pain usually gets worse when you try to move the affected part. Simple actions, like gripping a cup or opening a jar, can become difficult. You may find it hard to make a full fist or straighten your fingers completely. Even resting the hand on a table can feel uncomfortable if the pressure increases the swelling.

Many people report that the pain intensifies at night. Lying down can increase blood flow to the area, making the throbbing more noticeable. This often disrupts your sleep. You might wake up frequently because the discomfort is too sharp to ignore. Some patients find that elevating their hand on pillows helps slightly, but the relief is often temporary.

Daily tasks become challenging as the infection progresses. You may struggle with fine motor skills, such as buttoning a shirt or typing on a keyboard. Basic hygiene, like washing your hands, can be painful due to the sensitivity of the skin. If the infection involves a tendon sheath, moving the finger might cause significant pain along the length of the tendon.

It is important to recognize that these symptoms do not typically improve on their own. Without proper treatment, the infection can spread to deeper structures in the hand. This can lead to permanent stiffness or loss of function. Early intervention is key to preserving your hand's mobility.

Your surgeon will assess the severity of your symptoms to determine the best course of action. Treatment usually involves a combination of surgical drainage and antibiotics. This approach targets the specific bacteria causing the infection while removing any accumulated pus. Following this plan helps reduce pain and prevents further damage to your hand tissues.

What's actually happening

An infection in your hand is a serious issue because your hand has a complex network of tendons, nerves, and joints packed closely together. When bacteria enter the skin through a cut, bite, or puncture, they can quickly spread into these tight spaces. Your body sends white blood cells to fight the invaders, which causes swelling, redness, and pain.

In acute cases, this inflammation can build up pressure inside the tight compartments of your hand. This pressure restricts blood flow and can damage delicate tissues if not relieved quickly. The infection may also spread into the joint capsule, which is the sleeve-like structure that surrounds your joints. If left untreated, this can lead to permanent stiffness or loss of function.

Your surgeon will assess the severity of the infection and the specific type of bacteria causing it. Treatment typically involves two main steps. First, a minor surgical procedure called incision and drainage is performed. This involves making a small cut to allow pus and infected fluid to escape, which relieves pressure and removes the bulk of the infection.

Second, you will be prescribed antibiotics. These medicines are tailored specifically to the organism causing your infection and the severity of the condition. This targeted approach helps ensure the medication effectively kills the bacteria while minimising side effects. Combining surgical drainage with appropriate antibiotic therapy gives you the best chance for a full recovery and protects the long-term function of your hand.

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. 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. We start with a thorough assessment, including a history, physical examination, and imaging if needed, to confirm the diagnosis.

For acute hand infections, the standard of care involves a combination of surgical intervention and antibiotic therapy. This is not a condition that typically resolves with rest alone. If your infection is confirmed, we will discuss the need for incision and drainage. This is a procedure where we make a small cut to allow pus or infected fluid to escape, relieving pressure and helping the area heal.

Alongside surgery, you will need antibiotic therapy. We do not use a one-size-fits-all approach. The antibiotics we prescribe are tailored specifically to the organism causing your infection and the severity of the case. This targeted strategy ensures you receive the most effective treatment for your specific situation.

We believe in shared decision-making. You will be involved in every step, from understanding the diagnosis to choosing the treatment path that fits your life. Our goal is to resolve the infection safely and restore function to your hand. If you have questions about the procedure or the medication, we are here to explain them in plain terms.

What to expect

Acute hand infections do not typically settle on their own. Without proper care, the infection can persist or worsen, potentially causing lasting damage to your hand structures. When managed correctly, the outlook is generally positive, but it requires a specific treatment plan.

Your treatment will involve two main steps. First, your surgeon will perform a procedure called incision and drainage. This involves making a small cut to open the infected area and remove any pus or fluid buildup. This step helps relieve pressure and reduces the spread of bacteria. Second, you will need to take antibiotics. These medicines are not one-size-fits-all. Your surgeon will tailor the antibiotic choice to match the specific type of bacteria causing your infection and how severe it is.

Recovery is a process that takes time. You should expect some swelling, pain, and stiffness in the days following treatment. As the infection clears, these symptoms should gradually improve. It is common for full healing to take several weeks. During this time, you may need to keep your hand elevated and follow specific wound care instructions to prevent the infection from returning.

If you do not seek treatment, the infection may spread to nearby tendons, bones, or joints. This can lead to chronic pain, permanent stiffness, or loss of function. By following the prescribed treatment plan, you give your hand the best chance to heal fully and regain normal use. Stay in close contact with your care team if your symptoms do not improve or if they worsen at any point.

When to see someone

See your GP if you have persistent pain that does not improve with rest, weakness, or instability in your hand. Ask for a specialist review if your hand locks, gives way, or if symptoms interfere with your sleep or work. Sudden worsening of symptoms also requires prompt attention. Treating acute hand infections early is important. Your care typically involves a combination of surgical intervention, such as incision and drainage, along with appropriate antibiotic therapy. This treatment is tailored to the specific organism and the severity of your infection. Do not wait for symptoms to resolve on their own if they are severe or worsening.

In more depth

This section goes further than you need for your own treatment decisions. Hand infections are worth the extra reading because the antibiotics most people are given first are, in this specific setting, the wrong ones – and because one hand infection is a surgical emergency that is regularly mistaken for a minor one.

THE COMMONEST ORGANISM RESISTS THE COMMONEST PRESCRIPTIONS

A ten-year longitudinal study of **815** urban hand infections found that although the annual incidence of MRSA has declined overall, it **remains the most common pathogen**, while resistance to clindamycin and levofloxacin **consistently increased**. The authors' conclusion is specific: empirical antibiotic therapy for hand infections should **avoid penicillin, beta-lactams, clindamycin and levofloxacin** [1].

That is a longer list of exclusions than most people expect, and it covers much of what is routinely prescribed for skin infection elsewhere on the body. The practical implication is that a hand infection not settling on a first-line antibiotic is a common and predictable event rather than an unusual one, and is a reason to seek review rather than to persist.

Local resistance patterns vary, so this is a principle rather than a prescription – but it explains why hand infections are often escalated faster than their size suggests.

FLEXOR SHEATH INFECTION: THE DETAILS THAT CHANGE THE OUTCOME

Pyogenic flexor tenosynovitis – infection inside the closed tunnel a flexor tendon runs through – is the one that behaves differently from other hand infections. The sheath is a confined space with a poor blood supply, so pus under pressure inside it can destroy the tendon's gliding surface within days.

Across **763** patients, two things improved range of motion: **using antibiotics as a component of therapy**, and **catheter irrigation rather than open washout**. The evidence supported both **early treatment** and systemic antibiotic use [2].

Note that the outcome measured is range of motion, not eradication of infection. The infection can be cured while the finger is left stiff, which is the real cost of delay here. The four classic findings – a uniformly swollen “sausage” finger, held slightly bent, tender along the whole tendon sheath, and severe pain on passively straightening it – are worth recognising, because that combination warrants same-day assessment rather than a course of tablets.

THE ONE THAT IS A TRUE EMERGENCY

Necrotising fasciitis originating in the hand is rare and rapidly destructive. The systematic review of **161** cases concludes that **early diagnosis is of paramount importance**, and that early, decisive surgical intervention should have a **low threshold**, particularly where risk factors are present [3].

“Low threshold” is deliberate wording. This is a diagnosis where waiting for certainty costs limbs. The features that separate it from ordinary cellulitis are pain out of proportion to the appearance, rapid progression over hours rather than days, and systemic illness – fever, confusion, feeling profoundly unwell – alongside what may look like a modest area of redness.

WHY A SMALL WOUND CAN BE MISLEADING

Two mechanisms produce infections much deeper than the visible wound suggests. A bite over a knuckle sustained by striking a mouth drives oral organisms through skin, extensor tendon and joint capsule in one movement, and the skin then closes over the contamination. A puncture into the palm can seed the flexor sheath through an entry point that seals within a day.

In both, the visible wound is a poor guide to the depth of the problem, and the pattern of pain – particularly pain on moving the finger, rather than pain at the wound itself – is more informative than the appearance of the skin.

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