CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION — IN DEPTH

Felon (Fingertip Pulp Infection)

What you're feeling

A felon is a painful infection in the soft pad at the tip of your finger. You will likely feel a deep, throbbing ache that seems to pulse with your heartbeat. The pain is often intense and constant, making it difficult to ignore. Your fingertip will feel tight, swollen, and very tender to the touch. Even light pressure can cause sharp discomfort.

You may notice that the skin over the infected area becomes red, shiny, and warm. The swelling can make the fingertip look bulbous or rounded. Because the tissue in your fingertip is divided into small compartments, pressure builds up quickly inside. This trapped pressure is what causes the severe throbbing sensation.

The pain often worsens at night or when you rest your hand. You might find it hard to sleep because the throbbing keeps you awake. Simple daily tasks become challenging. Holding a cup of coffee, typing on a keyboard, or buttoning your shirt can be painful. Even brushing your teeth or picking up small objects may feel difficult due to the sensitivity.

In some cases, you might see a small area of white or yellow pus under the skin. This indicates that the infection is collecting in one spot. If you have had an animal bite recently, or if the infection does not seem to follow a typical pattern, it is important to mention this. Rare infections can mimic common felons but require different care.

Early treatment is essential. Delaying care can lead to serious complications, including damage to the bone in your finger (osteomyelitis). This can affect hand function long-term. Your surgeon will examine your hand to confirm the diagnosis. They may order imaging or blood tests to rule out other conditions. Most straightforward infections can be diagnosed through a physical exam alone.

If you suspect you have a felon, seek medical attention promptly. Proper diagnosis and timely treatment help prevent the infection from spreading. This reduces the risk of long-term issues and helps you return to normal activities sooner.

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What's actually happening

A felon is a painful infection in the soft tissue at the very tip of your finger. This area is packed with tight, vertical walls of connective tissue. These walls create small, sealed compartments. Think of them like the chambers in a honeycomb or the cells in a sponge.

When bacteria enter this space, your body sends fluid and immune cells to fight them. This causes swelling and pus to build up inside those tight compartments. Because the tissue is so dense and unyielding, the pressure has nowhere to go. It builds up rapidly against the sensitive nerve endings. This is why the pain is often described as throbbing or intense.

The fingertip has a dual blood supply to keep the tissue healthy. However, that high pressure from the infection can squeeze these blood vessels shut. If the blood flow is cut off, the tissue at the tip can start to die. This is a serious risk if the infection is not treated quickly.

Your surgeon will look closely at your finger to confirm this diagnosis. It is important to distinguish a felon from other conditions that might look similar but require different care. Early identification is essential. Delayed treatment can lead to deeper infections in the bone or even more severe complications.

We aim to manage this promptly to protect the function of your hand. The fingertip is vital for grip and sensation. By understanding how the anatomy traps pressure, you can see why timely relief is so important for your recovery.

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.

For a simple fingertip infection, we often begin with self-care. You should keep the hand elevated to reduce swelling. Warm water soaks can help bring the infection to a head. If you see a physiotherapist, they will guide you through gentle movements to keep the finger flexible while it heals. We usually advise giving this approach a few days to work. If the pain worsens or the redness spreads, you need to stop home care and seek medical advice immediately.

If self-management is not enough, we move to medical treatment. We may prescribe antibiotics to fight the bacteria causing the infection. For pain, we recommend standard painkillers and anti-inflammatories. In some cases, if there is significant swelling or stiffness after the acute phase, we might consider an injection. Cortisone injections can reduce inflammation, while hyaluronic acid injections help lubricate the joint. Platelet-rich plasma (PRP) injections use your own blood cells to support healing. These treatments aim to control symptoms and support tissue repair while your body fights the infection.

Surgery is considered when conservative care has not cleared the infection or if there is a risk of deeper damage. A felon can sometimes lead to osteomyelitis, which is a bone infection. This can have serious effects on hand function if not treated promptly. We use imaging and laboratory tests to check for bone involvement. Early bone changes can be detected before they show up clearly on standard X-rays. If the infection is deep or

has reached the bone, we may recommend surgical drainage or debridement to remove infected tissue. In rare cases where the infection is severe and threatens the finger's survival, especially if you have arterial calcification, early amputation may be necessary to stop the spread of disease. We discuss these options with you to ensure you understand the risks and benefits.

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.

What to expect

A fingertip infection, often called a felon, is a common but painful condition. It causes swelling and throbbing in the very tip of your finger. Because the fingertip has tight compartments, pressure builds up quickly. This makes the pain intense and can make it hard to use your hand.

If you receive early identification and treatment, you can achieve optimal outcomes. Your surgeon will likely recommend prompt recognition and early aggressive debridement. This means cleaning out the infected area thoroughly. You will also need appropriate antimicrobial coverage to fight the bacteria. When managed well, the infection settles, and your finger heals.

It is essential to act quickly. Hand infections are associated with a high rate of complications that are often difficult to manage. Delayed diagnosis of hand infections can result in amputation or death. Osteomyelitis of the hand is uncommon but can have devastating effects on hand function if not adequately and promptly treated. These infections include a diverse array of entities with potential for serious morbidity.

If left alone, the infection may persist and spread. The pressure can damage the bone and soft tissue. This can lead to long-term stiffness or loss of function. In severe cases, it can lead to the loss of the finger or even life-threatening systemic infection. Paronychias and felons are the most common hand infections, but they are not something to ignore.

Recovery realistically feels like a process of reducing pain and restoring movement. Once the infection is controlled, the swelling goes down. You may feel relief from the throbbing pain within days of starting treatment. Over weeks to months, your finger regains its strength and dexterity. The goal is to return to normal use without lasting damage.

Your surgeon will guide you through this process. We aim to prevent the serious complications associated with delayed care. By treating the infection early and effectively, we help you avoid the devastating effects on hand function. Your recovery depends on how quickly you seek help and how well the infection responds to treatment.

When to see someone

A felon is a painful fingertip infection. Because delayed treatment can lead to serious complications like tissue loss, you must act quickly. See your GP or a specialist if you notice increasing throbbing pain, swelling, or redness at the fingertip. These are common signs that need prompt assessment. Go to an emergency

department immediately if you have a fever, feel generally unwell, or see red streaks moving up your hand. These indicate the infection may be spreading. Do not wait for symptoms to improve on their own. Early diagnosis by your surgeon helps prevent permanent damage and ensures you receive the right care before the infection causes deeper harm.

In more depth

This section goes further than you need for your own treatment decisions. A felon is worth the extra reading because the two things most people assume about it are both, on the evidence, the wrong way round: the antibiotic is not what cures it, and the reason it is urgent has nothing to do with how big it looks.

THE OPERATION IS THE TREATMENT. THE ANTIBIOTIC IS NOT.

The instinctive model of an infection is that antibiotics kill the bacteria and any surgery is a drainage detail. In an uncomplicated felon that is close to backwards.

A prospective study of **46 fingers** treated by excision **without any post-operative antibiotics at all** found that **45 healed**. The single failure was not a failure of infection control — it was **incomplete excision**, and it was corrected surgically [1]. The same paper reports a survey of the French Society of Hand Surgery in which **66% of hand surgeons already give no antibiotics** after draining an uncomplicated felon, and 63% give none after a paronychia [1].

The qualifier matters and is doing real work: this applies to an **uncomplicated** felon in someone **not otherwise at risk**. Where there is osteitis, spreading lymphangitis, involvement of the flexor sheath, diabetes or immunosuppression, the calculation changes entirely.

IF ANTIBIOTICS ARE GIVEN, THE USUAL CHOICES ARE OFTEN THE WRONG ONES

The second assumption worth dismantling is that the standard first-line antibiotic will cover it.

A ten-year study of **815 urban hand infections** found that although the overall incidence of MRSA has fallen, it **remains the single most common organism**, while resistance to clindamycin and levofloxacin **rose consistently** across the decade. The authors' conclusion is unusually blunt for a paper of this kind: empirical therapy for hand infection should **avoid penicillin, beta-lactams, clindamycin and levofloxacin** [2].

That is most of what gets reached for by reflex. It is also why a felon that was "treated with antibiotics" and did not settle is a common story rather than a surprising one — and why the finding above, that a properly drained felon needs no antibiotic, is less paradoxical than it first sounds.

WHY THE PULP IS UNLIKE ANYWHERE ELSE IN THE BODY

The fingertip pulp is not a simple bag of fatty tissue. It is divided into a series of small closed compartments by **fibrous septa** running from the skin down to the periosteum of the distal phalanx.

Two consequences follow. Pus collecting inside one of those compartments has nowhere to expand into, so the pressure rises fast — which is why a felon hurts out of all proportion to its size, and why the pain is

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characteristically throbbing and worse at night. And that pressure sits directly against the bone and against the small vessels supplying it, which is how an untreated felon reaches **osteomyelitis of the distal phalanx**.

It also explains the commonest technical failure. An incision that opens the skin but does not deliberately break down the septa drains one compartment and leaves the others sealed. The felon appears treated and then does not settle. Complete decompression, not the size of the incision, is what determines whether it resolves.

SOME OF THE DAMAGE IS YOUR OWN IMMUNE SYSTEM

A newer line of thinking reframes what the operation is for. Much of the tissue destruction in a hand infection comes not from the bacteria directly but from the **neutrophils your own body sends to fight them** — the enzymes that kill bacteria also digest the tissue around them [3]. On that account, drainage and irrigation are not only removing pus and relieving pressure; they are **diluting the inflammatory mediators** driving the damage.

This is a change in emphasis rather than a change in practice, but it is a satisfying explanation for something clinicians observe: relief after decompression is often faster and more complete than simply removing a small volume of pus would account for.

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