CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION — IN DEPTH

Giant Cell Tumour of Tendon Sheath (Lump on a Finger or Thumb)

Under the microscope, a giant cell tumour of tendon sheath is made up of clusters of multinucleated giant cells (the dark, lumpy-looking cells) mixed with smaller mononuclear cells. It is benign, and it is this giant-cell appearance that gives the lesion its name.

A giant cell tumour of tendon sheath is a common, **benign** (non-cancerous) lump on a finger or thumb. It is the second most common lump in the hand after a ganglion cyst. It grows slowly, does not spread to other parts of the body, and is usually removed with a small operation, though it can sometimes come back. This page explains what it is, how it is diagnosed, what removing it involves, and how often it returns.

What it is

A giant cell tumour of tendon sheath grows from the lining of a **tendon sheath** or the neighbouring joint (the synovium, the slippery tissue that lets tendons glide). The name "giant cell" describes how it looks under the microscope, where clusters of large, many-nucleated cells are mixed with smaller cells. It says nothing about how it behaves: this is a benign growth that stays in the hand. Doctors sometimes call it a **localised tenosynovial giant cell tumour**.

Where it appears and what it feels like

It almost always sits on a **finger or thumb**, often on the palm or side, close to one of the finger joints. Typically it is:

- **firm and rubbery**, rather than soft, and slow to grow
- **usually painless**, though it can ache or catch as it enlarges
- **solid**, so (unlike a fluid-filled ganglion) it does not glow when a torch is held against it

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As it grows it can make it harder to fully bend the finger, and occasionally it presses on a small nerve and causes tingling. Rarely, a long-standing tumour presses a smooth hollow into the bone beside it, which shows up on an X-ray.

How it is diagnosed

Your surgeon can often recognise it from examining the lump. An **ultrasound** scan helps confirm it is solid rather than the fluid of a ganglion. For a larger, deeper or recurrent lump, an **MRI** scan shows how far it extends and has a fairly characteristic appearance (it looks dark on certain sequences because of an iron-containing pigment in the tissue). An X-ray is added if the lump appears to involve nearby bone. The diagnosis is confirmed for certain when the removed lump is examined under the microscope.

Treatment: removing the lump

The usual treatment is a small operation to remove it, called a **marginal excision**, typically as a day case under local or general anaesthetic. Through a small incision the surgeon removes the whole nodule, along with any smaller satellite nodules and the involved sheath, working carefully around the nearby nerves, blood vessels and tendons. Removing all of the tumour, rather than just the obvious lump, is what lowers the chance of it returning. There are no tablets or injections that make this type of lump shrink.

How often it comes back

This lump can return after surgery. Across published series, roughly **1 in 7 to 1 in 5** come back (about 10 to 20 in 100). Recurrence is more likely when there were several nodules, when the tumour had wrapped around tendons or bone, or when some was left behind at the first operation. Most recurrences show up within the **first two years**, which is why your surgeon will keep an eye on the area during that period, although in rare cases a lump can return many years later. If it does come back, it can usually be removed again.

Recovery

Most people go home the same day with a dressing, and sometimes a light splint. Moving the finger gently early on helps prevent stiffness, and a hand therapist can guide this if needed. Stitches are usually removed at about two weeks. You can expect to use the hand for light tasks within a few days and to build back to fuller use over a few weeks, guided by comfort and your surgeon's advice. Protecting the scar from the sun and massaging it once healed helps it settle.

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In more depth

This section goes a step deeper, at a student level. It is not needed to understand or treat the lump, but it explains what drives this tumour and why it sometimes returns.

WHAT DRIVES THE GROWTH

A giant cell tumour of tendon sheath is the localised form of a family of growths called **tenosynovial giant cell tumours**. The engine behind them is overproduction of a signalling protein called **CSF1** (colony-stimulating factor 1), usually triggered by a small swap of genetic material between chromosomes in a minority of the tumour cells. Those cells release CSF1, which draws large numbers of immune cells (macrophages) in from the bloodstream. Most of the lump is actually made of these recruited cells rather than the original abnormal ones, which is an unusual way for a growth to build itself.

WHAT IT LOOKS LIKE UNDER THE MICROSCOPE AND ON A SCAN

Under the microscope the lump is a mix of smaller mononuclear cells, foamy fat-filled macrophages, and the multinucleated **giant cells** that give it its name. It also contains **haemosiderin**, an iron-rich pigment left behind by tiny old bleeds within the tissue. That iron is why the lump often appears dark on certain MRI sequences, a feature that helps tell it apart from a fluid-filled ganglion before any surgery.

LOCALISED VERSUS DIFFUSE, AND WHY IT CAN RECUR

The common finger and thumb lumps are the **localised type**, which is well defined and usually removed completely. A less common **diffuse type** spreads more widely through a joint lining (the same process that, in a large joint, is called pigmented villonodular synovitis). The diffuse type is harder to remove fully and comes back more often. Even the localised type can return if small satellite nodules are left behind, which is why the surgeon takes out the whole lump and the involved sheath around it rather than just the obvious part.

WHEN TABLETS HAVE A ROLE

For the rare diffuse tumours that cannot be removed surgically, or that keep returning, medicines that block the CSF1 signal (CSF1-receptor inhibitors) can shrink them. These are reserved for difficult cases and are not used for the ordinary, easily removed finger lump, which surgery deals with directly.

When to see someone

See your GP or a hand surgeon if you have a firm lump on a finger or thumb that does not go away, slowly grows, limits how the finger moves, or causes numbness or tingling. After surgery, let your surgeon know if you notice a new lump in or near the scar, as this can be a sign the tumour is returning and is worth checking early.

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