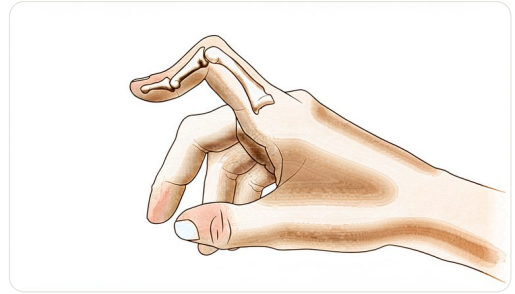


Boutonnière Deformity

Boutonniere deformity: the middle finger joint stays bent and the fingertip tilts back.

Kieran Hirpara 4.0



What you're feeling

You may notice your middle finger joint bends inward while the tip joint sticks out. This specific shape is called a boutonniere deformity. It happens when the tendons on top of your finger slip out of place. You might see this change develop slowly over time, or it may appear suddenly after an injury.

Pain often centers around the middle joint of your finger. The discomfort can feel like a deep ache or a sharp sting when you move the finger. You might find that bending the finger fully causes more pain than keeping it straight. Activities that require gripping or pinching can become difficult. Simple tasks like buttoning a shirt, turning a doorknob, or typing may feel awkward or painful.

Your finger may feel stiff, especially in the morning. You might notice swelling around the middle joint. This stiffness can make it hard to make a fist. If you have rheumatoid arthritis, the deformity may progress differently than if it came from trauma. Without arthritis or injury, about 13% of people experience this condition.

The tip of your finger might also feel unstable. In some cases, the tip joint bends downward more than usual. This can make it hard to rest your finger flat on a table. You may struggle to push open heavy doors or lift light objects with that hand. Sleeping on your side might press against the deformed finger, causing discomfort.

It is important to distinguish this true deformity from a similar-looking injury called pseudoboutonniere. The two conditions require different care. Your surgeon will look closely at how your finger moves to tell them apart. Understanding exactly what you are feeling helps guide the best treatment plan for you.

What's actually happening

Your finger joint is a complex hinge made of bones, tendons, and a protective sleeve called the joint capsule. In a healthy finger, a central tendon runs straight down the middle of your finger to help it straighten. This tendon acts like the main rope pulling your finger open.

In Boutonnière deformity, that central tendon is damaged or weakened. It might be torn from trauma or stretched out by conditions like rheumatoid arthritis. When this central support fails, the balance of forces in your finger changes. The side tendons, which usually help bend the finger, start to pull too hard.

Think of it like a zipper that has come off track. The parts are still there, but they are no longer sliding smoothly together. Because the central tendon is not holding things in place, the side tendons slip to the sides. This causes the middle joint of your finger to bend inward, while the tip joint may stick out.

This shift in tension is why your finger looks crooked and feels stiff. The joint capsule, which normally keeps the joint stable, becomes tight and unbalanced. Over time, the tissues adapt to this new, incorrect position. This is why the deformity can persist even after you try conservative treatments like splinting or therapy.

The most important factor in this problem is the change in your tendons and related structures. These changes happen early, which is why accurate diagnosis is critical. Your surgeon needs to distinguish between a true Boutonnière deformity and a similar issue called pseudoboutonniere injury. The treatment path depends entirely on getting this distinction right.

If the damage is caught early, your surgeon may focus on restoring the central tendon's position. In some cases, they might use a small piece of another tendon to rebuild the central slip. This new graft mimics the original tendon's function while keeping other finger movements intact. The goal is to keep the joint centered and stable so you can move it again.

However, if the deformity has been present for a long time, the tissues may have changed permanently. In these chronic cases, simple repairs might not work. The natural history of this condition often leads to persistent issues, especially if rheumatoid arthritis is involved. Long-term results for soft tissue reconstruction in these cases can be unreliable. Sometimes, a more definitive salvage procedure is needed to correct the shape and function of your finger.

What we can do about it

We start with non-surgical care to restore movement. You will try serial casting for adequate extension. This is followed by three months of relative motion flexion orthotic use. Your surgeon may also recommend physiotherapy. One to two grades of range of motion improvement can be achieved with nonoperative treatment. However, deformity can persist even after dedicated conservative management. We use relative motion flexion orthoses to increase active distal interphalangeal joint flexion. This helps improve your middle finger joint extension. You must give this approach time to work before considering surgery.

Medical management focuses on comfort and inflammation. If your deformity is linked to rheumatoid arthritis, we address the underlying disease activity. Pain medication and anti-inflammatories help manage discomfort. Injections may be offered to reduce swelling in the joint. These treatments aim to keep the joint mobile and pain-free while you undergo therapy. The goal is to stabilize the condition and improve your daily function without an operation.

Surgery is considered when conservative care has reached its limit. We differentiate a true boutonniere deformity from a pseudoboutonniere injury before deciding. This distinction is critical in determining clinical

management. A successful operative result depends on complete preoperative examination, correct staging of the deformity, and proper timing of treatment. If soft tissue reconstruction is needed, we understand that long-term results can be unreliable. Recurrent or persistent deformity is best treated with a salvage procedure. In some cases, a Y-shaped tendon graft provides good or excellent results. Your surgeon will determine the true etiology before surgical intervention. This ensures the chosen procedure matches your specific anatomy and needs.

What to expect

Your outlook depends heavily on whether this is a true deformity or a similar injury called a pseudoboutonniere. Your surgeon must confirm the diagnosis first because the treatment path changes completely based on that distinction. If you have rheumatoid arthritis, long-term results from soft tissue repair are often unreliable. In these cases, persistent or recurring deformity may require a salvage procedure later on.

For most people without rheumatoid arthritis, the condition does not always resolve on its own. Nonoperative treatment can improve your range of motion by one to two grades. However, the visible deformity may persist even after you complete dedicated conservative management. If conservative care is not enough, surgery offers a strong option. A Y-shaped tendon graft provides good or excellent results in 16 of 18 patients in reported series. Success also relies on your surgeon performing a complete examination, staging the deformity correctly, and choosing the right time for intervention.

Recovery is a gradual process. If you start with nonoperative care, you might use serial casting to straighten the finger, followed by three months of relative motion flexion orthotic use. This approach yields similar results to other methods for chronic cases and is typically attempted before considering surgery. You should expect to wear an orthosis for several months to maintain extension and improve flexion.

If surgery is needed, the goal is to restore function and alignment. You will need to follow your surgeon's specific instructions closely. The natural history of this deformity can vary, but early and accurate management leads to the best outcomes. Be patient with the healing process. It takes time for tendons and joints to adapt to their new positions. Your surgeon will guide you through each stage to ensure the best possible return to your daily activities.

When to see someone

See your GP if you notice a bend in the middle joint of your finger that does not straighten. Ask for a specialist review if you have persistent pain that does not improve with rest. Seek care if you feel weakness or instability in the finger. Go to a doctor if the finger locks or gives way during use. Contact your surgeon if symptoms interfere with your sleep or work. Sudden worsening of the deformity also requires prompt attention. Accurate diagnosis is critical for proper treatment. Differentiating a true deformity from a similar injury helps determine the right care. Early evaluation ensures the best outcome for your hand function.