

Boutonnière Deformity

What you're feeling

Boutonnière deformity usually develops over the days or weeks after a forceful injury to your middle finger joint – often when something jams the joint into a bent position, or after a cut over the back of the joint. At first you may have only swelling and pain over the back of the middle (PIP) joint and some difficulty straightening it. Over the following weeks a characteristic shape sets in: the middle joint stays bent, and the fingertip joint hyperextends back, creating a zigzag.

You may find it difficult to straighten the middle joint actively, and gripping objects feels weaker than usual. Many people don't notice the problem until after the swelling settles, by which point the deformity is established. It can also develop slowly in people with rheumatoid arthritis, without any single injury.

For the related extensor-tendon injury one joint further out (the fingertip droops), see [Mallet finger](#).

What's actually happening

The extensor tendon on the back of your finger splits into three bands as it crosses the middle joint. The central slip runs down the middle and straightens the middle joint; the two lateral bands run along the edges and straighten the fingertip.

In a Boutonnière, the central slip tears or detaches at the middle joint. Without it, the middle joint can no longer extend, and the lateral bands slip forward – toward the palm side of the finger. Because the lateral bands are now sitting on the wrong side of the joint, they actively pull the middle joint into flexion while hyperextending the tip. That's the “zigzag” shape.

The injury can be acute (a sudden jam or a laceration over the back of the PIP joint) or chronic (most often from rheumatoid arthritis, or from an untreated acute injury that healed in the wrong position).

What we can do about it

Acute injuries are usually treated without surgery, by splinting the middle joint straight for around six weeks while leaving the fingertip free to move. Holding the middle joint straight gives the central slip a chance to heal

in the right position, and moving the fingertip stops the lateral bands from contracting in the wrong place. The splint must stay on continuously – taking it off allows the joint to drop into flexion and the partly-healed tendon stretches out.

Open injuries (a cut over the back of the middle joint that has divided the tendon) are explored and repaired in theatre, then splinted in the same way.

Established or chronic Boutonnière deformities are harder to treat. Hand therapy aims to soften any joint contracture before any surgery – a stiff finger is rarely improved by an operation alone. Surgical options range from releasing the displaced lateral bands and reconstructing the central slip, through to fusing the middle joint in a functional position for severe disease. Outcomes are best for acute injuries treated early; the longer the deformity has been present, the harder it is to fully reverse.

When to see someone

See a clinician if you have a forceful jam or open injury over the back of a finger joint with persistent swelling, pain, or difficulty straightening the middle joint actively. Don't wait for the zigzag to appear – splinting works best when started in the first couple of weeks after injury.

Seek same-day attention for an open wound over the joint, numbness, tingling, or a finger that looks dusky or cold.