Mallet thumb

Educational article - English edition

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Source article: Hirslund E, Patience C, Hang P, Dabbagh A, Szekeres M. Comparative Outcomes Between Surgical and Conservative Management of Mallet Thumb: A Systematic Review and Pooled Analysis. Hand (N Y). 2026 Feb;21(2):238-248. doi:10.1177/15589447241291600. Published online 13 November 2024. PMID:39538386; PMCID:PMC11562129.

Mallet thumb is an injury to the tendon that straightens the thumb's terminal phalanx. The tip remains flexed and is difficult or impossible to straighten actively.

Two principal situations occur: a tendon injury without an associated fracture, or a bony avulsion in which the tendon pulls a fragment from its insertion on the terminal phalanx.

These injuries are rare, reportedly representing approximately 2-3% of all mallet injuries. This explains why publications often concern a single patient or small series.

The authors pooled 23 studies comprising 103 treated thumbs: 51 surgical and 52 conservative. They compared postoperative movement, complications, strength and, where available, patient-reported difficulties.

The included treatments varied considerably. Conservative care used immobilisation with different splints and durations. Initial continuous immobilisation ranged from two to eight weeks, most commonly six. Some teams subsequently added night-time wear. These are descriptions of the practices studied; the article does not establish the best duration.

Surgery also varied: tendon repair; fixation of a bone fragment with wires, screws or plates; and sometimes temporary joint transfixion with a wire. The study therefore compares two broad treatment groups, each combining several techniques.

Main findings

Thumb flexion: mean 74.2° after conservative treatment versus 58.4° after surgery. At final follow-up, non-operatively treated thumbs bent further.

Thumb extension: greater hyperextension after surgery. Operated thumbs moved further beyond straight; this does not prove better function.

Substantial flexion restriction: approximately 8% after conservative treatment versus 31% after surgery among evaluable cases. Reduced flexion was more frequently observed after surgery.

Complications: generally fewer were reported after conservative treatment. The trend favours splinting, but the figures are not robust.

Strength and everyday difficulties: insufficient data for comparison. The treatment providing the best real-world use of the thumb cannot be determined.

The most interesting finding concerns flexion. The authors emphasise that restoring a straight thumb is not enough: it must also bend for grasping. Corrected extension accompanied by substantial stiffness may therefore leave functional difficulties.

However, the study does not directly demonstrate that patients with greater flexion use their hand better. This would require comparisons of strength, pain, dexterity, return to activity and satisfaction. Such information is especially lacking in the conservative group.

Complications require cautious interpretation. Reported surgical complications included infection, nail deformity, healing problems, pain and hardware-related problems. Nine of 51 operated thumbs had at least one reported complication: 17.6%.

For conservative treatment, the article gives two different figures: 2.4% in the results and 11.5% in the discussion, using different counts and denominators that are insufficiently explained. It is reasonable to retain a trend towards fewer complications, without quantifying the advantage precisely.

Why the findings are not definitive

The initial injuries were not comparable. Bony avulsions were more frequent in the surgical group; some injuries may also have been more displaced or less stable. Worse surgical outcomes may therefore reflect initial severity as well as surgery itself.

Many measurements were missing. Mean flexion was based on 39 operated thumbs and only 24 conservatively treated thumbs, although the groups contained 51 and 52 respectively.

Some ranges were estimated. When a publication reported only “full flexion”, the authors assigned a reference value of 80°. Some averages therefore depend on interpretation of qualitative descriptions.

Follow-up and rehabilitation varied. Motion measured a few weeks after treatment is not necessarily comparable to motion measured months or years later.

Overall study quality was limited: the authors rated 17 studies as low quality and six as moderate quality.

A particularly important point is that no patient-reported outcome questionnaire was available in the conservative group. No strength measurement was reported in that group either. The article therefore informs us more about joint movement than about the patient’s everyday experience.

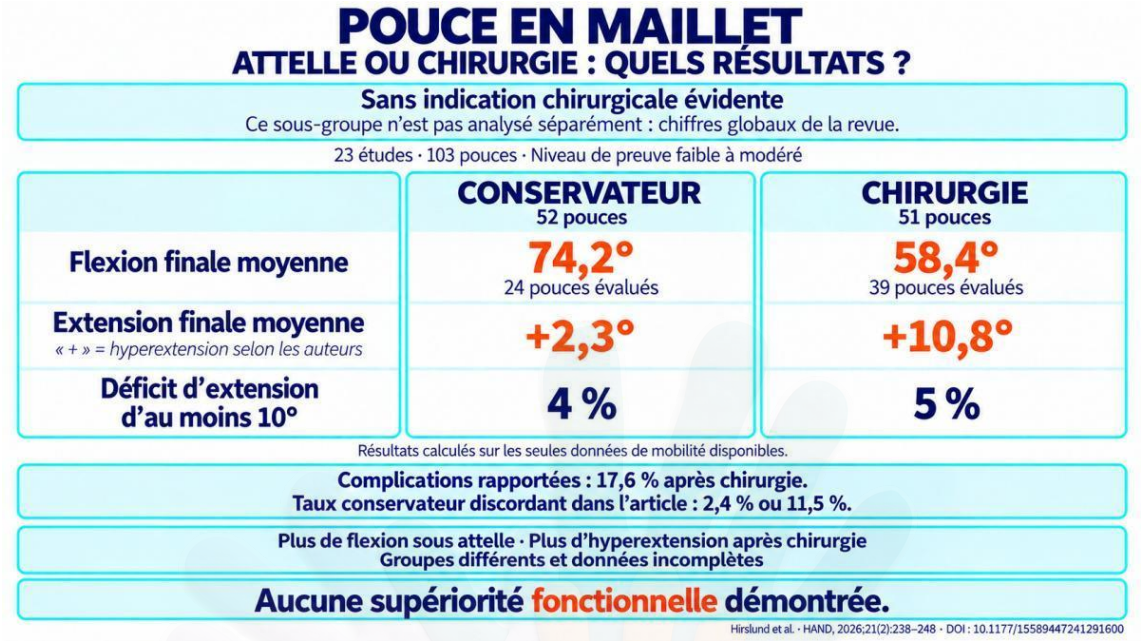
Implications for practice

This review reinforces consideration of conservative treatment when injury characteristics permit. It does not justify treating every mallet thumb with a splint. Instability, subluxation and certain intra-articular fractures require specific assessment; the article cannot define a universal surgical threshold.

It also reminds us that rehabilitation and immobilisation are part of the treatment outcome. Differences in motion cannot be attributed to the surgical procedure alone when immobilisation durations and exercise progression differ.

Illustrations from the original resource

Figure 1



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Figure 2



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