

## Surgical pearl: a simple splinting technique for severe (stage III) ingrown nails

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An ingrown toenail is a painful disorder of the lateral nail fold associated with inflammation, infection, and granuloma formation. Various conservative modalities have been described to reduce the pressure of an ingrown nail on its gutter. The invasive option is preferred for severe ingrown nails (grade III). Here an innovative, less invasive technique is described to treat severe grades of ingrown nails with the use of mosquito artery forceps and cyanoacrylate glue. The glue on curing becomes a hard cast that blunts and insulates the nail from its gutter, protecting the gutter from nail injury. The glue is hygroscopic and anti-infective, making the gutter dry, healthy, and maceration-free. The ingrown nail becomes asymptomatic within half an hour of splinting, and the granuloma heals within 3 to 6 weeks. Thus chemical splinting with cyanoacrylate glue is a novel and fast conservative technique for treating severe grades of ingrown toenails in outpatient care units.

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### Dear Editor,

An ingrown toenail is a painful disorder of the lateral nail fold associated with inflammation, infection, and granuloma formation<sup>1</sup>. This is due to penetration and pressure injury of the distal half of the nail into the gutter. Various conservative modalities have been described to reduce the injury to the nail gutter<sup>2,3</sup>. However, these modalities are not feasible for infected, tender, painful stage III ingrown nails. Moreover, the nail elevator/separator causes much pain in bringing out the nail from its gutter. Here, the author advocates the use of small mosquito artery forceps and cyanoacrylate glue as a simplified and less painful outpatient unit care procedure for the conservative treatment of severe (stage III) ingrown nails.

To treat a patient with a stage III ingrown nail, the patient was put on oral antibiotics, anti-inflammatory agents, and topical antibiotics and antiseptic for 7 to 10 days (Figure 1a). After this, under aseptic conditions, the distal part of

the ingrown lateral nail plate was held firmly with small mosquito artery forceps (Figure 1b). Following this, the forceps were twisted up to separate and to bring out the nail plate from its gutter. Subsequently, the gutter was filled with cyanoacrylate glue to insulate the nail from its gutter as the glue works as a chemical cast (Figure 1c,d). The patient was relieved of the pain within 5 to 10 minutes, and the site became less tender in 15 to 30 minutes (Figure 1e). Tenderness was checked by applying local pressure over the nail (Figure 1f). The patient was followed up at ten-day intervals for three months, and a touch-up was done whenever required. The patient was advised not to trim the nail and was allowed to perform all routine activities. The lesions healed in 3 to 4 weeks, and the patient remained asymptomatic during follow-up without any local side effects (Figure 2a-d). The glue on curing becomes a hard chemical cast that blunts and insulates the nail from its gutter, protecting the gutter from nail injury. After the formation of the cast, the distal lateral



**Figure 1.** a) Severe stage of an ingrown nail, b) Distal part of the lateral ingrown nail is firmly held with mosquito forceps, c) Cyanoacrylate glue is poured into the gutter and hyponychium after separating the nail from its gutter, d) Hard cyanoacrylate glue cast in the nail gutter and its hyponychium, e) The ingrown nail after chemical splinting, f) Non-tender ingrown nail 30 minutes after splinting.



**Figure 2.** The stage III ingrown nail ten days before chemical splinting (a), on the day before (b) and after splinting (c), and three weeks after splinting (d).

nail became somewhat elevated in its gutter. The glue is hygroscopic and anti-infective in nature, making the gutter dry, healthy, and maceration-free. The cyanoacrylate glue has both curative and preventive roles. The cure can be long-lasting if preventive measures are taken. In addition to this, whenever patients develop initial signs and symptoms of an ingrown nail, the glue should be used in the early stage (stage I).

In conclusion, chemical splinting with cyanoacrylate glue is a novel and fast conservative technique for treating severe grades of ingrown

toenails in outpatient care units.

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