



Using Different Parts of Surgical Gloves for Non-Absorptive Drainage of Fingers in Hand Surgery

Parmaklarda Serbest Drenaj Yöntemi Olarak Cerrahi Eldivenlerin Farklı Parçalarının Kullanımı

Nebil YEŞİLOĞLU, Arda AKGÜN, Emre GÜVERCİN, Hakan ŞİRİNOĞLU,
Hakan DEMİREL, Murat SARICI

Department of Plastic, Reconstructive and Aesthetic Surgery, Kartal Dr. Lütfi Kırdar Training and Research Hospital, İstanbul, Turkey

Dear Editor,

Surgical drainage tubes are generally used for passive drainage of various surgical sites in the body. Studies show that drainage tubes are as effective as closed, negative pressure drains. Today, many types of drains such as feeding tubes or rubber tubes described by Charles Bingham Penrose are used to provide drainage.^[1] In simple terms, the purpose of drains is to ensure drainage by acting as a stent, which prevents increased pressure in the surgical site.^[2] The aim of this study is to report our results about open drainage from the surgical site using various parts of powder-free, latex surgical gloves.

We used the cylinder-shaped wrist section of surgical gloves (Figure 1a). It was presumed that the central tunnel in the cylindrical part would act as a stent and provide adequate drainage. A drain of appropriate size was prepared using this cylindrical section and placed into the surgical site. Drain was removed on first postoperative day (Figure 1b).

This technique was used on 68 patients at the clinic with miscellaneous injuries of the hand between February 2014 and September 2014. The indications for

surgery were flexor tendon and digital artery nerve injury at the level of fingers in 26 patients, extensor tendon injury at the level of finger and dorsum of the hand in 12 patients, flexor tendon injury at the level of wrist in 16 patients, and muscle injury at the level of forearm in 14 patients. There were no hematomas or signs of infection on first postoperative day.

Due to low cost, availability, and ease of use, surgical gloves may be preferred to other types of passive surgical drains during emergency surgery. The non-traumatic features are similar to other rubber drains. In rare cases, hypersensitivity reaction has been observed in rubber drains, despite having taken a detailed preoperative patient history regarding allergies.

^[3] Other parts of gloves can be used for surgical sites in patients who require multiple procedures (Figure 1c). They can also be used as a tourniquet for fingertip injury to achieve hemostasis and to exsanguinate the surgical site.^[4] In addition, they can be used for surgical assistance by retracting the other fingers (Figure 1d). There are studies reporting use of sterile gloves for graft fixation after burns in the hand.^[5]

It is recommended that drains made from latex gloves should be removed 24 hours after surgery

Correspondence: Dr. Arda Akgün.
Hürriyet Mah., Adnan Kahveci Cad., Bozaco Sk.,
Selective Kartal Sit., B1 Blok, No: 54, Kartal, İstanbul
Phone: 0216 - 441 39 00

Received: 05.11.2014
Accepted: 03.08.2015
Online date: 15.06.2016
e-mail: ardaakgn@hotmail.com



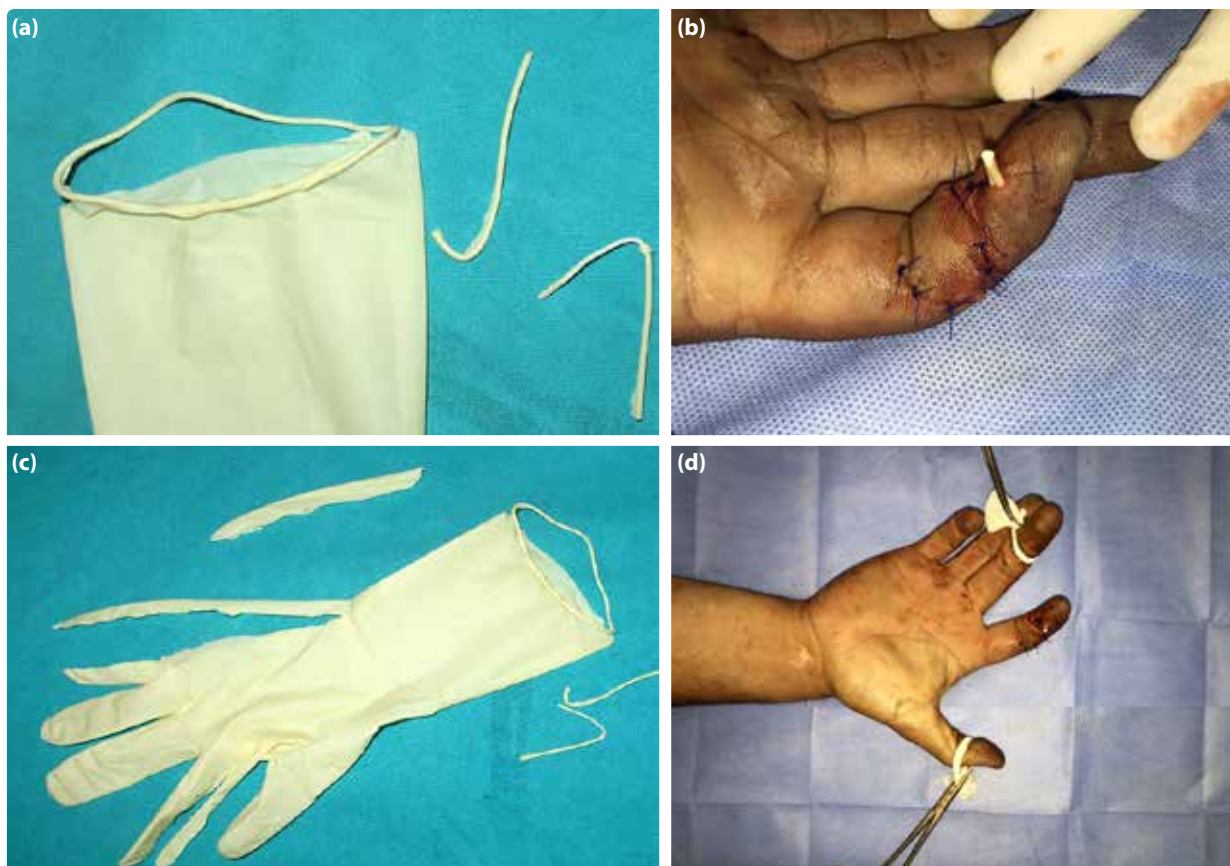


Figure 1. (a) Cylindrical part of the surgical glove. (b) Drains were removed on postoperative 1. day. (c) For multiple uses different parts of the glove may be preferred. (d) It can be used for the retraction of other fingers so as to assist the surgeon. Colored images can be seen in online issue of the journal (www.kehadergi.com).

because hematoma formation occurs within the first 24 hours and keeping drains in for more than 1 day increases the risk of infection.^[6] In conclusion, this study shows that surgical gloves provide a good alternative to other rubber drains and they offer adequate surgical drainage in low-volume sites such as the fingers.

Conflict of interest

None declared.

References

1. Ozturk N, Sonmez A, Numanoglu A. Use of a feeding tube as an alternative to penrose drain. *Ann Plast Surg* 2007;58:233-4. [Crossref](#)
2. Jandali S, Ugrinich M, Chang B. Looped penrose drain for minimally invasive treatment of complex superficial abscesses of the hand: innovations in technique. *Hand (N Y)* 2010;5:338-40. [Crossref](#)
3. Bailey PD Jr, Bastien JL. Intraoperative latex hypersensitivity: do not overlook Penrose drains. *J Clin Anesth* 2005;17:485-7. [Crossref](#)
4. Adams BM, Phua YS, Mathy JA. The sterile exsanguinating tourniquet (SET) technique: a simple method for fingertip injury preparation using a sterile glove. *J Plast Reconstr Aesthet Surg* 2011;64:191-2. [Crossref](#)
5. Mashiko T, Ohnishi F, Oka A, Kawauchi T, Shiokawa I, Yamakawa T, et al. Usefulness of surgical glove dressing: a novel technique for skin graft fixation after hand burns. *J Plast Reconstr Aesthet Surg* 2013;66:1304-6. [Crossref](#)
6. Drinkwater CJ, Neil MJ. Optimal timing of wound drain removal following total joint arthroplasty. *J Arthroplasty* 1995;10:185-9. [Crossref](#)