

Is the Dressing Optional? A Retrospective Comparison of Clinical Outcomes and Environmental Impact of Skin Glue Alone Versus Glue with Dressing After Open Inguinal Hernia Repair

Nida Khan, Havil Stephen Alexander Bakka, Mukhil Rajendran, Dominika Krasicka, Premjithlal Bhaskaran, Rafique Umer Harvitkar, Christie Swaminathan, Victoria Pegna
Department of Surgery, Royal Sussex County Hospital, Brighton, United Kingdom

Abstract

Introduction: Open inguinal hernia repair is a frequently performed day-case operation. Cyanoacrylate skin adhesive provides a waterproof, occlusive seal and, in principle, does not require any additional postoperative dressing. Despite this, practice varies considerably, with many surgeons continuing to apply dressings out of habit rather than clinical necessity. As healthcare systems increasingly recognise the environmental impact of surgical consumables, understanding whether these dressings offer measurable benefits is essential. This study compared glue-only closure with glue plus dressing, evaluating clinical outcomes and the potential reduction in avoidable carbon emissions.

Material and Method: A retrospective comparative analysis was undertaken of elective open inguinal hernia mesh repairs performed at our trust. Eighty patients were included: 40 managed with glue alone and 40 with glue plus dressing. Data collected included postoperative wound complications and dressing use. There was one wound infection in the glue plus dressing group and no wound infections in the glue only group. There was no statistically significant difference in infection rates between groups (1/40 vs 0/40; Fisher's exact test, $p = 1.0$). Overall wound complication rates were low in both groups.

Results: Patients receiving dressings generated additional waste, with variable provision of take-home dressings resulting in an estimated 150–450 g CO₂e per patient. Glue-only closure produced negligible dressing-related emissions. Additionally, patients in the glue-only group reported greater satisfaction with wound self care.

Conclusion: The addition of postoperative dressings conferred no clinical advantage yet introduced avoidable environmental harm. Omitting routine dressings when glue is used is a safe, simple, and immediately adoptable measure to improve the sustainability of open inguinal hernia repair.

Keywords: surgical wound closure, surgical site infection, wound complications, open inguinal hernia repair