



Letter to the Editor Regarding “Devastating ‘DANA’ Floods in Valencia: Insights on Resilience, Challenges, and Strategies Addressing Future Disasters”

María García-García^{1*}, Alicia Castro-Fernández², Amparo Ortega-Yago²,
Alessandro Thione¹ and Víctor García-Bustos^{3,4}

¹Plastic Surgery and Burns, Hospital Universitari i Politecnec La Fe, Valencia, Spain, ²Orthopedics and Traumatology, Hospital Universitari i Politecnec La Fe, Valencia, Spain, ³Infectious Diseases, Hospital Universitari i Politecnec La Fe, Valencia, Spain, ⁴Severe Infection Research Group, Health Research Institute La Fe, Valencia, Spain

Keywords: disaster, disaster medicine, floods, epidemiology, natural disasters

OPEN ACCESS

Edited by:

Raquel Lucas,
University Porto, Portugal

*Correspondence

María García-García,
✉ dragarciagarciam@gmail.com

Received: 21 September 2025

Accepted: 16 October 2025

Published: 28 October 2025

Citation:

García-García M, Castro-Fernández A, Ortega-Yago A, Thione A and García-Bustos V (2025) Letter to the Editor Regarding “Devastating ‘DANA’ Floods in Valencia: Insights on Resilience, Challenges, and Strategies Addressing Future Disasters”. *Public Health Rev.* 46:1609115. doi: 10.3389/phrs.2025.1609115

Dear Editors,

We read with great interest the work from Martín-Moreno et al. [1] We would like to congratulate the authors for providing an excellent overview of resilience, challenges and strategies addressing future disasters. We would like to contribute a complementary perspective focused on the management of extremity wounds in a disaster setting.

Following the DANA disaster, our Emergency Department (ED) treated more than a hundred patients with extremity wounds related to the flood, providing us an opportunity to analyze injury patterns, microbiology and outcomes. Most patients were men (70%), with a mean age of 47 years. Two-thirds of wounds (68.5%) occurred during cleanup efforts, highlighting the risks faced not only during the disaster but also in its aftermath. Lower extremity wounds predominated (53.7%). While most injuries were superficial abrasions or lacerations, 11% of patients required surgery.

Among hospitalized cases, wound cultures revealed a predominance of Gram-negative organisms (67.7%), particularly *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Aeromonas* spp. Extended-spectrum β -lactamase (ESBL) resistance was frequent in *E. coli*, and methicillin-resistant *Staphylococcus aureus* was also detected. Polymicrobial infections occurred in 40% of positive cultures, highlighting the microbiological complexity of disaster-related wounds [2–4].

Our standardized protocol was based on five pillars:

- Wound care: low-pressure, high-volume irrigation with gravity-fed saline (5–12 L; sterile or potable water if unavailable), with selective direct closure.
- Tetanus prophylaxis: toxoid (devitalized tissue, stagnant water exposure) or immunoglobulin (major soft tissue loss, open fractures) administration.
- Antibiotic prophylaxis: in the ED, intravenous Amoxicillin–Clavulanate or Cefazolin; and intravenous Piperacillin–Tazobactam at hospitalization.
- Surgical management: debridement and delayed wound closure in contaminated or infected wounds.
- Multidisciplinary team: coordination between the Emergency Department, Orthopedics, Infectious Disease, Plastic Surgery, Rehabilitation, and Psychology proved essential in minimizing complications and optimizing functional recovery.

In conclusion, our experience illustrates that a structured, evidence-based protocol for wound irrigation, antibiotic use, and surgical management, combined with multidisciplinary coordination, is feasible in disaster contexts. We believe that sharing these practical lessons can support preparedness and improve healthcare responses in future mass-casualty scenarios.

ETHICS STATEMENT

The studies involving humans were approved by Instituto de Investigación Sanitaria La Fe. The studies were conducted in accordance with the local legislation and institutional requirements. The study does not adversely affect participants' rights or welfare, and obtaining written consent was impracticable given the nature of the observations.

AUTHOR CONTRIBUTIONS

Material preparation, data collection and analysis were performed by MG-G, AC-F, AO-Y, VG-B, and AT. The first draft of the manuscript was written by MG-G and all authors commented on previous versions of the manuscript. All

authors contributed to the article and approved the submitted version.

FUNDING

The author(s) declare that no financial support was received for the research and/or publication of this article.

CONFLICT OF INTEREST

The authors declare that they do not have any conflicts of interest.

GENERATIVE AI STATEMENT

The author(s) declare that no Generative AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

REFERENCES

1. Martin-Moreno JM, Garcia-Lopez E, Guerrero-Fernandez M, Alfonso-Sanchez JL, Barach P. Devastating "DANA" Floods in Valencia: Insights on Resilience, Challenges, and Strategies Addressing Future Disasters. *Public Health Rev* (2025) 46:1608297. doi:10.3389/phrs.2025.1608297
2. Kespechara K, Koysombat T, Pakamol S, Phoungchit P, Panyaphul W. Infecting Organisms in Victims from the Tsunami Disaster: Experiences from Bangkok Phuket Hospital, Thailand. *Int J Disaster Med* (2005) 3(1–4):66–70. doi:10.1080/15031430600694244
3. Edsander-Nord Å. Wound Complications from the Tsunami Disaster: A Reminder of Indications for Delayed Closure. *Eur J Trauma Emerg Surg* (2008) 34(5):457–64. doi:10.1007/s00068-008-8802-5
4. Wuthisuthimethawee P, Lindquist SJ, Sandler N, Clavisi O, Korin S, Watters D, et al. Wound Management in Disaster Settings. *World J Surg* (2015) 39(4):842–53. doi:10.1007/s00268-014-2663-3

Copyright © 2025 García-García, Castro-Fernández, Ortega-Yago, Thione and García-Bustos. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

PHR is edited by the Swiss School of Public Health (SSPH+) in a partnership with the Association of Schools of Public Health of the European Region (ASPHER)+