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Septic Amputations as a Life-Saving Practice in Gaza During War

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Abstract

Since the escalation of hostilities in Gaza in October 2023, the health care system has been overwhelmed by mass casualties, infrastructure damage, and supply shortages. Amid these conditions, septic amputations have emerged as a desperate, life-saving measure for patients with severe limb wound infections. This article examines the rise of such procedures, drawing from contextual analysis and firsthand cases at Al-Aqsa Martyrs' Hospital. It also highlights doctors' observation of how delayed access to care, lack of sterile tools, antibiotic shortages, and multidrug-resistant infections have often made limb salvage impossible. These amputations, while medically necessary, reflect the collapse of trauma care and underscore the urgent need for adaptable humanitarian intervention, standards, and call for the protection of health care facilities and services continuity.

Introduction

Over the past two decades, Gaza Strip has endured multiple military assaults, each leaving devastating impacts on civilians. Amputations, particularly, have been widely documented following events like the Great March of Return protests.[1] However, since the escalation of hostilities in October 2023, Gaza has witnessed an unprecedented level of violence against civilians and civilian infrastructures, such as hospitals and health care facilities.[2] Reports estimate over 58,000 killed and over 139,000 injured, overwhelming remaining partially functioning facilities.[3] By late 2024, the Health Information Department of Gaza Ministry of Health recorded 4,500 amputations, with a UN report noting 1,000 children losing one or both legs within the first 100 days of war, an average of 10 children per day.[4,5] The blockade on almost everything, including EMS sources and medical supplies, has further obstructed the delivery of timely, proper medical care.[6] In this context, desperate measures such as septic amputations have emerged as a lifesaving, yet tragic, practice at Gaza's hospitals.

What Are Septic Amputations?

Septic amputation refers to the surgical removal of a wounded, fractured limb after an infection has progressed to a life-threatening stage.[7] In more severe cases, maggot infestation accompanied the infection. Under normal clinical circumstances, such infections would be treated with aggressive antibiotics, advanced surgical care, and repeated debridement. But when infection is no longer manageable, and the risk of life-threatening systemic sepsis becomes imminent, amputation becomes the only viable option to save a patient's life. A recent study reported fracture-related wound infections in 30% of war injuries in Gaza.[8] Additionally, a recent review from Palestine reported high levels of antimicrobial resistance (AMR). More than a quarter (27.3%) of *Staphylococcus aureus* isolates were methicillin-resistant (MRSA), a concerning finding given that *S. aureus* is the most common cause of bone-related infections.[9]

Narrative

The authors, on-ground physicians, believe that several interconnected factors contribute to the tragic surge of such procedures. First, the nature of war injuries, mostly blast injuries, often results in extensive soft tissue damage and contamination. Second, health care facilities are overwhelmed with the number of casualties and under attack, all without the presence or access to a tertiary trauma center. Third, patients are frequently delayed reaching hospitals due to being trapped under rubble for prolonged periods or due to movement restrictions. Fourth, even once inside hospitals, infection control is severely compromised by overcrowded facilities, shortages of antiseptics, and sterile tools.[10] Fifth, the prevalence of multidrug-resistant bacteria or the absence of certain needed microbiology cultures renders many standard antibiotic regimens ineffective.

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Lastly, the unavailability of some antibiotics or surgical tools may have prevented this. By May 2025, WHO reported that two-thirds of medical equipment lines had reached "stock-zero" status, including broad-spectrum antibiotics and basic sterile dressings.[11]

Al-Aqsa Martyrs' Hospital, where the authors are based, is a small facility and the only public hospital providing care for the middle area of Gaza Strip during the ongoing hostilities.[12] It served over a million population, far beyond its pre-war capacity of 200 thousand. At this hospital, orthopedic doctors and patients face the hard choice between risking septic death and limb loss. Dozens of patients had undergone septic amputations after all conservative treatments had failed. Others have died due to delayed decisions or refusal to consent to the procedure. Exact numbers are not well documented and may never be fully known due to the challenges of keeping up with the data.[13]

Among the cases treated, a 26-year-old male patient who survived a house bombardment in December 2023, sustaining multiple polytrauma injuries. He initially underwent a below-knee amputation, leaving an open stump. The wound later became infected with necrotic bone and tissue, as shown in Figure 1A. During that time, only locally prepared Chlorhexidine was available with non-surgical gowns, as in the picture. Despite multiple debridement procedures and treatment with ceftriaxone and vancomycin, the patient remained feverish and hypotensive, with a foul-rotten odor and spreading cellulitis. Eventually, he required an above-knee amputation after all other measures failed.

In another case, a 20-year-old female patient survived an airstrike on a house in Al-Nuseirat camp in mid-May of 2024. She arrived after over than two hours after the bombardment, was unstable upon arrival, and waited an extra 30 hours before she could go to the OR. External fixators were applied to both lower limbs. However, after days of antibiotics and wound care, she developed signs of infection, including foul-smelling discharge, fever, hypotension, and acute kidney damage. With no other identifiable source of infection, consent was obtained, and she underwent an above-knee amputation for the most infected of the two limbs (Figure 1B). She later improved, and her other lower limb survived wounds with conservative management.



Figure 1. A: Infected open stump. B: Infected lower limb waiting for consent to amputation. C: Use of a diaper due to the lack of large-size gauze. D: Maggot-infested open fracture fixated with external fixator. E: Multidrug-resistant Pseudomonas from an infected thigh wound, with limited culture panel options.

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Discussion

The increase in septic amputations in Gaza reflects a larger systemic collapse and the impossibility of providing standard trauma care under a deliberately weakened health system. These procedures are not clinical preferences, but emergency compromises in the absence of basic conditions required for limb salvage. Military medicine literature acknowledges that quality care in mass casualty situations is dynamic and context-dependent. As Horne et al. argue, "quality" care is not singular but a continuum of interventions with varying value and resource demands. In such a crisis, survival forms the basis of the level of care, and any resource-wise intervention to maximize it should be prioritized.[14] Given that Gaza context can be viewed as an extended mass causality event that continued for over 21 months, such decisions manifest when orthopedic surgeons choose to prioritize patients' lives over limbs as a grim necessity.

The systematic targeting of the decreasing number of health care facilities further undermines any effort to improve the level and quality of care for the Gaza population. By June 2025, only 36% of health care facilities remained partially functional, with no operational hospitals in North Gaza or Rafah governorates.[15]

This crisis presents ethical dilemmas and requires sharp clinical judgment regarding when to perform the operation and whether it is too early or too late. There are no clear cutoff points regarding the decision-making of such intervention. Subjective collaborative judgment among orthopedic surgeons and internists or intensivists regarding sepsis severity and feasibility of conservative management usually guides the decision. Typically, decisions must be made before septic deterioration, as ICU capacity is critically limited. Patients may refuse amputation out of mistrust toward care providers and the system, witnessing the unfortunate reality approaching, and knowing for sure that better circumstances and a health care environment would save their limbs. These decisions, which are made under chaotic and high-pressure conditions while respecting patients' wishes, impose immense moral distress and psychological burdens on both patients and health care providers, burdens that have yet to be determined.

Technical interventions alone will not suffice to address this crisis. Protected humanitarian corridors must be urgently established to facilitate the delivery of sterile surgical supplies, essential antibiotics, and critical medical equipment, along with timely evacuations of the injured in need of advanced care. The deployment of advanced tertiary hospitals and trauma-specialized surgical teams, particularly those experienced in limb salvage, should be prioritized. International trauma care protocols must be adapted to reflect the realities of practicing medicine in siege conditions, with context-specific minimum standards for care. Mental health and rehabilitation services should be integrated into surgical units to address the lifelong physical and psychological consequences of amputations. Furthermore, international accountability mechanisms must investigate and address the structural causes behind the collapse of Gaza's health care system, including the targeting of medical facilities and personnel, and call for its protection. Until the underlying causes of these tragedies are addressed, such procedures will continue to mark the failure of humanity to protect vulnerable civilian populations of Gaza.

Conclusion

Septic amputations in Gaza are a tragic result of war and the collapse of the health care system. They reflect situational necessity amid limited resources and delayed care. These procedures carry ethical and emotional burdens for patients and doctors alike. Addressing this crisis requires more than medical supplies; it demands protected and adaptable humanitarian intervention and protection of health care services continuity.

Competing interests. None.

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