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Editorial

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Beyond the Incision: Why Surgical Site Infections Matter

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Editorial

Surgery is often described as a controlled injury. A deliberate intervention intended to restore health, relieve pain or save a life. A Surgical Site Infection (SSI) can turn that promise into a longer and more complicated recovery. What begins as an infection in or near an incision may lead to further treatment, another operation, readmission, lasting disability or, in some serious cases, death. The consequences reach far beyond the wound itself, affecting patients and families, clinical teams, hospitals, and health systems [1-5]. An editorial on SSIs must hold two ideas together. First, not every infection can be prevented, even when care is excellent. Patients differ, operations vary and risks cannot be eliminated entirely. Second, many SSIs are preventable, and the possibility of prevention makes them a test of how well healthcare systems translate evidence into everyday practice [4-7].

A Complication with Consequences Beyond the Wound

SSIs are infections that develop in the part of the body where surgery took place. They may involve the skin and tissue around an incision, deeper tissues or an organ or body space entered during an operation. Their severity ranges from a superficial infection that can be treated with local care or medication to a deep infection requiring drainage, further surgery or intensive treatment [1,2]. The immediate burden is often obvious which includes pain, inflammation, fever, wound drainage and a recovery interrupted by new appointments or hospital stays. Less visible is the uncertainty patients may face after surgery. Is the wound healing normally? Is new pain expected? Will the infection clear? Could it threaten the success of the operation? These questions can produce anxiety at

a time when patients expected to be recovering [8,9]. The effects may also persist after the infection has been treated. A prolonged recovery can delay a return to work, caregiving or ordinary activities. For some people, additional procedures or tissue damage may impair function. Family members may take on new responsibilities, while patients confront lost income, travel costs and the emotional strain of an outcome they had hoped to avoid [9-12]. In this sense, an SSI is not simply a clinical event recorded in a chart. It is a disruption in a person's life and a reminder that the quality of surgical care is measured not only by what happens in the operating room, but also by what happens to patients afterward.

The Wider Cost of Infection

The impact extends into the economics of healthcare. An SSI may require diagnostic tests, antibiotics, wound care, additional surgery, readmission and a longer stay in hospital. It can occupy beds and staff time that could otherwise serve other patients. For patients and families, the costs may include missed work, transportation, caregiving and out-of-pocket expenses [13-17]. Estimates of the financial burden vary considerably. Costs depend on the procedure, the severity of infection, the patient's condition, the healthcare setting and the way costs are measured. Some estimates place the added cost of an individual infection in the thousands of dollars. Severe cases may be substantially more expensive. U.S. estimates have put the annual healthcare expenditure associated with SSIs in the billions [10,13,16,17]. Such figures should be interpreted as estimates, not universal price tags. They are shaped by local practice, accounting methods and the types of surgery included. But the financial argument should not eclipse the human one. Prevention is not valuable only because it may reduce expenditure. It matters because it can spare people avoidable pain, uncertainty and treatment. Cost savings are a potential benefit of safer care not its ethical justification.

Prevention is a System Responsibility

SSI prevention is often described as a checklist of actions. Checklists can help, but they do not work in isolation. Prevention depends on coordinated care across the entire surgical journey, supported by adequate staffing, reliable supplies, clear protocols and a culture in which concerns can be raised [4,5,6,18]. Before surgery, teams can assess and address relevant risks, explain wound care, prepare the skin appropriately and use preventive antibiotics when indicated. Antibiotic choice and timing matter. Prophylaxis should follow evidence-based guidance and unnecessary use should be avoided [4,5,18]. Patients may benefit from support to manage conditions such as diabetes, stop smoking or improve nutrition where circumstances allow. These measures should be offered without blame. A patient's health, resources and ability to change risk factors are shaped by more than individual choices. During an operation, infection prevention relies on consistent sterile practice, appropriate preparation of the surgical field, sound operating-room processes and attention to factors such as body temperature and blood glucose where clinically relevant. No single intervention is a guarantee. Rather, multiple safeguards work together to reduce risk [4,5,18]. After surgery, clear instructions and accessible follow-up are essential. Patients need to know what signs may require medical attention and whom to contact if they are worried. Healthcare teams need ways to identify infections that emerge after discharge, when a patient may no longer be under direct observation. Surveillance, review of outcomes and timely response to clusters or concerning patterns help

turn individual cases into opportunities for system improvement [1,2,5,6]. The same principle applies to measurement. Hospitals should examine infection rates carefully, but raw comparisons can mislead if they ignore differences in procedure type, patient risk, or follow-up practices. Good surveillance requires consistent definitions and thoughtful interpretation [1,2]. The aim should be learning and prevention not simplistic rankings or incentives that encourage underreporting.

From Compliance to a Culture of Safety

A policy can describe best practice; it cannot ensure that best practice is possible in every operating room, on every shift. Staff who are overextended, equipment that is unavailable, unclear responsibilities and fragmented communication can weaken even well-designed protocols. Leaders therefore have a responsibility to make safe practice feasible, provide training and resources, clarify accountability, support infection prevention teams and respond constructively when staff identify problems [5,6,19,20]. Patients, too, should be treated as partners in care. They need understandable guidance not a long list of warnings that leaves them frightened or responsible for outcomes beyond their control. They should be able to ask questions, report changes and receive timely advice without being dismissed. When an infection occurs, transparent communication and compassionate support matter as much as the technical plan of treatment. Equity belongs in this conversation. The risks patients bring to surgery and their ability to follow up afterward can be affected by access to primary care, housing, transportation, paid leave, language support and other social conditions. A prevention strategy that assumes every patient has the same resources may work well for some and fail others. High-quality prevention should be designed around the real circumstances of the people it serves.

A Measure of the Care we Provide

Surgical site infections will not disappear. Medicine cannot remove every risk and a complication does not automatically prove that someone made a mistake. Yet uncertainty should not become an excuse for complacency. When evidence-based prevention is available, healthcare systems should make it routine, monitor whether it is working and improve it when it is not [4,5]. The right response to SSIs is neither blame nor resignation. It is disciplined prevention, honest measurement and patient centric care. Every infection should prompt attention to the person affected and where appropriate, reflection on whether the system could have done better. The goal is not merely to protect an incision. It is to protect the recovery, independence, and trust that surgery is meant to restore.

References

1. Centers for Disease Control and Prevention. Surgical site infection (SSI) prevention guideline. Atlanta (GA): CDC; 2026.
2. Centers for Disease Control and Prevention. National Healthcare Safety Network patient safety component manual: chapter 9, surgical site infection (SSI) event. Atlanta (GA): CDC; 2026.
3. Centers for Disease Control and Prevention. 2025 NHSN surgical site infection (SSI) checklist. Atlanta (GA): CDC; 2025.
4. World Health Organization. Global guidelines for the prevention of surgical site infection. Geneva: WHO; 2016.

5. Calderwood MS, Anderson DJ, Bratzler DW, Dellinger EP, Garcia-Houchins S, Maragakis LL, et al. Strategies to prevent surgical site infections in acute-care hospitals: 2022 update. Infect Control Hosp Epidemiol. 2023;44(5):695-720.
6. European Centre for Disease Prevention and Control. Healthcare-associated infections: directory of guidance on prevention and control. Stockholm: ECDC; 2026.
7. Borchardt RA, Tzizik D. Update on surgical site infections: the new CDC guidelines. J Am Acad Physician Assist. 2018;31(4):52-4.
8. Cacciuttolo MG, et al. Economic impact of surgical site infection prevention. J Hosp Infect. 2026.
9. Hou Y, et al. Incidence and impact of surgical site infections on length of hospital stay: a retrospective cohort study. 2022.
10. Elevance Health Public Policy Institute. Burden of health care utilization, cost, and mortality associated with select surgical site infections. 2026.
11. Stryker. The impact of surgical site infections: from patient safety to savings. 2024.
12. McFarland AM, et al. Impact of surgical-site infection on health utility values. Br J Surg. 2023;110(8):942.
13. Scott RD II. The direct medical costs of healthcare-associated infections in U.S. hospitals and the benefits of prevention. Emerg Infect Dis. 2009;15(9):1475.
14. C8 Health. Implementing SSI prevention measures for improved outcomes. 2026
15. Healthcare cost and outcomes associated with surgical site infection and patient outcomes in low- and middle-income countries. Cureus. 2023.
16. US Department of Veterans Affairs, Health Services Research & Development. Costs associated with surgical site infections. 2026.
17. Badia JM, et al. Impact of surgical site infection on healthcare costs and patient outcomes: a systematic review in six European countries. J Hosp Infect. 2017.
18. Anderson DJ, Podgorny K, Berríos-Torres SI, Bratzler DW, Dellinger EP, Greene L, et al. Strategies to prevent surgical site infections in acute care hospitals: 2014 update. Infect Control Hosp Epidemiol. 2014;35(6):605-27.
19. Joubert D, et al. Interdisciplinary strategies to reduce surgical infectious risks. JMIR Res Protoc. 2025;14:e67660.
20. Calderwood MS, et al. Strategies to prevent surgical site infections in acute-care hospitals: 2022 update. Baltimore (MD): Johns Hopkins University; 2026.

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