

The Costs to Hospitals due to Surgical Site Infections

What are Surgical Site Infections (SSI)? The Centers for Disease Control and Prevention defines Surgical Site Infections as “A surgical site infection is an infection that occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only. Other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material.” CDC has identified airborne pathogens are the cause of surgical site infections in 20 percent of all cases reported.

What do experts say about SSI? An investigative study written by orthopedic surgeon Joshua Urban listed surgical site infections creating as much as **\$10 billion annually** in both direct and indirect medical costs. In 2022, **\$13M of revenue** was lost at **just 22** hospitals in California. Direct costs include longer hospital stays, re-admissions, outpatient and emergency visits, additional surgery, and prolonged antibiotic treatment. Indirect costs include lost wages, loss of functional capacity, and loss of mental health. All these additional costs place a severe financial strain on hospitals that are still recovering from the large costs due to COVID.

How does this affect Patients in Operating Rooms? For SSI, since reimbursement is per procedure, all costs rested primarily on the hospital rather than the insurer. The hospital will then pass on these costs to the patient. This can add thousands of dollars to every patient’s surgery bill.

How does Airflow SurgicalPrime reduce SSI? Airflow SurgicalPrime is the only science-based app that uses Computational Fluid Dynamics to track the size, trajectory, and velocity of airborne pathogens in an operating room. The dataset from this engineering evaluation is then uploaded to an open-source Machine Learning platform in the Cloud. Results are displayed on a one-page User Interface page on the app, providing surgeons, hospital facility managers and administrators with specific data to enhance the airflow in that operating room. Published engineering studies have shown that proper airflow into and exhausted from an operating room reduces airborne pathogens.

AJWillman International LLC can provide additional hospital infection rates and financial information for major U. S. hospitals: ajwillman7000@ajwi.world