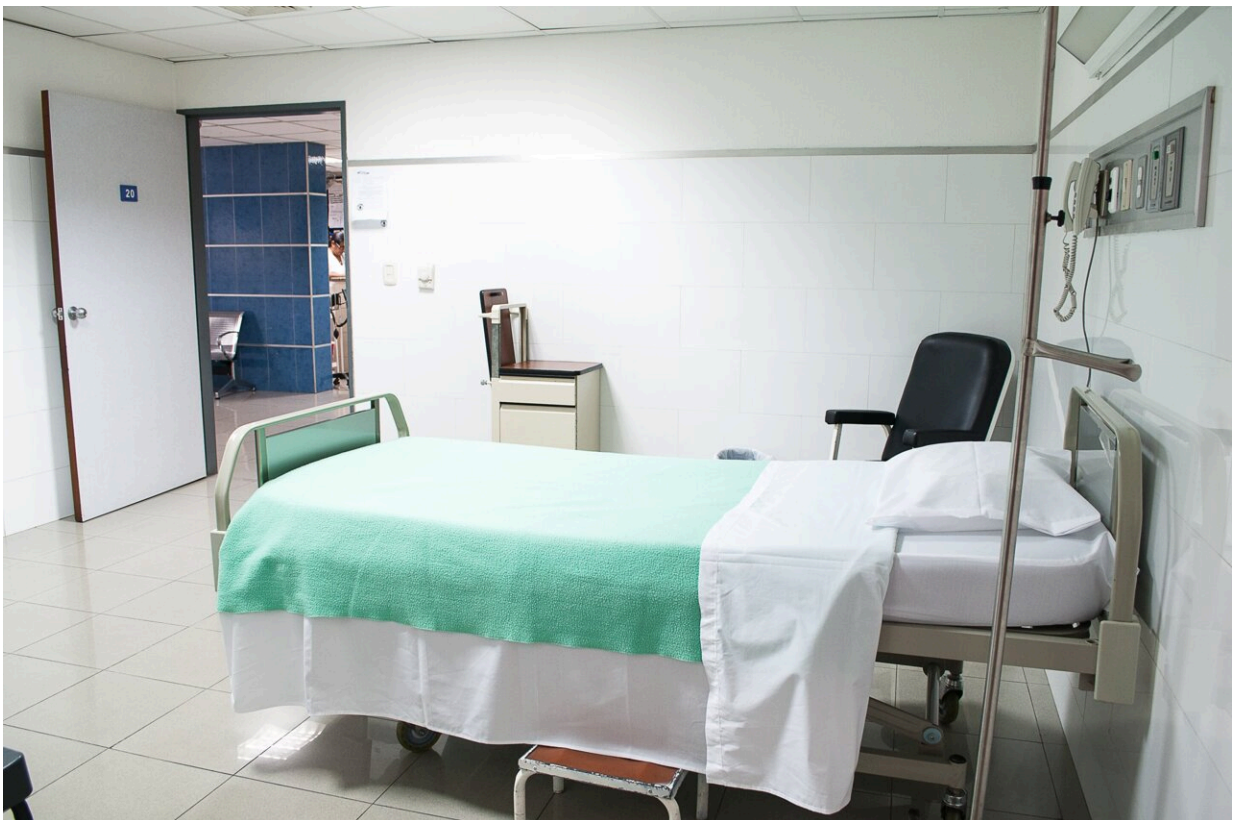


Innovative infection prevention program reduces surgical infections, shortens hospital stays

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An innovative anesthesiologist-led infection prevention program helped reduce the number of surgical site infections (SSIs) in colorectal patients

by 50%, the number of days in the hospital by 46%, and led to significant cost savings over a two-year period, according to research presented at the virtual American Society of Anesthesiologists' [Anesthesia Quality and Patient Safety Meeting](#).

"With the skyrocketing cost of medical care for patients and health care institutions, one area physicians can focus on is reducing SSIs," said Austin Street, M.D., study author and anesthesiologist at UT Southwestern Medical Center, Dallas. "Many SSIs are preventable through well-designed, evidence-based interventions. We were very happy to reduce the SSIs in our colorectal patients by half, which also led to decreases in [hospital](#) bed days, saving the hospital and patients money, as well as freeing up beds for other patients and [surgeries](#)."

Largely avoidable with proper infection control measures, SSIs occur either during or up to 30 days after a [surgical procedure](#). SSIs often need to be treated with additional antibiotics, and may require interventional procedures or even re-operation. SSIs can lead to major complications, including death, as well as significantly increase the cost of care. The cost of a patient's care increases by \$20,000, on average, if they develop an SSI. According to the Centers for Disease Control and Prevention, the annual cost of SSIs to hospitals in the U.S. ranges between \$3.2 billion to \$10 billion a year. The SSI incidence rate in colorectal [surgery](#) is higher than many other procedures.

Prior to the intervention, the infection ratio at UT Southwestern had increased from .74 in 2018 to 3.08 in 2020, putting the program in the bottom quartile for infection rates in the country. The new infection prevention initiative leveraged the strength of the hospital's Enhanced Recovery After Surgery (ERAS) program. An ERAS pathway is an evidence-based protocol that standardizes care to minimize surgical stress and postoperative pain, reduce complications, improve outcomes, decrease hospital length of stay and expedite recovery following elective

procedures. Under the umbrella of the ERAS program, UT Southwestern's infection prevention initiative implemented a number of interventions, each targeted at evidence-based causes of SSIs, including:

- Giving [oral antibiotics](#) with the patient's mechanical bowel preparation
- Identifying the best antibiotic to use, as well as optimal timing and redosing for colorectal surgery, with the guidance of UT Southwestern's antibiotic stewardship committee
- Using chlorhexidine baths, a cleaning product that kills germs, prior to the surgery and wipes to the abdomen immediately prior to the operating room to decrease bacteria on the skin
- Improving access to critical medications by storing the antibiotics directly in each [operating room](#)'s "pyxis" machines, which hold and distribute the anesthetic drugs
- Requiring the [surgical team](#) and their assistants (scrub techs and residents) to change their gowns and gloves when the surgery was completed and they were about to close the wound, assuring no contamination from the surgical site got into the sterile areas of the wound
- Actively warming patients both prior to and during the surgery, which has been shown to decrease the risk of wound infections
- Increasing patient mobility as soon as possible after surgery, for example sitting up in a chair the day of surgery and walking in the hallways up to three times as soon as possible, which decreases the risk of infection

By implementing these infection control strategies, UT Southwestern met their goal of reducing colorectal SSIs by 50%. Additionally, the hospital saved an estimated \$540,000 in total costs in 2021 and 2022, compared to 2020, and hospital bed days were reduced by 578 days (46%).

This program may serve as a useful model for other academic or major medical centers seeking to improve their SSI outcomes.

Provided by American Society of Anesthesiologists

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