

# White Paper: The Advantages of Sliding Doors in Operating Rooms

## Introduction:

Operating rooms (ORs) are critical environments where surgical procedures take place. The design and functionality of ORs significantly impact patient outcomes, staff efficiency, and overall safety. One essential element in OR design is the choice of doors. In recent years, sliding doors have gained popularity due to their unique advantages. In this white paper, we explore the benefits of using sliding doors in operating rooms.

## Space Efficiency:

Sliding doors operate on a horizontal track, eliminating the need for swing space. Unlike traditional hinged doors, which require clearance for opening and closing, sliding doors maximize usable floor space. In ORs, where every square foot matters, this space-saving feature is crucial.

## Infection Control:

Maintaining a sterile environment is paramount in operating rooms. Sliding doors minimize the risk of contamination by reducing the number of seams and gaps. Their seamless design prevents dust, bacteria, and other pathogens from accumulating around door frames. Additionally, sliding doors can be equipped with hermetic seals, ensuring an airtight closure.

## Noise Reduction:

Surgical procedures can be noisy, with equipment, conversations, and alarms contributing to the overall sound level. Sliding doors provide better acoustic insulation than traditional doors. Their smooth operation minimizes disruptive noise during entry and exit, allowing surgeons and staff to focus without unnecessary distractions.

## Smooth Traffic Flow:

Efficient traffic flow within the OR is essential for patient safety and staff productivity. Sliding doors facilitate seamless movement between different zones (e.g., sterile and non-sterile areas). Surgeons, nurses, and equipment can pass through without hindrance, reducing the risk of collisions or delays.

## Sliding Operating Theatre Doors



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## Accessibility:

Sliding doors are user-friendly, especially for staff wearing gloves or carrying medical equipment. The absence of handles or knobs simplifies operation, and automatic sensors can detect approaching individuals, opening the door without physical contact. This accessibility feature enhances workflow efficiency.

## Visibility:

Clear visibility into the OR is crucial for monitoring patients, equipment, and staff. Sliding doors often incorporate large glass panels, allowing natural light to penetrate while maintaining privacy. Surgeons and nurses can observe the OR from outside without compromising sterility.

## Emergency Egress:

In emergencies, quick evacuation is essential. Sliding doors can be configured for rapid egress, ensuring that staff and patients can exit swiftly. Some models have breakaway features, allowing doors to slide open easily even during power outages.

## Conclusion:

Sliding doors offer several advantages for operating rooms, including space efficiency, infection control, noise reduction, smooth traffic flow, accessibility, visibility, and emergency egress. When designing or renovating ORs, healthcare facilities should consider these benefits to enhance patient care and staff performance.

Let's explore a case study related to sliding doors in operating rooms.

## Opening Doors in the Operating Rooms: An Intervention and Outcome Study

- **Background**: Surgical site infections (SSIs) are a major concern in operating rooms (ORs). Laminar air flow within the OR is essential for reducing SSIs. However, excessive unnecessary door openings can disrupt this airflow.
- **Intervention**: A hospital conducted an observational study to reduce unnecessary door openings. Door-opening counters were placed on OR doors, and daily feedback sheets were provided to staff to limit door openings.
- **Results**: The intervention group had significantly fewer door openings (mean of 24.84) compared to the control group (mean of 32.13). No postoperative infections occurred during the study.
- **Conclusion**: Prospective audit and feedback can effectively reduce unnecessary door openings during surgical procedures<sup>1</sup>.