

## SWISSLOG CASE STUDY

## ROSE MEDICAL CENTER DENVER, CO



Rose Medical Center receives the nation's first pneumatic tube system equipped with WhoTube™ card-swipe technology, providing security with dramatic improvements in productivity.

### The Hospital

For more than 60 years, Rose Medical Center has been one of Denver's best known and most respected hospitals. Named in honor of U.S Army Major General Maurice Rose, the cornerstone of the main hospital building was laid by General Dwight D. Eisenhower on August 31, 1948. The hospital began caring for patients in March 1949.

Rose earned its reputation as Denver's "baby hospital" while becoming a leader in comprehensive women's health, surgical and endoscopy services, heart and vascular, orthopedics and total joint replacement, sports medicine, and internal medicine. A 420-bed acute care center, Rose was named one of the nation's Top 100 Hospitals in 2010 by Thomson Reuters, a leading provider of healthcare information. The award recognizes hospitals that have achieved excellence in clinical outcomes, patient safety, patient satisfaction, financial performance, and operational efficiency. This is the sixth time Rose has been recognized with this honor.

## The Challenge

Since its opening, Rose relied upon a manual delivery method for moving materials throughout the hospital. Critical items including laboratory specimens and pharmaceuticals were delivered by couriers. As the years passed, it became apparent that a pneumatic tube system (PTS) would greatly increase efficiency by providing faster deliveries than human transporters.

As the leader in providing PTS technology to healthcare facilities, Rose turned to Swisslog to

examine the best way to retrofit a tube system into a facility that's been standing for 60 years. One of the many challenges confronted by the Swisslog team was the limited interstitial space available for installing the tube system's transmission equipment. Despite these challenges, Swisslog developed a cost-effective plan for the design and installation of a modern PTS at Rose Medical Center.



## The Solution

Swisslog proposed a tube system to serve 20 locations across the main hospital and some outlying buildings, including the central laboratory, pharmacy, intensive care unit, emergency department, operating rooms, nursing units, radiology and other key departments on each floor. The lab and the pharmacy were equipped with Ultra Stations, each with two dispatch/receive ports to handle higher traffic while achieving high throughput.

The installation was completed in two phases over 10 months. As is always important, Swisslog installed the tube system with minimal disruption to hospital operations, staff and patients.

Rose's PTS was the nation's first to be equipped with Swisslog's patented WhoTube™ card-swipe technology. WhoTube helps prevent unauthorized access to PTS carriers and their contents. The swipe of a valid access card unlocks the station control panel and can also unlock station access doors. Authorized users are granted access to the tube system sending or receiving station only after swiping their hospital-issued identification badge. This built-in



security feature is critically important when valuable items or controlled substances, such as some medications, are sent through the tube system.

In addition to WhoTube, Rose's PTS features another piece of advanced technology. It is controlled by modern Ethernet communications as opposed to conventional cabling. Ethernet communication is fast and reliable, and is a minimum requirement for many pneumatic tube system technology innovations currently under development.

Rose's tube system is comprised of nearly a mile of tubing across the sprawling campus. Despite the challenges encountered during design and installation, Rose now has an advanced pneumatic tube system that includes built-in security and a communications infrastructure that supports future innovation.

Due to congested ceiling space and low deck heights, Swisslog installed a portion of the tubing and other transmission components on the roof of the medical complex. Tubing was insulated to protect against condensation and Denver's sometimes extreme weather.



## Results

The adoption of the tube system by Rose's staff, many of whom had no PTS experience, was rapid and enthusiastic. In fact, the system averages some 1,100 transactions each day, displacing between 92 to 193 hours of manual transport. Over the course of a year, that will amount to hundreds of thousands of dollars in saved labor productivity.

In addition, the tube system has enhanced patient-focused care by allowing hospital staff to spend more time with patients. It has reduced interdepartmental running, increased turnaround time in the central laboratory, and provided an enhanced level of security and tracking with WhoTube card-swipe technology.





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