

Lake Tahoe Surgery Center



Surgery Centers have become an increasingly more important part of our overall Healthcare System. In becoming an integral part, many of these centers have implemented additional measures to reduce the number of Nosocomial Infections in their facilities' as any such infections can be costly and potentially dangerous to patients. At the Lake Tahoe Surgery Center in Zephyr Cove, Nevada, an aggressive stance was taken to reduce the total number of Particles and Total Volatile Organic Compounds (TVOC's) within their surgical suites. While already known for low levels of Nosocomial Infections, the Doctors at the center felt that any Nosocomial infections were unacceptable.

One of the measures employed by the Center was the installation of SecureAire's Electronic Air Purification System also known as Particle Accelerated Collision Technology or PACT. This unique system utilizes semiconductor airborne contamination reduction technologies to increase the efficiency and effectiveness of all air filtration systems. "PACT" is the only system that makes airflow the dominant transport mechanism and controls the behavior of fine particulates by creating inelastic collisions between particles on a sub-micron level. These collisions cause smaller particles to combine and form larger particles. This collision process significantly improves the ability of a standard filtration system to remove and reduce suspect indoor and outdoor generated contaminate levels.

The PACT system was installed into an existing 18,000 CFM Air Handler. In addition to the installation of the PACT System, 2" Electronic filters complete with Ultra Violet Lights (UV) were installed in the pre-filter location. The existing 95% final filters were left in their original AHU position. It is important to note, that the system was monitored by the facilities department prior to the PACT system installation and quarterly since the original installation.



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Randy Watson, MD
Lake Tahoe Surgery Center

The Result of these system changes are truly impressive. Figure 1 shows us that the small particulate count levels were reduced by a factor of 66%, while dramatically reducing peak levels. Figure 2. Shows us that TVOC levels were also reduced by an even more impressive 92%.

Figure 1

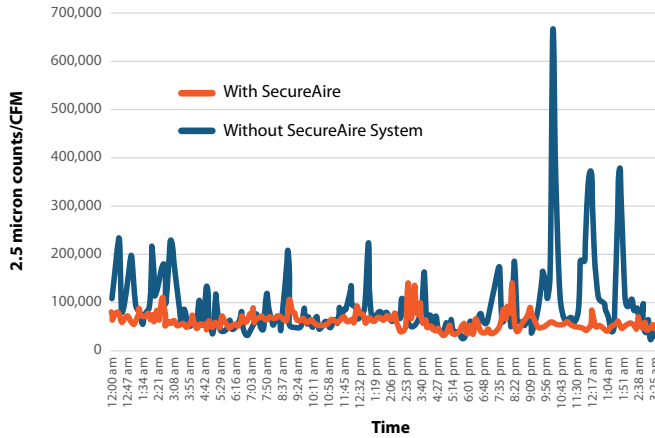
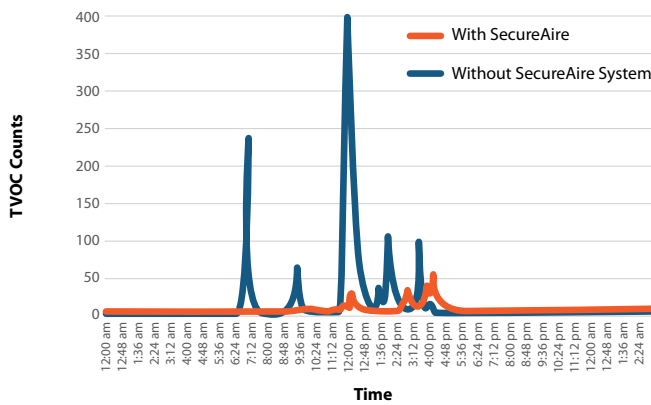


Figure 2



Dr. Randy Watson, MD provided some further insight into the operation of the new air purification Technology “Since that time, I know down to the smallest decimal point what our infection rate is, zero! We have had no infections of any type since implementing your system.”

Lake Tahoe Surgery Center is a very busy orthopedic surgery center where many patients are treated on a daily basis and SecureAire’s PACT System has played an important role in defining a new standard for Nosocomial Infection Rates in Orthopedic Care. Furthermore, Dr. Watson states, “Now granted, our infection rate was extremely low prior to that time, but 1 don’t think you can beat zero. I don’t know how long we’ll be able to continue this perfect record, but suffice to say the doctors, the nurses involved with the Surgery Center and the owners of the Surgery Center, are extremely pleased with our track record and I want to thank you.”

Lake Tahoe Surgery Center Data Summary

Average Particulate Counts/CFM (< 2.5 microns):

Baseline:

Approximately 180K

Observation:

Many Peaks Above 200K, several exceed 400K

New Baseline:

Utilizing SecureAire’s PACT System – Approximately 60K

Observation:

Excluding startup there were only three peaks that reached 100K

Summary:

66% reduction in small particles with PACT



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