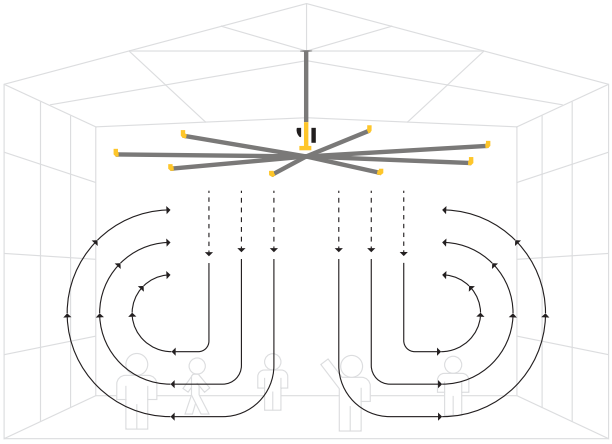
BIG ASS FANS®

Buckley Associates

APPLYING BIG ASS FANS TO IMPROVE PERFORMANCE OF UPPER-ROOM UVGI SYSTEMS

SYSTEM DESIGN AND LAYOUT

To maximize elimination of pathogens, upper-room UVGI systems rely on air movement between the lower portion of the room, where droplet nuclei (from a sneeze or cough, for example) are generated, and the upper, irradiated portion of the room. When upper-room UVGI systems are installed, ventilation systems should be designed to provide optimal airflow patterns for heating and cooling and prevent air stagnation or short circuiting of air from the supply diffusers to the return or exhaust grills.



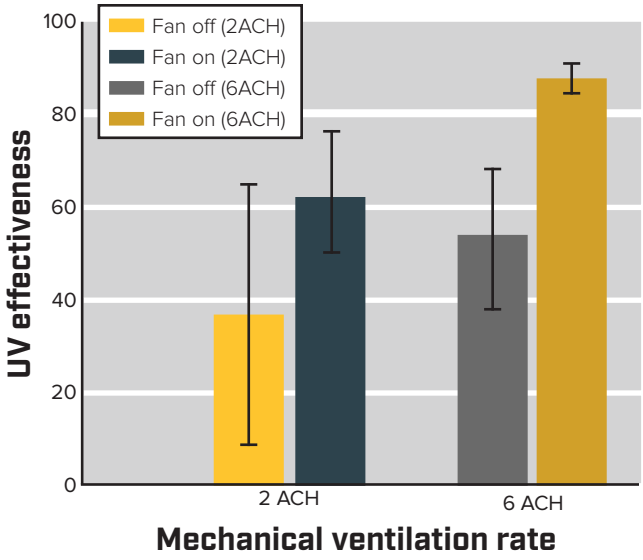
HVLS TECHNOLOGY

HVLS fans prevent stagnant air and are the best solution to improve air mixing. If environmental factors impede air mixing, run fans continuously per guidelines in **this study** of healthcare facilities by the National Institute for Occupational Safety and Health. Study data reflect that in a room without adequate air mixing, UVGI system effectiveness increased from 12% to 89% when an overhead fan was used.

MAXIMUM EFFECTIVENESS

According to a **study** published in *Environmental Health Perspectives*, increasing air changes per hour (ACH) and using a mixing fan each led to significant increases in UV effectiveness for inactivating aerosols of the pathogen *S. marcescens* (see Figure 3). This increase in ventilation rates and mixing of upper and lower air volumes led to a reduction in pathogens, resulting in a safer, healthier indoor environment.

FIGURE 3:



To protect your facility with the best technology in UVGI and HVLS systems, call **XXX.XXX.XXXX** to speak with the experts at Buckley Associates.

FOR MORE INFORMATION ON THIS TOPIC, PLEASE VISIT:

CDC.gov
Environmental Control for Tuberculosis: Basic Upper-Room Ultraviolet Germicidal Irradiation Guidelines for Healthcare Settings

NCBI.NIH.gov
The Characterization of Upper-Room Ultraviolet Germicidal Irradiation in Inactivating Airborne Microorganisms

ASHRAE.org
ASHRAE Position Document on Infectious Aerosols