

St. Luke's UMC Return Strategy Report April 23, 2021

Introduction:

During this COVID 19 pandemic, it's been difficult trying to navigate a return to normal church activities, especially music and worship experiences. Recent national and international studies have demonstrated that COVID-19 is primarily infective through aerosol transmission. Additionally, studies have also illustrated that singing and playing an instrument emits a much higher rate of aerosol than breathing and normal speaking. Within the last several months, we've gathered information and data in order to find a way to safely re-engage the community of St. Luke's in worship and supporting ministries. The following report is based on a performing arts aerosol study drawn from subject matter experts that has informed our strategy to return to worship, gatherings and rehearsals.

Aerosol Study:

The International Coalition of Performing Arts Aerosol study was commissioned in May 2020 and executed by leading professors and scientists at the University of Colorado at Boulder and the University of Maryland. In an unprecedented move to help performing arts leaders in their decision making for schools and universities, they released Preliminary studies in July and August prior to the final report last December. Lead researchers are Dr. Shelly Miller at CU and Dr. Jelena Srebric who worked with a team of 10 more researchers on this project. The study focuses strictly on the distribution of respiratory aerosols that are released while playing wind and brass instruments, singing, acting, speaking, dancing, and during a simulated aerobic activity. The aerosol study includes a Coronavirus risk estimator tool developed by Dr. Jose-Luis Jimenez, Professor of Chemistry at CU and a fellow of the American Association for Aerosol Research. The estimator tool provides the needed data or risk of infection in order to determine which rooms or spaces are viable or need added safety measures for singing, playing rehearsals and/or performance during worship. The primary take away from the performing arts aerosol study are related to indoor activities are:

1. The median particle size range for singing is 1.3 microns.
2. Bell covers should be used in multi-layer with filtering materials.
3. Particle emissions are comparable between all wind instruments, singing and acting.
4. From the theater performance, projecting voice produces many more particles than regular talking.
5. Masks **significantly** reduce aerosol emissions from the mouth when speaking, singing or playing and instrument.
6. The rehearsal and performance time should be in 30-minute increments with breaks to allow aerosol to disperse and not collect:

Strategy:

1. Continue determining the viability and/or the equipment needed in each room or space for rehearsals by establishing the air change rate per room from either the HVAC system or through the use of Air Purifiers with True HEPA filtration recommended by ASHRAE. The HVAC system or air purifier must be on while rehearsals, gatherings or worship are occurring.

2. Continue utilizing masks, social distance, hygiene and shorter rehearsals with breaks per state and local health agency guidelines.
 1. Masks worn 100% of the time while in rehearsal, gathering and worship.
 2. Social distance of 3 to 6 feet is highly recommended
 3. Encourage and make available hand sanitizer containing 62% - 70% alcohol before and after each rehearsal, gathering, worship or performance.
 4. Rehearsals will be divided into 30 minute increments and have 10 minute breaks to allow the aerosol to disperse and the air to change in the room.
 5. Worship services will be 45 minutes in length.

Added Safety Features:

1. Honeywell HPA300 have been acquired for each room in use
 1. Consumer Reports top 3 air purifiers rated for efficiency and noise.
 2. Recommended for extra large rooms (465 square feet) this true HEPA allergen remover air purifier helps capture up to 99.97% of airborne particles as small as 0.3 microns. With 3 air cleaning levels plus a Turbo clean setting, this air purifier helps remove particles like pet dander, pollen, dust, mold & smoke. The lowest speed cleaning level removes viruses and bacteria (stated in the directions). Honeywell Air Purifiers filter & circulate air in the stated room size up to 5 times an hour.
2. MERV 13 filters have been implemented in all HVAC systems
3. A Bipolar Ionization system has been installed in the HVAC system in the Sanctuary
4. Outside fresh air is added to the air mix by the HVAC system in the Sanctuary

COVID Risk Estimator Tool:

Using the risk estimator tool, we've read at length and input data that reflects either current situations or proposed situations for worship, gathering and rehearsals or performances. Assuming that one individual is infected with COVID 19, below is an example of selected parameters that are input:

1. HVAC air change rates
2. air purifiers
3. mask efficacy rate
4. social distancing
5. average age of 41-71 for inhalation rates and breathing rates
6. duration
7. number of people
8. aerosol rates based on activity that is averaged between male and female between 41&50 (the highest average),

9. square feet and cubic meters for each room
10. current COVID-19 case counts in Douglas County
11. current percentage of people who have been fully vaccinated

Many more additional data points such as temperature, humidity and CO2 remained constant to create a comparison. In each scenario, the threshold risk of infection from an aerosol transmission has been determined by the trustees to be less than 1% whether in worship, gathering, singing, or playing or playing an instrument.

For the COVID Risk Estimator Tool spreadsheet, click on this link: (It is necessary to read and understand the “Read Me” tab before inputting data)

<https://docs.google.com/spreadsheets/d/16K1OQkLD4BjgBdO8ePj6ytf-RpPMIJ6aXFg3PrIQBbQ/edit#gid=519189277>

Many thanks for your patience and understanding during this process of trying to get back to some sense of normalcy for St. Luke’s. As you know it’s been a difficult road trying to navigate so many variables and in some ways it’s been exhausting. But as the late Rep. John Lewis would say, it’s a “good tired.” We are looking forward to advancing our ministry soon!

Respectfully submitted,

Dr. James Ramsey, Director of Music and Arts
Kenneth Fong, Chair of St. Luke’s UMC Trustees