PAMA Performing Arts Medicine Association

Performing Arts GUIDELINES

Guidelines for Singing (Rationale, Recommendations, Resources) during Covid-19 – updated 9-15-20

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based on

[1]Covid-19 Interim Guidance for Choral Organizations (June 2020)by a partnership of National Association of Teachers of Singing,American Choral Directors Association, Chorus America, and Barbershop Harmony Society

[2]American Choral Directors Association's COVID-19 Response Committee Report (June 2020)

[3]University of Colorado-Boulder/University of Maryland Aerosol and Airflow Studies preliminary results (July 13/August 6, 2020)

RATIONALE

"Regardless of the various phased reopening plans that states, provinces, and communities have in place, legal reopening or congregating is not equivalent to safely singing together in the same physical space. It may be a while before it is safe for everyone to sing together. How long and in what ways are still to be determined.
And… even as we return to singing, our audiences may not.
Please use your best judgment and follow all applicable national, provincial, state, and local laws, policies, and procedures when scaling and applying the information in this document to your unique situation. In general, this guidance is a collection of scientific research and other information from various sources."[1]

What We Know

"The physical act of singing creates more aerosolized droplets than any other form of vocalizing. Aerosolized droplets can travel farther and remain in the air longer than droplets created by breathing or speaking. No barrier method or technique can be applied to singing that makes it safer.
According to Dr. Kevin Kavanaugh, in an article for MJH Life Sciences, 'The combination of singing in close quarters and decreased ventilation is nothing short of a petri dish for viral growth.'"[1]

A summary of the scientific reports show that:

- Speaking releases 2–10 times as many particles as a single cough.
- Airborne droplet nuclei generated by singing is 6 times more than that emitted during normal talking.
- A 10-minute conversation, talking in a normal volume would yield an invisible 'cloud' of approximately 6,000 aerosol particles.
- Singing is equal to coughing in the number of particles emitted. Singing, however, is sustained and results in exponentially larger numbers of particles than a single cough.
- Singing outdoors carries a lower risk, but it is not zero.[1]

Research also suggests the production of droplets and aerosols during various vocal mechanism activities in order of danger of spreading infectious particles to others:

1. Lowest risk - Breathing through the nose
2. Breathing through the mouth

3. Whispering
4. Sneezing
5. A single cough
6. Speaking
7. Highest risk – Singing or coughing for 30 seconds.

Singing, to a greater degree than talking, aerosolizes respiratory droplets extraordinarily well. During singing with good breath support, small airways in the lungs close, then reopen during deep inhalation, releasing increased droplets to be emitted during singing. Deep breathing for singing also facilitates airborne droplets entering deep into the lungs, rather than only into the nose and pharynx.

While these initial findings do not seem like the best outlook for singers, more studies are needed to gather data about how the virus spreads.

A summary of scientific, fact-based findings regarding singing at this time indicate the following:

- On the hierarchy of safe activities to return to, group singing is considered among the least safe.
- For a variety of biological reasons, singers are considered "super-spreaders and super-emitters."
- Recent studies show that infected individuals may be most contagious just before they start to show symptoms, often on day 4 or 5, but have been shedding the virus since day 1-2.
- There are no existing barrier methods (masks, personal protective equipment, etc.) that completely eliminate the transmission of aerosols while singing. Multiple layer masks [with a tight fit avoiding air escaping] do reduce the projection of droplets and aerosols by up to 95% when worn consistently over nose and mouth areas.
- Social distancing while singing requires a distance of 6' in all directions; additional distance may be safer.[3]

GUIDELINES

For up-to-date medical information and guidance, please visit the Center for Disease Control and Prevention (CDC) website: www.cdc.gov/coronavirus/2019-ncov/index.html or the World Health Organization (WHO) website: www.who.int/health-topics/coronavirus

Please visit the World Health Organization website for more information:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

The Event Safety Alliance published a Reopening Guide in early May 2020 that contains helpful information that addresses some health and sanitary issues that organizations should consider in order to protect both patrons and performers. Some of that information is summarized in this document.

Preliminary results from the UC-Boulder/UMaryland study can be found at:
July 13 summary and slides -https://www.nfhs.org/media/4029971/preliminary-recommendations-from-international-performing-arts-aerosol-study.pdf and
https://www.nfhs.org/media/4029974/preliminary-testing-report-7-13-20.pdf

August 6 summary and slides - https://www.nfhs.org/articles/second-round-of-performing-arts-aerosol-study-produces-encouraging-preliminary-results/ and https://www.nfhs.org/media/4119369/aerosol-study-prelim-results-round-2-final-updated.pdf

RECOMMENDATIONS

1. Since singing in groups of 2 or more is considered among the “least safe” of safe activities, singing together is not recommended unless precautions, mitigations, and risk assessment/acceptance have been provided and agreed upon by the members of the group. Determine and clearly communicate attendance/ membership requirements. Create written guidelines for safety protocols that all participants must agree to follow.

2. Through the time of quarantine and social distancing, vocal ensembles and choirs can continue to nurture vital connections within their groups in both socially distant and virtual events and can reach out to build relationships with other singing musicians and organizations.

3. Organizations should radically rethink their conventional programming. Consider virtual singing options and plan activities which include safety precautions. Encourage enjoyment of the non-singing benefits of communityand direct energy usually used for singing to other artistic activities associated with performing arts organizations.

4. Conduct a Covid-19 risk assessment for each event or activity involving singing. Develop a health-check protocol to implement as people arrive/leave to avoid people with obvious fever and other symptoms from participating. If someone at an event is identified as symptomatic with Covid-19, separate the person, and notify all participants to leave immediately and to quarantine for an appropriate time. Disinfect the location as soon as it is safe to do so.

5. Create a mitigation plan for the safety and well-being of singers, including such items as a policy for lessons/rehearsals/performances whether virtual and face-to-face, storage of personal items during the session, and safe use of technology/audio-visual equipment, and wearing of masks when indoors. Plan for periodic review of the mitigation plan.

6. Create a cleaning/disinfecting protocol for your studio, rehearsal, performance venue. Provide sanitation products such as hand sanitizer for participants. Prepare a protocol for sanitation of the space before/after a session.

7. Convene an expert team of legal, medical, and insurance experts to advise you and/or your organization on returning to singing in groups, in studios, in rehearsals, and in performances.

8. Evaluate and advocate for air exchange improvement of HVAC systems in spaces. Consider the use of air filtration systems, ventilation devices, and Ultra-violet (UV) lighting to reduce the transmission of infectious disease particles-aerosols/droplets in the air and increase airflow exchange rates. Reconditioned air is NOT acceptable and will spread contagion.

9. Promote social distancing. Since singers are super-emitters, increase the recommended social distancing of singers to at least 6’ apart, more if possible, to ensure that staff, singers, conductors, and audience members are lessening their risk. This may necessitate reducing the total number of singers meeting in a space and/or alternating singers/ensembles among several spaces, creating a rotation over several sessions to allow each participant the total experience.

10. Take steps to eliminate sharing of rehearsal music, materials, food, supplies, and other items. Provide for equitable access to computer and technology equipment for all participants. Singers should bring their own water bottles to rehearsals.

11. Consider shortening the time period of the session to reduce potential exposure time to the virus, based on the CDC Guidelines and the size of the room (Length X Width X Height). Consider moving events or rehearsals to larger indoor spaces or outdoors for increased airflow.

12. Develop strategies to support the mental, emotional, and spiritual well-being of singers and audiences who are grieving the loss for a time of artistic expression that feeds the soul and uplifts the community.

RESOURCES

Scientific, fact-based resources to support our suggested guidelines. These will be labeled by the "level of evidence" as follows:

LEVELS OF RISK

- A: Blue: no known increased risk over normal daily activities
- **B: Yellow**: probable increase in risk over normal daily activities
- C: Red: real world evidence of spread of disease associated with this activity

LEVELS OF EVIDENCE

- Level 1: strong real-world research showing benefit of the recommendation for musicians
- Level 2: laboratory research showing benefit of the recommendation for musicians
- Level 3: expert opinion based on current public health advice and medical expertise

"HIERARCHY OF CONTROLS" CHART FOR SINGING

	Level of Risk
1. Elimination – Physically remove the hazard	
• Eliminate sharing of printed music, materials, supplies, food	**Risk C, Evidence 3**
2. Substitution – Replace the hazard	
• Divide large group into small groups / ensembles (depends on the size of the space)	**RiskC, Evidence 2**
• Replace longer sessions with shorter sessions	**Risk B, Evidence 2**
3. Engineering Controls: Isolate people from the hazard	
• Increasing air exchange rate in the space improves airflow circulation	**Risk B, Evidence 2**
• Use of Safe U/V lighting kills some virus particles	**Risk B, Evidence 1**
• Use of Air filtration devices removes disease particles	**Risk B, Evidence 2**
• Use of Fans improves circulation of airflow	**RiskB, Evidence 2**
4. Administrative Controls: Change the way people work	
• Singing with Social Distancing over 6' outdoors	**RiskA, Evidence 2**
• Singing with Social Distancing of 6' outdoors	**Risk B, Evidence 2**
• Singing with Social Distancing over 6' indoors	**Risk B, Evidence 2**
• Singing with Social Distancing of 6'or less indoors	**RiskC, Evidence 2**
• Sharing of music, materials, supplies, food	**RiskC, Evidence 2**
• Conduct a Covid-19 risk assessment prior to a singing session	**RiskB, Evidence 3**

- Create a cleaning/disinfectant protocol for the space **Risk B, Evidence 1**

5. PPE: Protect the worker

- Wearing a mask/face covering **Risk B, Evidence 2**