

February 12, 2021

The Province of Ontario and Ottawa Public Health have given the NAC the green light. We'll be back in Southam Hall soon.

Along with our relief to return to work comes a heightened concern about safety. Some of you have been asking whether our existing protocols from the Fall are sufficient in light of the concerns about new Covid-19 variants.

While physical distancing on stage and the efficiency of air replacement on stage remain satisfactory practices, we believe it's important to tighten up our masking.

Let's do a quick review:

Masking was originally recommended as a socially responsible action designed to limit spread of virus from the wearer to others nearby. Covid-19 transmission concerns were originally focused on contamination of hands and surfaces. As 2020 progressed, evidence of airborne transmission grew, and by the Fall we were understanding that aerosolized small particles were becoming a primary concern. The NACO return to work protocols in September anticipated all this.

Evidence of the importance of masking for protecting the wearer increases each month. The reality of mixed winds/brass/strings on our stage demands we further refine strategies for individual protection. The following is a quick review of what we can do to protect ourselves.

The Three F's – Filtration – Facial Coverage - Fit

- Effective filtration of aerosolized particles is important, but in practice it may be the least important of the three. Non-woven fabrics, melt-blown polypropylene, filter inserts, number of layers – you're all familiar with these.
- Facial coverage reflects the dimensions and shape of a mask. We have shoe sizes to fit everyone, but masks tend to be one-size fits all. Our orchestra is represented by wide variety of chins, cheeks, noses and facial hair. Too often, we are wearing masks ill-suited for our individual needs.
- Fit may be the most important word. It's all about leakage at the bridge of the nose, cheeks and under the chins. Impressive filtering by the mask fabric is rendered useless if the mask is allowing air to flow in and out at these points.

Materials:

- Two ply cloth masks are no longer sufficient. Health Canada says so. The most recent recommendation from the CDC says so. **Three ply minimums are now mandated.**
- Cloth masks need to include one layer of non-woven filtration. Many of you will have cloth masks with pockets for 2.5PM filters. There are cheap hacks available. You've heard of them all – coffee filters, vacuum filters, blue shop towels. These all work and can be cut to size. Cloth masks are washable and comfortable.
- Surgical masks/procedural masks. These are the throwaways, usually blue but available in black for fashion conscious performers. The NAC will continue to provide these on a daily basis for all musicians. Procedural masks come with three different ratings. Level 2 and 3 have similar filtration, but Level 3 have better moisture repelling on the outer surface. These masks have very good filtration for a critical range of airborne particles. The problem is fit. More below.
- The big guns – respirator masks - N95s and their clones. The advice given last summer, and the advice given now remain: N95s are recommended for medical settings and they remain in short supply, despite everything. It's legal to wear them and they are your best protection. But any medical professional will tell you that they are required to be worn tightly and they're not fun to wear for a 12-hour shift. They can be re-used a few times and there are hacks for sterilizing in a microwave that won't degrade the material. KN95s are made and regulated in the People's Republic of China. They are not certified by US or Canadian authorities, but some of them have been granted emergency use status. Numerous recent testing of the filtration of KN95s indicate a similar efficacy as N95s, but they are not tested for fit. KP94 masks are the Korean version. They have good filtration values but are slightly more resistant to respiration. Finally, we have a Canadian made version, the CN95 available from Dent-X and made in Vaughan, Ontario. All of the respirators can be purchased, though you will hear warnings about sub-standard manufacturers. Purchasing from a medical or dental supplier online probably gives you a better guarantee of quality.

Fit:

- Great materials don't equate to great masks. They have to fit or all that technology is compromised. And they have to be breathable.
- The problem that you will all find when you increase filtration via added layers - or more sophisticated materials – there is more effort required for natural respiration. What happens is that the slightly greater resistance to airflow looks for shortcuts. That's why tighter mask fitting tends to fog up our glasses. Well, at least that nose bridge leak is easy to spot. The leaks by the cheeks or under the chin are more elusive but equally problematic.
- Disposable procedural masks are very good at filtering, but they leak at the nose even with an imbedded wire and they leak like crazy at the cheeks. Most nurses are using a

simple hack to add a knot in the ear loops right next to the fabric that tightens the fit on your cheeks. [How to Improve Your Surgical Mask Fit-- Covid-19 - YouTube](#)

- Respirators like N95s, KN95s, KP94s and CN95s have varying amounts of structure that help to hold the mask properly to your face. There are differences among these as to the amount of breathable space in front of your nose and your mouth. While some of these masks have significant convex protrusions that may remind you of Middle Age physicians, the design is actually useful: it spreads out the available surface area for both inhalation and exhalation.

Double masking:

- Combining the filtration of Level 2 or Level 3 procedural masks with the fitting advantages of a cloth mask is simple and effective. The procedural masks are held close to your face by the additional pressure and shape of a cloth mask over top. Adding an adhesive wire to your cloth mask helps to mitigate the nose bridge leakage.
- Daily tactic: use a fresh disposable mask every day [or every orchestra service] and place your washable cloth mask over the top. Disposables are cheap, and the NAC is willing to supply them to you.

Winds and brass:

- We are reviewing the masking protocols with your wind and brass colleagues separately. This will include separate recommendations for offstage and onstage masking for those musicians.
- String players should focus on how the improved masking suggested above will provide you more reassurance when presented with wind/brass players on stage with you.

The bottom line:

- Take a hard look at what you're using on a daily basis.
- Test the options suggested above. Hold the mask tight to your nose and cheeks and evaluate the resistance to breathing. Be prepared to sacrifice comfort for personal safety.
- Use 3 layers with a filtering component as a minimum
- Try doubling up as we suggest
- If it's your preference to use an *N95, ensure it has a good fit. We can give you sources for Kn95s in black, but the orchestra will allow white masks in this case.
- Ask us about plastic head adapters to make ear loops more comfortable and more secure.

Daily evaluations will now include a visual inspection of your mask along with temperature checks and online questionnaires.

Finally, please be aware that there have been some upgrades in the HVAC filters throughout the NAC in the last few weeks. As these are slightly more effective, they are also a bit less efficient. Pasquale will be working with engineering to make sure that in the effort to maintain 20% humidity and comfortable temperature, efficiency of air exchange is not compromised. In the next several weeks he will be evaluating these factors. We will be seeking input from all of you about drafts, dryness and temperature.

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