

## From Cambridgeshire Music, Cambridgeshire County Council

### Analysis of available research in relation to instrumental and singing activities.

Our thanks to Gary Griffiths from the national team at Music Mark for putting this information together.

#### Social distancing

The research that exists is very limited and has mainly been done with university level students and professionals. The throughput of air by school students, whether singers or wind/brass players, can be expected to be less than the research data for adults.

Measurements of air turbulence by the Freiburg Inst for Musicians' Medicine suggest that air is not disturbed at the following distances:

Instrument family	Distance	Notes
Woodwind (except Saxophones)	1.5 m	<ul style="list-style-type: none"><li>• Flutes: - air movement can be detected below 80cm from the far end of the flute.</li><li>• Low velocity air is expelled through fingerholes for most instruments therefore handwashing after playing is necessary.</li><li>• Air from the bottom of instruments is directed towards the feet relatively safely, bassoons of course may be vented upwards</li></ul>
Woodwind - Saxophones	2m	Low velocity air is expelled through fingerholes for most instruments therefore handwashing after playing is necessary.  Air from the bottom of instruments is directed towards the feet relatively safely  Water droplets are directed straight out or even upwards (see below)
Brass	2m	Water droplets are directed straight out or even upwards (see below)
Voice	2m	Water droplets are directed straight out or even upwards (see below)

#### Water risks from instruments

- Condensate vented from water keys is a risk for people with compromised immune systems (irrespective of SARS-CoV-2). It should not be vented onto the floor, so newspaper or paper towels should be provided and cleared up by each player.
- Water from most large instruments contains relatively few oral bacteria but most contain *Alcaligenes faecalis*, which has also been cultured from one clarinet studied.
- Singing is also a risk because of the same bioaerosols blown through wind instruments but can be managed with care in relation to the number of pupils and size of rooms.

### Risk Mitigation options

- It is recommended not to share wind instruments, this is the safest line.
- The Pbone manufacturers are offering free mouthpieces so that everyone can have their own but that does not provide complete protection.
- Reeds must never again be shared.
- Instruments should be swabbed dry after playing to minimise microbe (and fungus and yeast) growth.
- Singing distancing should be managed by size of group appropriate for size of room or in the open air if possible. As long as children are a reasonable distance apart, they will be reasonably safe outside although risks cannot be removed entirely.
- Anyone leading groups of any kind should be 3-5m from the front row and may even want to consider a Perspex barrier if they think they may need it.
- Contact contamination will be an issue with non-blown instruments e.g. strings, guitars, piano, percussion, so touching/playing surfaces should be cleaned with alcoholic wipes and/or something like Sterisol.
- Freiburg Music Department are mandating ventilating rehearsal rooms for 10mn of every hour, with occupants either leaving or masked.

### Summary

- Nothing eliminates the risk entirely.
- Children in schools mostly participate in music for relatively brief periods. They will be in rooms with other people for hours every day.
- Speaking and even breathing emit the same bioaerosols as singing, albeit in smaller quantities.
- Over time, just being at school will expose them to quite enough viral RNA (if it is carried by one asymptomatic person) to infect them.
- There is a staff well-being issue here: children will take part in activity for relatively brief periods but tutors will face multiple children for much longer totals of time and will probably then take any infection to other schools.

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