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2021 Infection Prevention & Control for General Practice

February 2021 e – newsletter # 1 – Airborne transmission and aerosols - using increased knowledge to reduce risk

What is clear from recent research is that when you are close to someone (within 1 – 3metres) you would be inhaling both their **droplets and aerosols** as they speak. If you are further out and the person is laughing, shouting or singing then you can see that all these particles are pushed further out with the force of coughing etc, increasing risk. What can determine risk is time and distance and ventilation as well as the viral load being shed by the infected person and whether mask are worn. Don't get too tangled up with droplet and airborne transmission – COVID-19 is transmitted by both but the biggest risk is

- **time spent in the same indoor space as an infected person. Sounding like General Practice?**

Ventilation i.e. air changes per hour, humidity and activities that push particles further out in large numbers are also major factors. Note that PPE is only one means of risk reduction and is not 100%. In fact the more PPE that is worn including P2/N95 respirator masks, the higher the risk of it being used incorrectly and posing its own risks to you by self -infection if not used correctly and to others. It's preferable to not have to rely on these in General Practice.

Great Example of risk factor involving time and distance in healthcare.
During the last SARS outbreak in 2003, it was shown that nurses who performed urinary catheter changes with SARS pts were more frequently infected than doctors who performed much quicker respiratory procedures on the same patient (all other things being equal). The conclusion is not that urine transmits SARS but the time spent on urinary catheters was much longer than in most other procedures which drove up the risk.
Ref - https://first10em.com/aerosols-droplets-and-airborne-spread/

For me to visualise increased transmission, I see a huge cloud coming from a person' s cough or speech and I see that it dissipates quickly if I am outside or where there are open windows / doors. If there are too many people inside a space where there is little ventilation and who stay close for a few mintues even just talking, I see a cloud of particles that is not moving and opportunity for much increased transmission risk compared to the first scenario.

Having patients in a waiting room during a pandemic where cases are present (even if quarantined) is still a risk that requires mitigation. Further, with new strains possibly having a shorter incubation period, your infected sick person may not yet know they are a close contact of a case and may attend their GP in this period.

To translate some of the updated information to General Practice I would recommend

- avoid using the waiting room even if patients are 1.5 metres apart and wearing masks. We can do a lot better - the weakness here is increased time spent in a closed space with poor ventilation i.e all 3 major risk drivers present.
- see pts outside or on telehealth and if they must come in, it's only when the nurse/GP is ready and only for the shortest time with masks until the pandemic is over or we are immune. Some practices now only use the treatment room to see pts and for privacy chat to the patient outside on their way back to their car. If the treatment room has an external door with security screen, even better, leave the door open to increase air exchanges.

We are all potentially one rideshare or one party or one bar away from infection for as long as we are not immune or there is no more infection. I'd be keeping my mask on at reception and when seeing patients and I'd be reducing risk by doing as much outside or near an open window or door. I'm actually more interested in reducing risk to myself and others rather than waiting for the contact tracers to tap me on the shoulder to say I'm a close contact and its time to close the clinic and quarantine myself and my family for 14 days and get serial testing done.

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