Twitter Thread by Stephen Connolly V■

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@connolly_s

If you are wearing a mask you should replace your mask with a clean one after every cough into it. Should you wear a mask is a different question. Masks saturate with water sufficiently to create microdroplets long before they feel wet or damp, perhaps within 5 min.

@tbroyer Now what happens next depends on different factors:
if you are not infected, any viral droplets that your mask catches will now be turned into microdroplets that you are repeatedly inhaling... increasing your risk of infection... but droplets evaporate fast

@tbroyer It's typically sub-millisecond in dry (ie indoor) air to get down to ~100nm (ie basically just one virus and a mono layer of water) which your mask will likely not catch anyway... so the mask does not protect you

@tbroyer Now the counter case, if you are infected:
1. If symptomatic, STOP! stay home and isolate.
2. If pre-symptomatic/ asymptomatic the question is are you breathing out the virus with your normal breathing. If no => masks useless. If yes... we'll the studies are not done

@tbroyer Stuff like the JAMA meta analysis and the Chinese Wuhan study says it's unlikely that you are spreading the virus, suggesting masks are useless. On the counter, if you wear cloth mask for more than ~5-10min you are now spreading the virus more, mask would be worse

@tbroyer If you wear N95 mask, that has many layer, so you get longer before saturation sufficient... maybe 1-2h before it would start being a microdroplets producer. Plus you'd need to know if the virus binds to the filter material preferentially (which would help prevent spread)

@tbroyer I wish I had access to the equipment we had in my lab when I was doing my PhD and I could do some experiments to determine... but the analytic equations and basic modelling I have done all says masks are at best useless for COVID and at worse promote infection!

@tbroyer But I don't trust modelling as there's too many variables that can lure you into a false fit (like what I suspect happened to the Fergusson models)

@tbroyer Oh but before I forget. Masks do have one really great use: they are an awesome psychological safety behaviour. They make people feel like they are doing *something*. If you're facing a virus that has gone endemic there's very little you can actually do, hence mask mandates

@tbroyer That they have a naïve explanation as to how they can help only makes them better. That you can then have people fighting themselves over compliance takes the focus off politicians and puts it on the plebiscite... bonus.

@tbroyer But it's personal choice. My recommendation:
• if coughing or sneezing, stay home, isolate
• suddenly lack of smell, headaches, etc, stay home, isolate
• check your temperature before going out, do not go out if over 37.5C
• comply with local laws on face coverings.

@tbroyer If local laws permit use of a face shield in place of a mask, I will personally use the face shield as all the data I have evaluated suggests less risk to all with the shield. However it is your choice. If wearing a simple cloth mask, change every 5min. 3 layer cloth => ~15min

@tbroyer Do not reuse masks without washing. (The need for regular changing is why I see cloth masks as worse than a face shield). If wearing N95 mask change every 1-2h depending on humidity, also monitor blood oxygen if you have fitted it correctly with a good seal

@tbroyer @threadreaderapp unroll