Twitter Thread by Robin Monotti FRSA■

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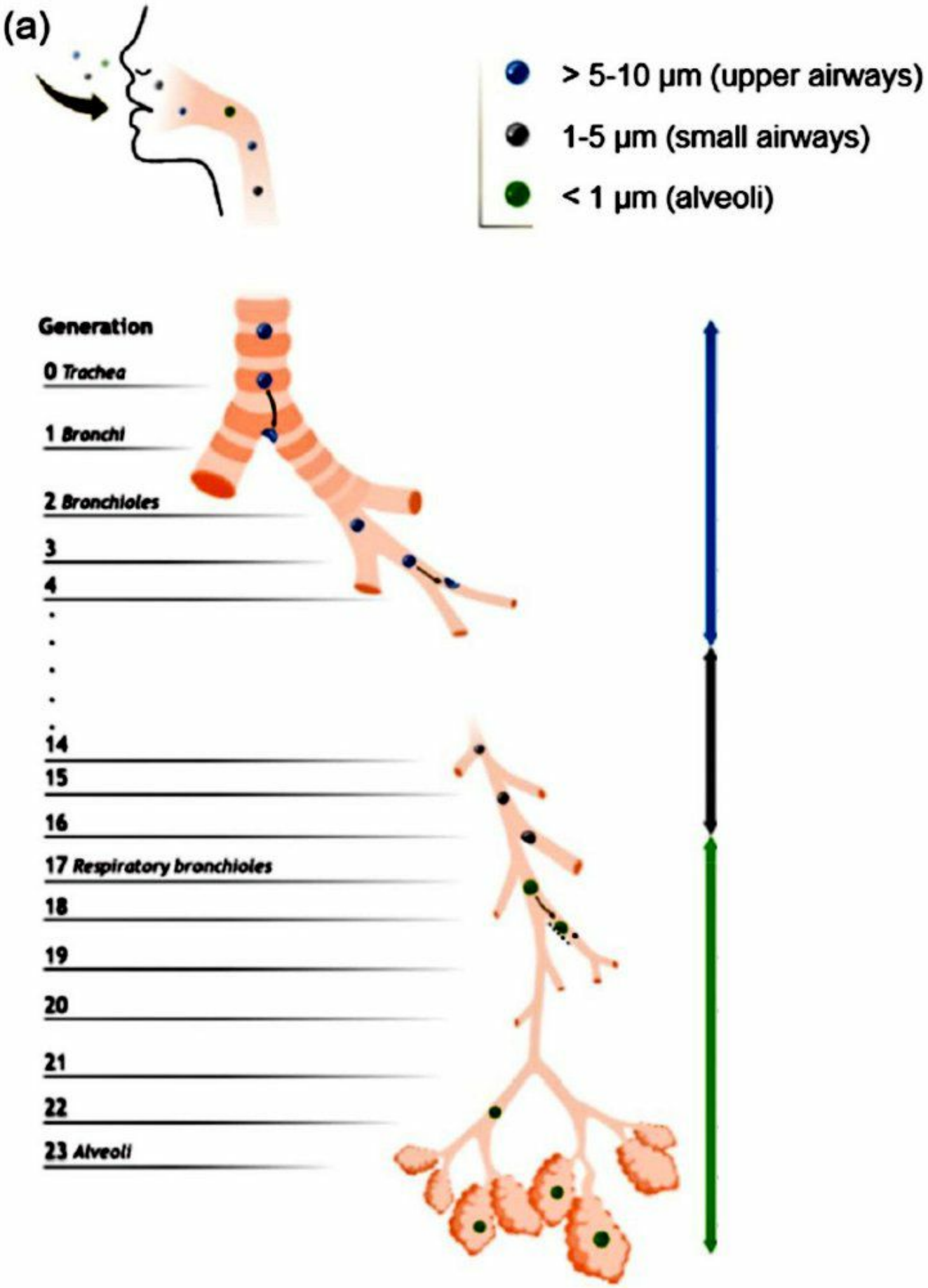
Let's talk about MASKS!

Thread 1: https://t.co/5WN9StpFZT

> If you study the field you will see viral nebulization is a technique used to get higher infectivity of viruses. This is used with ventilator patients suffering from pseudomonas aeruginosa infections. Nebulize bacteriaphage to get deep into the lungs and kill bacteria. pic.twitter.com/82lNRMrXl4
>
> — Kevin McKernan \U0001f642 (@Kevin_McKernan) October 24, 2020

Masks increase mortality because breathing through them nebulizes aerosols into smaller ones which bypass mucosal immunity & reach all the way into the alveoli, leading to acute respiratory distress syndrome (ARDS).



"Aerosols..within the most breathable size range between 0.5 & 5 µm, can carry SARS-CoV-2 deep to the terminal alveoli..if this transmission pathway does exist, it would bypass the mucociliary clearance & incubation period of the virus in the upper airways

https://t.co/vjcinmtiHT

The filtration material itself of N95's average pore size ~0.3–0.5 μm does not block finer aerosol laden with virions penetration, not to mention surgical masks.

THE NOSE: "Particles larger than 3μm have a maximum deposition in the anterior part of the nose (nasal valve). Particles smaller than 3μm & larger than 0.5μm are filtered by the nasal mucosa and transported by cilia propulsion to the nasopharynx."

THE N95 MASK: The filtration material itself of N95's average pore size ~0.3–0.5 μm [larger average pore size is just like the human NOSE] does not block finer aerosol laden with virions penetration, not to mention surgical masks. For example, see Balazy et al. (2006).

THE NOSE is as good a filter as an N95 mask given the many pores which are equal in size to the filtration capacity of the nose of 0.5μm. HOWEVER breathing mouth to mask NEBULIZES aerosols making them more infectious to other people's lung alveoli.
https://t.co/oIf7N6f9Yz

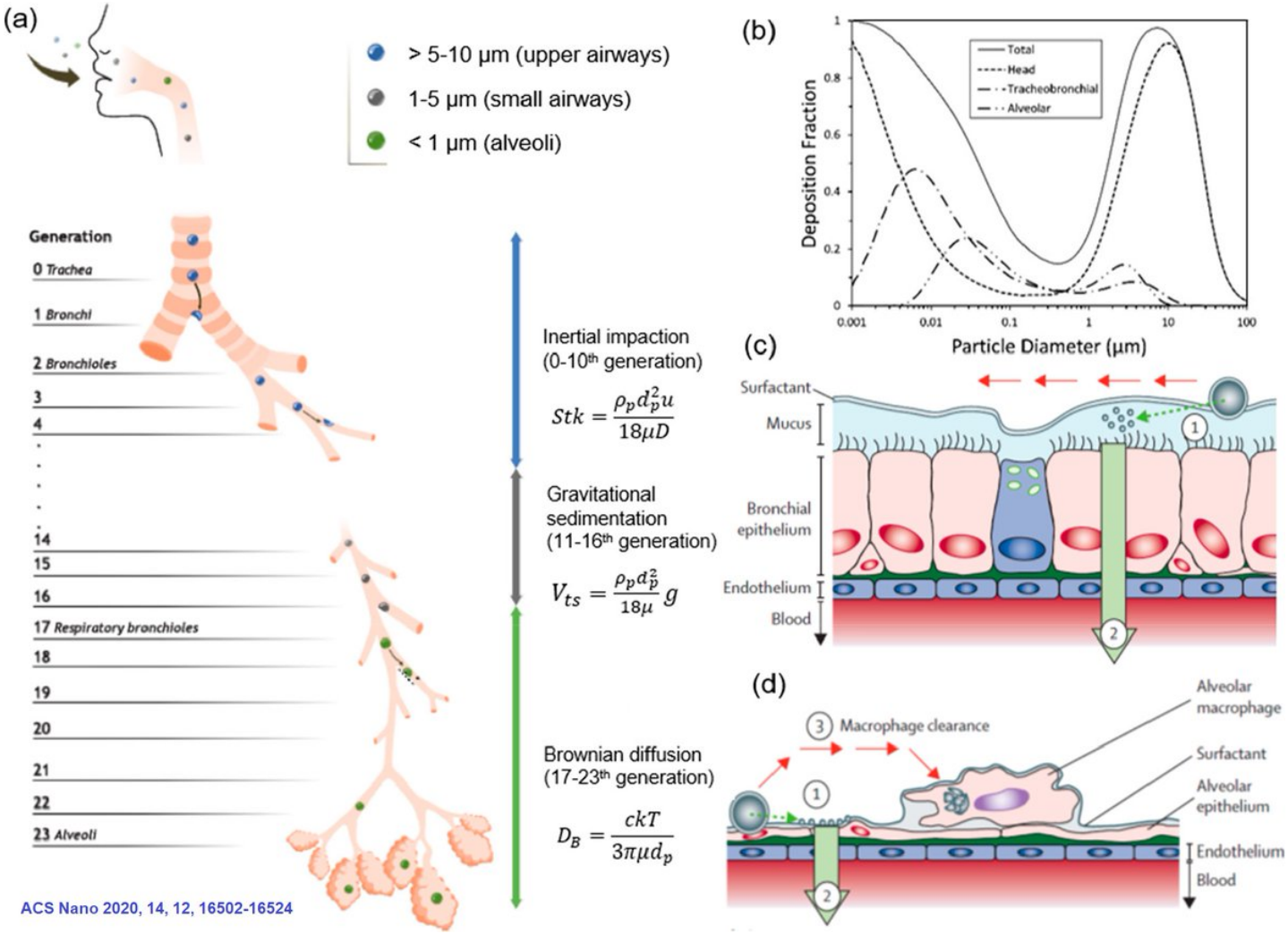
There are in fact products that nebulize in order to get smaller aerosols into the lungs: https://t.co/JDGcoNJjZN

> In fact products exist on the marketplace to nebulize medicines because aerosols get deeper into the lungs than large droplets. https://t.co/pB2PPl2DIa
>
> — Kevin McKernan \U0001f642 (@Kevin_McKernan) October 24, 2020

How masks nebulize: https://t.co/vccxMx3AQr

> Do our masks stop large droplets or do they nebulize them into Aerosols? From my emulsion days, best way to get a monodispersed emulsion is to force H20 through a pore sized membrane that has a different phase (oil or air) on the other side of it. https://t.co/Y9UCmWZ7uT pic.twitter.com/bGZBxI6lUT
>
> — Kevin McKernan \U0001f642 (@Kevin_McKernan) October 24, 2020

Masks may increase mortality because breathing through them can nebulize aerosols into smaller ones which bypass mucosal immunity & reach all the way into the alveoli, leading to acute respiratory distress syndrome (ARDS)
https://t.co/vjcinmtiHT



ARDS is a Covod19 mortality route https://t.co/GuE9QAeqDF

> How does CoronaVirus kills?
>
> Its "Acute Respiratory Distress Syndrome "(ARDS or wet lungs),
> The condition in which fluid collects in the Alveoli(air sacs) of the lungs , depriving organs of oxygen.
>
> ARDS patients have shortness of breath and they need support from a ventilator. pic.twitter.com/tkCm3T6bvS
>
> — Dr Umar Haider (@ShayarHaider) March 22, 2020

Thread 2: https://t.co/sMFPnrlON3

> 1/\U0001f4ccNIH Study: COVID-19 severity could depend on route of infection: Infection through inhaling #Airborne virus could lead to more severe disease than infection from fomites (contact w/ contaminated objects.) To test it, hamsters were infected via the different routes. 1/7\U0001f9f5 pic.twitter.com/9lX7sMrKUG
>
> — Dr. Ali Nouri (@AliNouriPhD) December 29, 2020

Conclusion: you want to keep the aerosols as BIG as possible. Masks nebulize them as they squeeze them through a filter. Best public health option is no masks & breathe through nose https://t.co/xXRUnRAR1l

5/In contrast to other mode of transmission where virus hits nasal cavity and finds its way into lungs, aerosols can directly reach alveolar region and attack alveolar cells that produce Pulmonary Surfactant. PS is needed to lower surface tension & prevent alveoli collapse. 5/7 pic.twitter.com/PrYSZJNJgh

— Dr. Ali Nouri (@AliNouriPhD) December 29, 2020