

Measures to prevent ① Aerosol Infection* + ② Droplet Infection** are necessary

* **Aerosol Infection**: infection caused by breathing in floating aerosol

** **Droplet Infection**: infection caused by droplets with virus attaching to bare mucous membrane , such as mouths, noses, and eyes

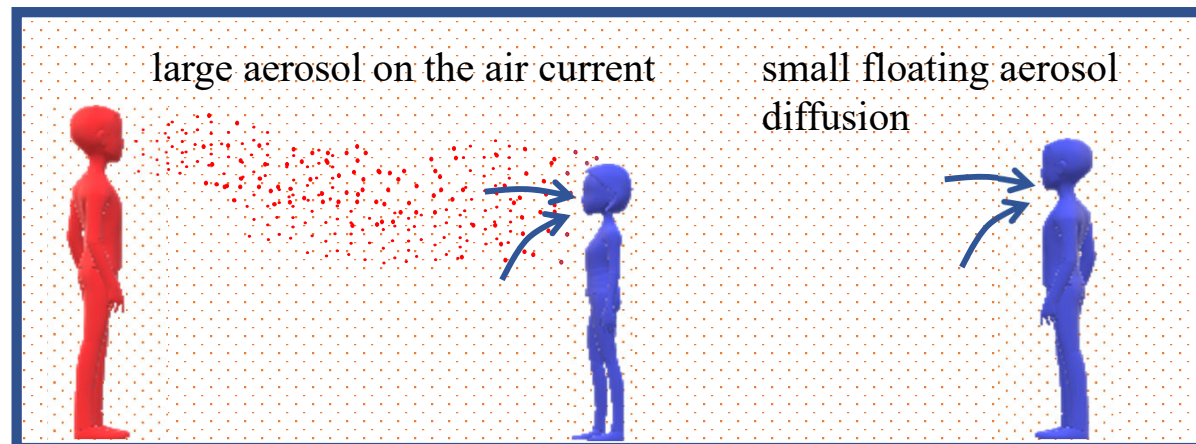
① Measures to prevent Aerosol Infection

Taking the following measures (A and B) is desirable because the relationship between infectivity and the particle size of aerosol has not been clear.

A. Measures to prevent infection caused by large aerosol on air current: to keep enough physical distance from another person and to prevent the steady air current in a lateral direction using the swing mode of electric fans or air-conditioners, etc.

B. Measures to prevent infection caused by small floating aerosol diffusion in a room: to secure the recommended ventilation rate (30m³ per hour per person or more and lower than 1000 ppm CO₂ concentration)

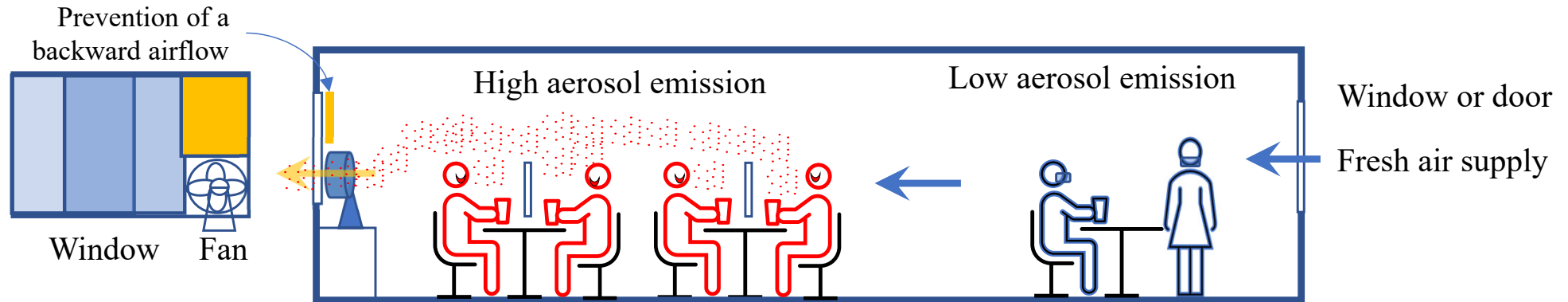
② Measures to prevent droplet infection: to wear facial masks and to set partitions to prevent the direct exposure of droplets especially when high emission of droplets is expected



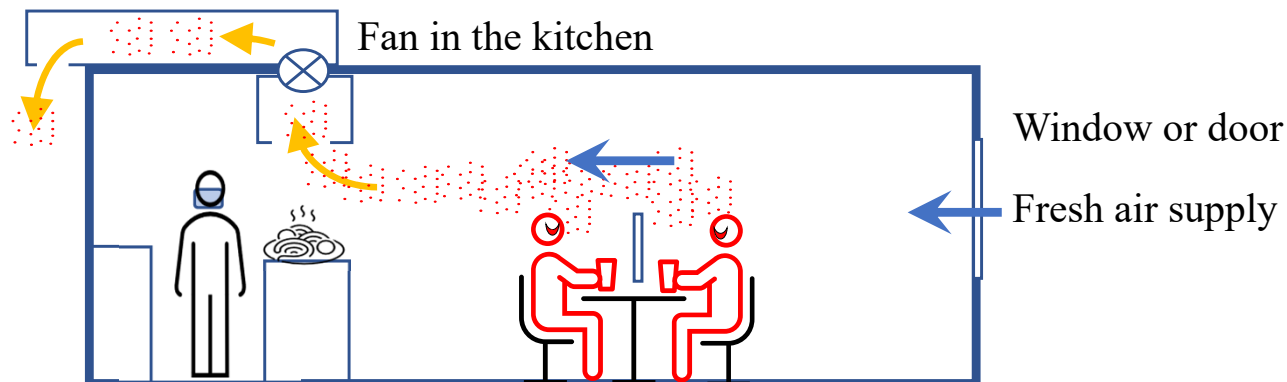
The possible movement and transmission of aerosol in indoor environment

Air current which prevents aerosol infection

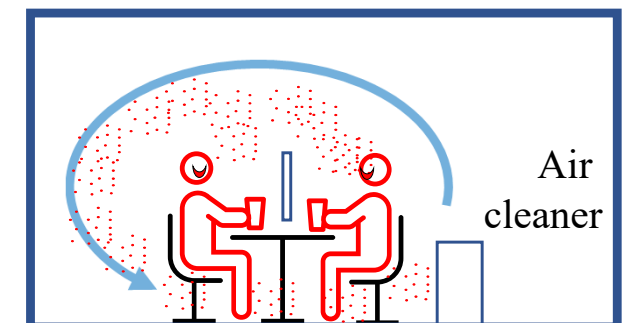
In case of a room with two windows on each opposite side, exhaust air from the window of the area with high aerosol emission using electric fans and take fresh air in from the window on the opposite side.



In case of a room with a ventilation fan, exhaust air with the fan and take fresh air in from the window on the opposite side.



In case of a room without any fans or windows, collect aerosol with an air cleaner.



The points of Ventilation Measures

i. Securing enough aerosol-reduction performance of ventilation facilities

- The ventilation rates and CO₂ concentrations of ventilation facilities in many buildings meet today's standard
- Opening windows are recommended if the performance of ventilation facilities is not enough.

ii. How to deal with actions in which aerosol emission is high

- If an action is expected to cause high aerosol emission, for example oral care or hard exercise, both measures A and B should be taken into much consideration.

A : measures to prevent infection caused by large aerosol on the air current)

B : measures to prevent infection caused by small floating aerosol diffusion in a room

iii. Consideration to side effects of the increase of ventilation rates by opening windows

- Coldness in winter (heat shock etc.) and hotness (heatstroke etc.) and high humidity (fungi or bacteria etc. caused by condensation) in summer should be taken into consideration.
- In summer, to avoid heatstroke, rooms should be both air-conditioned and ventilated while monitoring indoor temperature using a thermometer set in a room.
- If window opening is difficult, CO₂ concentrations should be monitored, the number of people in a room should be controlled for the purpose of enough physical distance from another person and the reduction of the possibility of infected persons in a room, and air cleaners should be used.

The way of setting partitions which does not block off ventilation in rooms :

Securing an air supply port and an exhaust port, and setting partitions in consideration of air current

Consideration points in case of tall partitions (curtains hung from the ceiling, partitions taller than a seated person's eyes)

- ① Tall partitions should be set in the parallel direction to air current.
- ② CO₂ concentration should be measured in a place surrounded by tall partitions or walls. If the concentration is high, using air cleaners or fans (electric fans, circulators, air-conditioners) are recommended.
- ③ Fans should be used in a swing mode for the purpose of infection control on the lee side.
- ④ A lot of air moves through opening space between tall partitions, so people should not be seated on the lee side.

Consideration points in case of low partitions (partitions lower than a seated person's eyes)

If the distance between seats is more than one meter, partitions should not surround a seat so as not to block air current around the seat.

