



Infection Prevention

SARS-CoV2 infection and the pulmonary CoVid-19 diseases

- SARS-CoV-2
- Infection Transmission
- Basic Hygiene Rules
- Procedures
- Disinfection



SARS-CoV2

Infects the respiratory tract

- Long incubation period: 1-14 (or more) days.
- Easy transmission.
- Variable clinical presentation:
 - No symptoms
 - Dry cough, sore throat
 - Sneezing, loss of olfactory sense
 - Abdominal pain, diarrhea
 - Severe lung disease (CoViD-19)
 - Death
- Possible long term and severe changes in lung function and physiology.

The tenacity of the virus in water is not known.

- *In chlorine water, the virus is deactivated rapidly.*
- *In salt water, the infectivity of the virus may not last very long.*
- *In fresh water, the infectivity seems to last longer.*



INFECTION TRANSMISSION of SARS-CoV-2

Way of transmission

Prevention

High infection probability

Contact

- Direct, e.g., hand to hand
- Indirect via contagious items e.g., regulator

- Avoid contact or sharing of items (direct and indirect)
- Hand hygiene

Respiratory droplets by coughing

- Droplets bigger than $5\mu\text{m}$
- Sedimentation distance approx. 1-1.5 m/3-5 ft

- Keep recommended distance – 2 m/7 ft
- Wear a facemask
- Cough/sneeze etiquette

Low infection probability

Aerosols mainly produced during medical procedures, i.e. CPR, intubation

- Droplets smaller than $5\mu\text{m}$
- Long lasting in air, but prone to environmental degradation, i.e. UV light



BASIC HYGIENE RULES ON LAND

- Keep recommended distance, at least 2 m/7 ft, and wear facemasks.
- Avoid direct contact, without permission.
- Avoid indirect contact, without permission.
- Avoid hand-to-face contact.
- Wash hands after contact, before eating, after hand-to-face contact, and after the use of tissues.
- Observe coughing or sneezing etiquette: turn around, use tissue or cover face with your arm, cough or sneeze into inner bent elbow, and only use single-use tissues.



BASIC HYGIENE RULES IN OR AROUND WATER

- Do not spit in your mask – use anti-fog.
- Do not sneeze or spit in the water.
- Keep your mask on and your regulator in your mouth at the surface until back on land or the boat.
- Only remove your regulator when necessary for speaking or if the distance to other persons is at least 2 m/7 ft.



PROCEDURES

- Only students without any signs of infection are allowed to take part in the class.
- All procedures are adapted to minimize the infection risk.
- Instructors will keep an eye on infection prevention.
- Please follow the basic hygiene rules on land and in the water.



DISINFECTION OF GEAR

- Viruses need living cells to reproduce. They do not grow on non-cellular surfaces, but may stay infective for a while.
- Respiratory secretions need to be removed before another person uses the gear. This is done by rinsing and disinfecting the gear.
- Disinfectants need to be non-toxic and suitable for the item and surface. Remains of the disinfectant must be removed by rinsing in freshwater.



POSSIBLE LONG TERM EFFECTS (UNKNOWN DURATION)

- Long lasting ventilation – perfusion mismatch of the lungs, leading to reduced fitness.
- Long lasting shunts, which may facilitate DCI.
- Hyperresponsiveness of the bronchial system (like asthma).
- Lung areas with inadequate ventilation (prone to barotrauma).
- Higher susceptibility to pulmonary oxygen toxicity.



DIVING WITH CORONAVIRUS INFECTION – POSSIBLE EFFECTS

- Infecting teammates, instructor, and/or dive center staff.
- Aggravation of own infection.
- Unknown risks due to compromised lungs.
- Higher susceptibility to pulmonary oxygen toxicity.

