

**Sport Ireland Institute, Olympic Federation of Ireland & Paralympics Ireland**

**CORONAVIRUS (COVID-19)**

**UPDATE No. 10**

7<sup>th</sup> April, 2020

- Face mask advice
- COVID-19 and surfaces
- COVID-19 clinical update
- Return to training after COVID infection

**Face Mask Advice**

Due to increasing media coverage on the use of face masks, and different countries policies, it was deemed necessary to further review this topic. This had previously been addressed in the 2<sup>nd</sup> update (6<sup>th</sup> February) and 3<sup>rd</sup> update (25<sup>th</sup> February).

Should we reconsider whether to use a mask?

At Sport Ireland Institute we continue to follow Irish Government and WHO policy on use of face masks.

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>

A person infected with coronavirus – even one with no symptoms – may emit aerosols when they talk or breathe. Aerosols are infectious viral particles that can float or drift around in the air. Another person can breathe in these aerosols and become infected with the virus. A mask can help prevent that spread. An article published in NEJM in March reported that aerosolized coronavirus could remain in the air for up to three hours.

There are essentially two types of masks

Type 1: Masks that may reduce **risk of you passing the virus to others** whether you are in a symptomatic stage or asymptomatic

Type 2: Masks that reduce the **risk of you getting the virus** from an infected person. These are called Respirators

**Type 1:**

Masks that may reduce risk of you passing the virus to others whether you are in a symptomatic stage or asymptomatic

- a. Homemade face mask

- These do not prevent you getting COVID-19. Although some countries are advising these, some of the risks of this position are outlined below. The potential benefit of these is an unlimited supply as made from everyday home materials.



- They may lower the risk of people without symptoms transmitting the virus through speaking, coughing, or sneezing

b. Surgical Mask (i.e. bought in a chemist)

Surgical masks can't protect against infection with SARS-CoV-2. Not only does the mask not filter out smaller aerosol particles, but air leakage also occurs through the sides of the mask as you inhale.



Again they may pose some benefit in preventing transmission of a virus from the wearer to other people, and could be considered in an environment where social distancing is not possible to practice

**Type 2:**

Masks that reduce the risk of you getting the virus from an infected person. These are called Respirators. There are generally 2 types of these

**N95 (FFP2)**

- An N95 respirator is a more tight-fitting face mask. In addition to splashes, sprays, and large droplets, this respirator can also filter out 95 percent of very small particles. This includes viruses and bacteria.
- N95 respirators aren't one-size-fits-all. They actually must be fit-tested before use to make sure that a proper seal is formed. If the mask doesn't seal effectively to your face, you won't receive the appropriate protection.



**FFP3 mask.** These generally have a valve

There are not enough respirators globally for healthcare workers and so these masks, which are often one use only, are reserved for medical professionals looking after ill patients who have COVID-19.

Again respirators should be fit-tested in order to be used appropriately. A poor seal can lead to leakage, lowering the respirator's effectiveness.

Due to their tight fit, N95 respirators can become uncomfortable and stuffy, making them difficult to wear for extended periods of time.



So, the only option for non-healthcare workers is Type 1. At the current time we are advising against their use because:

- They may provide a false sense of security. While homemade face masks offer some degree of protection, they offer a lot less protection than surgical masks or respirators.
- They don't replace or reduce the need for other protective measures. Proper hygiene practices and social distancing are still the best methods of keeping yourself safe.
- The outer surface of masks can become a nidus for high droplet load. If not fitting properly or removed incorrectly then this can actually increase the risk of you getting COVID-19. As we will explain below the COVID can remain on surfaces for a considerable period of time.

### COVID-19 and Surfaces

Recent research has looked into the importance of how long the virus will last on different surfaces and as an aerosol (for example if someone coughs into a closed environment). It was thought that this may explain the increased infectivity compared to SARS (2003 respiratory epidemic), however they were found to be very similar.

If the viability of the two coronaviruses is similar, why is COVID-19 resulting in more cases? Emerging evidence suggests that people infected with COVID-19 might be spreading virus without recognizing, or prior to recognizing, symptoms. This would make disease control measures that were effective against SARS less effective against its successor.

I am highlighting this area as it is particularly important for how we interact with our environment, particularly the use of equipment that may be shared, or surfaces encountered when necessary public journeys are made.

The study looked at 4 surface types and aerosols

Virus was detectable in:

- up to three hours in aerosols when someone coughs

- up to four hours on copper
- up to 24 hours on cardboard
- up to two to three days on plastic (Half life - 6.8hrs) and stainless steel (Half life- 5.6hrs).

Half life is the time it takes for the viral load to reduce by 50%.

The findings affirm the guidance from public health professionals to use precautions similar to those for influenza and other respiratory viruses to prevent the spread of SARS-CoV-2 (COVID-19):

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose, and mouth.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- ***Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.***

The article can be found on the link below

<https://www.nejm.org/doi/full/10.1056/NEJMc2004973>

### **COVID-19 Clinical Update**

We would stress the importance of continuing to self-isolate if you develop any symptoms.

It continues to appear that all age groups are susceptible to the disease. Severe illness can occur in otherwise healthy individuals of any age, but it predominantly occurs in adults with advanced age or underlying medical comorbidities.

Although not highlighted in the initial cohort studies from China, smell and taste disorders (eg, anosmia and dysgeusia) have also been reported as common symptoms in patients with COVID-19. Whether this is a distinguishing feature of COVID-19 is uncertain.

Other, less common symptoms have included headache, sore throat, and rhinorrhoea. In addition to respiratory symptoms, gastrointestinal symptoms (e.g., nausea and diarrhoea) have also been reported; and in some patients, they may be the presenting complaint.

Fever, cough, and shortness of breath continue to be the most common symptom.

### **Clinical disease progression**

Most of those infected appear to have mild symptoms, however a small percentage can progress. It is important that we fully understand disease progression so we can safely advise on return to physical activity .

Currently the clinical research shows that as COVID-19 disease progresses unfavourably in a younger population, we would be concerned about development of:

- Acute respiratory distress syndrome (this usually develops within 8 days after the onset of initial symptoms, but up to 12 days)

- Myocarditis. This is where the infection affects the heart. This has always been one of the potential risks of athletes returning to physical activity from a viral illness when not fully recovered. In COVID-19 this concern is heightened.

We have put together some guidelines on return to physical activity after COVID-19, however we would suggest one liaise with their doctor as each case may vary.

### **Return to Exercise Post Covid-19**

Return to exercise post Covid-19 will depend on the severity of the illness. Symptoms last a varying length of time - the average is 2 weeks but can last up to 6 weeks.

Only stop self-isolation when both of the following apply:

- (1) You have had no fever for 5 days
- (2) It has been 14 days since you first developed symptoms
- (3) You have had no symptoms for 48hrs (occasionally a post viral cough can last longer and it is worth discussing this with your doctor).

This is when you can also consider returning to exercise:

No exercise if:

- high temperature in the last 5 days
- short of breath, fatigue, feel generally unwell whilst walking around house or carrying out normal activities of daily living
- resting heart rate above normal
- You are unable to fuel properly

On return to exercise

- Take it slowly - short periods of exercise at low intensity then gradually progress.
- Listen to your body - stop if unusually fatigued, rest, next session should be less intense.
- Fuel and hydrate properly for the exercise
- Ensure your recovery strategies are as good as they possibly can be

### **Dr James O'Donovan**

MB BCh BAO FFSEM MFSEM(UK) MICGP MSc

Consultant Sports & Exercise Medicine Physician

Lead Doctor at Sport Ireland Institute

Chief Medical Officer, Team Ireland, Tokyo Olympics Games 2020