

Novel Coronavirus (COVID-19) – Guidance for Diving Contractors – Rev. 1

Updated 23 April 2020

This Information Note has been prepared by IMCA Diving Division Members and members of the Diving Medical Advisory Committee (DMAC). It is also fully endorsed by the Working Committee of the International Diving Industry Forum (IDIF).

1 BACKGROUND

The novel Coronavirus disease, now named COVID-19, is a respiratory illness that can spread from person to person. It was first identified during an outbreak in Wuhan, China in December 2019 and has since spread worldwide. COVID-19 has now been declared a pandemic by the World Health Organisation (WHO) and multiple cases have been confirmed in the offshore community. There is currently no vaccine to protect against COVID-19, and no specific treatment for the infection.

The best way to protect against infection is to avoid being exposed to the virus that causes COVID-19.

A person who has had no symptoms of COVID-19 for 14 consecutive days, has had no contact with infected people and has maintained social distancing during that period, is considered likely to be COVID-19 free.

The aims of this Information Note are to:

1. Offer guidance to diving contractors on preventing the spread of the virus; and
2. Give considered advice on how to respond to suspected cases of COVID-19 among offshore commercial diving teams (surface supplied and saturation).

How COVID-19 spreads

When someone who has COVID-19 coughs or exhales, they release droplets of infected fluid. Most of these droplets fall on nearby surfaces and objects – such as desks, tables or telephones. People can catch COVID-19 by touching contaminated surfaces or objects and then touching their eyes, nose or mouth. If they are standing within one metre of a person with COVID-19 they can catch it by breathing in droplets coughed out or exhaled by them.

Symptoms

Most persons infected with COVID-19 experience mild symptoms and recover. The symptoms may include:

- ◆ A dry cough;
- ◆ High temperature (a fever);
- ◆ Shortness of breath;
- ◆ Runny nose;
- ◆ Sore throat;
- ◆ Body aches and pains;
- ◆ Diarrhoea;
- ◆ A loss of taste and smell may be an early sign.

However, some go on to experience more serious illness and may require hospital care. Risk of serious illness rises with age. People with weakened immune systems and people with conditions such as diabetes, heart and lung disease are also more vulnerable to serious illness.

For more details, please contact:

Bryan.McGlinchy@imca-int.com

Issue date:

23 April 2020

Document reference(s):

Diving Division

IMCA D 06/20

The information contained herein is given for guidance only and endeavours to reflect best industry practice.

For the avoidance of doubt no legal liability shall attach to any guidance and/or recommendation and/or statement herein contained.

2 PREVENTIVE MEASURES

The key measure to prevent divers (especially in saturation) from acquiring COVID-19 is to prevent the virus from getting onto the diving operation. This is a difficult task, but the more a company can do the less likely the possibility of a COVID-19 infection on-board.

Travel

The ongoing situation with the COVID-19 outbreak is rapidly evolving, and cases have now been detected worldwide. In order to protect personnel and business continuity, contractors are advised to screen personnel 14 days before mobilisation to identify higher risk individuals.

Please note, the list of affected countries is rapidly evolving, and the latest list may be found on the World Health Organisation (WHO) website:

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>

It is important that personnel involved in any diving operations understand the issues involved with COVID-19 and, most importantly, how to protect themselves and others. Some very good advice which is kept up to date is issued on the WHO website and this should be 'issued' to all involved personnel 14 days prior to any mobilisation, or earlier if possible:

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

Companies must also follow local and national guidance and regulations on the issues as these will vary around the globe and will change as the situation develops. Be aware that local regulations may mandate quarantine periods or even total travel bans.

Screening

Companies should do all they can to prevent the COVID-19 virus being taken onto a diving project, and particularly onto a saturation diving project. This may entail consideration of some enhanced screening prior to the personnel deploying.

There are various scenarios for the pre-deployment and embarkation process to minimise the possibility of getting the virus onto the vessel or platform, with some of the typical processes noted below:

- ◆ Crew sent this Information Note (including the pre-deployment questionnaire) prior to mobilisation from home.
- ◆ Crew asked to complete the pre-deployment questionnaire prior to travel, and any suspected cases informed not to travel.
- ◆ Crew transferred to hotel and isolated for a defined period of days prior to mobilisation to vessel.
 - Where testing is not available it is recommended that 14 days of strict hotel isolation is observed.
 - Where PCR testing is available, it is recommended that 12 days of self-isolation at home followed by a minimum of 2 days strict hotel isolation prior to testing is observed.
- ◆ Where possible the crew are tested for COVID-19 and remain in isolation at hotel until results are received.
- ◆ Crew checked for symptoms prior to traveling to vessel on pre-arranged transport.
- ◆ COVID-19 free crew travel to vessel on pre-arranged transport.
- ◆ Vessel crew (including surface divers and topside diving support personnel) complete pre-embarkation check sheet.
- ◆ Saturation divers complete pre-sat medicals before leaving the hotel.

The questionnaire in Appendix 1 is an example of a pre-deployment screening tool. If possible, a Pre-Deployment Questionnaire of this sort should be completed by crew members 14 days before the planned date of mobilisation from home. Typically, symptoms become apparent within 5 days of initial infection. The incubation period is up to

14 days, so it is prudent to review all personnel travel and health issues during this time period before mobilisation from home.

Note: it is important that the contractor has access to suitable medical expertise that can assess the questionnaire in the event of a positive response to any of the questions.

Just prior to departure from the isolating hotel or upon arrival at the embarkation point (helicopter terminal or port), contractors may also wish to provide personnel with key information on COVID-19 and implement pre-embarkation checks. An example of a COVID-19 Pre-Embarkation Information Sheet is included in Appendix 2. An example of a COVID-19 Pre-Embarkation Check Sheet is included in Appendix 3.

Note: it is important once again that the contractor has access to suitable medical expertise that can assess the questionnaire in the event of a positive response to any of the questions.

Testing of Personnel

In some regions, it is possible that test kits are available to detect evidence of the virus in samples of swabs taken from the oral cavity and nostrils. This test is known as the PCR test (polymerase chain reaction). It is important to seek expert advice on the timing of such tests, the sampling technique and the interpretation of the results. There are periods in the infective process when the virus is not detectable and so results may appear negative even though the virus is multiplying.

Another test that may be offered is a serological test in which small samples of blood are tested for the presence of antigen and / or antibodies in the blood. Extreme caution should be exercised in interpreting results from such tests. The kits available to date have not proved reliable and may indicate false negatives, especially in the first 14 days of infection. We do not recommend serological testing as a screening tool at this time.

Further information on testing for novel coronavirus appears in Appendix 4.

3 GENERAL PRECAUTIONS AT WORK

- ◆ Consider closing down communal areas such as gyms, cinemas, saunas etc. If this is not possible, enhanced cleaning regimes should be introduced in these areas.
- ◆ Where possible maintain a distance of at least one metre between individuals.
- ◆ Regularly clean surfaces (e.g. desks and tables) and objects (e.g. doorknobs, handles, handrails, telephones, keyboards etc.) with appropriate disinfectant.
- ◆ Promote regular and thorough handwashing by employees, contractors and customers as per WHO guidance (https://www.who.int/gpsc/clean_hands_protection/en/).
- ◆ Put sanitising hand rub dispensers in prominent places around the workplace. Make sure these dispensers are regularly refilled.
- ◆ Display posters promoting handwashing and the technique required.
- ◆ Ensure that face masks and/or paper tissues are available at your workplaces for those who develop a runny nose or cough at work, along with closed bins for hygienic disposal. The use of face masks does not protect against infection, but they may be used by a person with symptoms to reduce the risk of infecting others.
- ◆ Coughs and sneezes should be caught in a handkerchief and the handkerchief binned as soon as possible, followed by handwashing or sanitising. Use your sleeve if a handkerchief is not available.
- ◆ Avoid touching your face.

4 PRE-SAT HEALTH EXAMINATION AND EXCLUSION OF SUSCEPTIBLE INDIVIDUALS

As a part of a standard pre-sat health examination before the divers go into saturation, it is recommended that the divers are asked again about any symptoms of infection. Due to the nature of the COVID-19 infection the examination must always include temperature measurement and auscultation of lungs.

Morbidity and mortality of Covid-19 is higher in patients with increasing age and comorbidities. It is advised to pay special attention to divers with pre-existing medical conditions (especially cardio-vascular disease and hypertension) and carefully consider whether these divers should be mobilised during the pandemic. The likelihood of severe complications arising from Covid-19, such as pulmonary failure, [seems to increase](#) with age and particularly in persons older than 60 years.

5 DIVING SPECIFIC PRECAUTIONS

Dive planning and system segregation

Dive team planning should look at system segregation for new teams entering saturation if the system layout facilitates this. The new teams should be assigned the use of a TUP and SDC to reduce cross contamination with the teams who are already in saturation.

Disinfection and hygiene procedures should be reviewed and approved by the contractor's specialist diving medical advisers.

Choosing Sanitising Liquids

In general, the sanitiser recommended by the equipment manufacturer should be used for diving equipment. The selection of sanitiser for chamber disinfection should be decided in co-operation with the Diving Medical Adviser. The final decision may be a difficult balance of disinfection efficacy, toxicological profile, offgassing properties and corrosive or other deteriorating effects on the equipment. However, this general advice can be given:

- ◆ Dirty surfaces should initially be cleaned with a neutral detergent.
- ◆ Select a sanitiser tested for efficacy against Coronavirus or approved by the relevant national public health authority. In the absence of such approval, the sanitiser should be tested against standard EN 16777:2018 or EN-14476:2013+A2:2019. Rely+On Virkon® and Chemgene HLD4H® are two such products, commonly used in saturation, meeting these requirements.
- ◆ The sanitiser needs sufficient contact time to reliably disinfect the surface. While 1-2 minutes is sufficient for 75% ethanol (letting ethanol film dry out at room temperature), a sanitiser like Rely+On Virkon® and Chemgene HLD4H® will require 10 minutes contact time to work efficiently. Adhere to the manufacturers' instructions to ensure sufficient contact time.

Cleaning and Disinfection of Saturation Diving Equipment

It is common practice to share diving helmets among the dive team. It may be possible to issue each diver with his own oral-nasal mask and to fit it prior to his lock-out. However, the microphone and nose clearing pad would need to be changed too. If this is not practical, the oral nasal mask, the microphone, nose block and the expiratory part of the demand regulator should be sanitised after each use by applying approved cleaning agent, covering with a clean cloth and allowing sufficient soak time, in accordance with the manufacturers' requirements, before rinsing with fresh water. Consideration should be given to locking out the hats that have been used at the end of each bell run to be cleaned by the technicians and replaced with hats that have been cleaned. Personal neck dams and hat liners are preferred. All neck dams and hat liners should be sanitised between uses.

Additional diligence is required for divers' rebreathers due to the self-contained breathing loop, and operational procedures must be put in place to minimise cross contamination. If the diver has activated the rebreather with the hat on, then the rebreather must be locked out and cleaned in accordance with the manufacturer's guidelines.

If the rebreather checks are done with the helmet off in the SDC then the cleaning protocol for the oral nasals should be applied, with consideration given to extending the mouthpiece during the soak period.

Helmet/face mask manufacturers should also be consulted for their cleaning and disinfection guidelines, but checks should be made to ensure that the disinfectants that will be employed are in line with the recommendations above.

It is recommended that any tissues or cloths used to clean oral nasals and helmet interiors within the bell are collected in a plastic bag to be locked out of the system at the end of the bell run.

It may be appropriate to reinforce the cleaning regimes within saturation diving systems in excess of those described in DMAC 26, which recommends twice weekly cleaning of the chambers as a minimum. It is suggested that table surfaces, medical locks, bunk rails and door handles within the sat chambers are cleaned at least three times a day using a suitable sanitiser. Cloths should only be used once and then discarded in plastic bags to be sent out through the medical lock. Records of cleaning activities should be logged and retained.

Pre-sat briefings and toolbox talks must emphasise the need for cleanliness, good personnel hygiene and early reporting of any symptoms (however minor).

Hand washing and information posters may be laminated and posted inside the sat system.

Hygiene Considerations

In order to prevent the COVID-19 virus entering the saturation chamber the full support chain of the vessel/site has to be fully involved to maintain the strict hygiene requirements. This is necessary to prevent contamination of the food and materials required for the diving personnel. It is not just the Life Support Crew who are the handlers of supplies to the divers. These considerations will also help to protect the rest of the topside support crews.

All personnel in supporting roles, including galley personnel and Life Support crews, should adhere to good hand washing and respiratory hygiene to avoid the risk of passing any potential viruses into the chamber. Hand sanitiser should be available at the equipment and medical locks and applied before handling objects to be locked into the chamber.

Dive Technicians who are involved in the assembly and servicing of diving helmets are advised to do the same.

The virus has a lipid envelope (fat membrane) surrounding it which is destroyed by detergent. This means hand washing is a very effective control of the virus picked up from touching contaminated surfaces. >60% alcohol gel hand sanitiser is also an effective control but is not available for use in saturation. Correct hand washing technique is the prime control to prevent contamination.

Medical personnel working with COVID-19 cases use the following personal protective equipment (PPE):

- ◆ Apron;
- ◆ Medical gloves;
- ◆ Appropriate mask (FFP 2 or better);
- ◆ Eye shield.

For saturation support use, where the Life Support team personnel are not in direct contact with patients and no coughing/sneezing is local to the handling area, safety spectacles are considered to be suitable eye protection rather than a full eye shield.

Personnel handling items emanating from a chamber containing an infected patient, either through routine medical lock or other chamber operations, will also require the apron, medical gloves and mask. Good hygiene precautions are also necessary in disposing of any food waste, food containers, and in handling cutlery etc. until fully washed with detergent, preferably in a dish washer.

Laundry items which are or may be contaminated should be cleaned by standard machine washing at 60°C or above using normal washing detergent. This should kill the virus and no special washing criteria are required to further sanitise the laundry. The divers' laundry does not need to be isolated and washed separately.

Handling of the items should be carried out using the PPE described above.

Diving Plant Considerations

Environmental Control Units (ECUs) – Condensate from the environmental control system should not pose a COVID-19 infection risk. Nevertheless, measures should be in place to collect it in a container, avoiding splashes, spray or aerosol.

During the period of the pandemic, until the high risk of the viral infection has passed, saturation chamber systems should be operated as isolated units insofar as is possible. The aim is to prevent spread of the virus throughout the entire system if the virus were to be introduced. This includes separating chamber ECUs where practicable.

Reclaim Systems – Whilst the coronavirus is not considered to be air transmittable and should not be carried through a diver or chamber gas reclaim system, it is recommended that gas reclaim systems are not utilised without a secondary barrier provided by a filtration system.

Some diver gas and chamber reclaim system manufacturers' systems do provide filtration to entrap particles to a size of 0.01 microns. The Coronavirus is approximately 0.05 – 0.20 microns in size and should be retained within the filter. It is important therefore to verify the nature of the filters in any reclaim system and ensure the manufacturers' recommendations on replacements are followed. If filtration is inadequate, open circuit should be adopted and chamber gas vented to atmosphere in a safe location.

Cleaning and Disinfection of Surface Diving Equipment

Surface supply operations should follow the same regime as described above on the work site to clean helmets and masks. Particular attention should be given to the cleaning and disinfection of the chamber and BIBS masks in SurDO2 operations and following any treatment within a DDC. For surface diving operations, ethanol >75% may be used as a sanitiser on dry and clean surfaces (e.g. oral-nasals, tables). 1-2 min contact time is sufficient for effective disinfection. Let the surface dry out or rinse the equipment in water if it is necessary to take it back to use immediately. The configuration of the BIBS and any BA sets should be examined and a cleaning/disinfection routine established and documented. Consider using a sanitiser as described for saturation diving.

6 SUSPECTED CASES OF COVID-19

The standard response to a suspected case of COVID-19 is to isolate the patient and minimise contact with potentially unaffected personnel. Effective isolation within a saturation system may be dependent on the size and configuration of the sat system. A diver cannot be isolated alone in a chamber. He must have another diver with him, or possibly two, depending on team sizes. Isolation should be implemented at the first signs of symptoms and maintained until a diagnosis is forthcoming.

The saturation environment has significant challenges for isolation and treatment of a patient. The patient's close contacts must all be considered to be at risk and isolated to the maximum practicable extent. The patient should use a medical mask whenever possible to prevent further dispersion of infected droplets within the chamber system. In addition, the patient should not use communal facilities, such as the wet lock and table, at the same time as his teammates. These communal facilities should be cleaned and disinfected prior to and after the patient's use.

'Isolation' means that the patient and his teammates are in a separate chamber from the other saturation divers, with either a dogged door which will prevent droplet transfer, or preferably a negative pressure differential against the adjacent chamber (the patient chamber need only be 2-3 m shallower). This will mean any gas transfer is into the isolated chamber rather than out of it. The isolated chamber should also be served by a dedicated environmental control system.

It is acknowledged that in some cases it may not be possible to isolate as described above due to limited system size or configuration. In this case, affected divers should be allocated bunks as far from the other divers as possible and strict hygiene measures implemented to minimise contact between the divers. This isolation advice should also be followed for non-symptomatic divers with a suspected or confirmed COVID-19 case.

The Diving Contractor and his Diving Medical Adviser, together with Diving Superintendent and Medic, should develop a contingency plan prior to the commencement of operations to identify:

- ◆ Isolation possibilities and operational capabilities specific to the configuration of the dive system;
- ◆ Arrangements for transportation to appropriate destinations e.g. to ports with access to suitable medical facilities for critical COVID-19 patients. Such facilities should include Intensive Care Units (ICU).

Definitive diagnosis of a COVID-19 case requires laboratory testing of samples swabbed from suspected individuals. Issuing and subsequent testing of sample kits is normally co-ordinated through the medical systems of local regulatory authorities. Contractors should determine what arrangements are in place in their region of operations.

As the only way to make a positive diagnosis is through testing and analyses, this should be done where possible.

If testing is not an option, likely cases based on signs and symptoms should be treated as positive cases requiring isolation and referred to the company Diving Medical Advisers for review, advice and support. The Diving Medical Adviser will determine if the patient should be decompressed.

COVID-19 cases have developed with complications requiring significant medical support in a period of 5 days after first onset. It is therefore likely such a diagnosis will include a requirement for decompression. Consideration should be given to limiting the saturation storage depth to allow normal decompression within a 5-day time period.

No medication (including non-prescription medication) is to be administered without specific instructions from the Diving Medical Adviser.

Suitable arrangements must be in place to continue isolation after surfacing and during any subsequent treatment.

Following decompression, the chamber must be deep cleaned and disinfected with appropriate cleaning products. BIBS must be removed, cleaned and disinfected (including the exterior of the supply and dump hoses). Loose equipment and chamber furnishings should be removed, cleaned and disinfected separately. Personnel performing the cleaning and disinfection must wear appropriate PPE.

7 Risk Assessment and the Development of Safe Working Procedures

During the COVID-19 pandemic, it is essential that appropriate measures are identified and put in place to minimise the risk of harm from the novel coronavirus to all persons taking part in company diving projects. Diving contractors should ensure that the COVID-19 risk control measures they introduce are properly proceduralised and risk assessed prior to the commencement of diving operations.

COVID-19 – An Example of a Risk Assessment Undertaken by an IMCA Diving Contractor (IMCA D 16-20) contains a sample of a robust risk assessment recently undertaken by an IMCA Member. The Bow-tie risk assessment methodology was selected in this example. It was used to help the company identify and implement appropriate measures for preventing the occurrence of contagious disease (COVID-19) amongst dive team on a DSV. It was also employed to identify suitable control and recovery measures should cases nevertheless occur.

Used in conjunction with the guidelines in this document, the Bow-tie risk assessment approach was found by our Member to be one effective way of developing appropriate company procedures and safeguards to reduce the risk of COVID-19 disease on its diving projects so far as reasonably practicable.

8 CONCLUSION

COVID-19 poses a serious risk to the diving population. The nature of the work means close contact is unavoidable and offshore diving projects are normally conducted in remote areas without easy access to medical facilities. The most effective way to minimise the impact of COVID-19 is by preventing the virus arriving at the work site through rigorous pre-mobilisation and pre-embarkation screening and excluding individuals who may have been exposed to the virus.

The diving population tends to be in generally good health. If the virus affects the diving workforce, in most cases it should not develop into serious illness. Nevertheless, until an accredited diagnostic test for offshore use is readily available, a case of airway infection in a saturation chamber is likely to necessitate decompression, abortion of the operation and the vessel going to shore. It is essential therefore that all possible measures are taken to minimise the introduction and spread of the virus.

The evolution of the virus and its spread is a dynamic situation and further guidance may be produced as more information on COVID-19 becomes available.

IMCA-published information on COVID-19 and further information from other relevant sources is posted on the following IMCA website page: <https://www.imca-int.com/covid-19/>.

Example of Pre-Deployment Questionnaire

1. Within the last 14 days, have you travelled to, through or from any countries other than the country of intended embarkation?

YES NO

If the answer IS "YES", list the countries here:

2. Have you had any close contact with a person who has a confirmed COVID-19 infection or is under investigation for COVID-19 infection?

- ◆ a confirmed COVID-19 infection?
- ◆ or is under investigation for COVID-19 infection?
- ◆ or has had any symptoms compatible with COVID 19 infection?

YES NO

3. Have you been self-isolating and practicing social/physical distancing during the last 2 weeks?

YES NO

NB. It is important that you self-isolate and observe social distancing precautions to the best extent possible in the period up to your mobilisation. This includes the journey from home to the worksite.

4. Do you currently have? (check all that apply):

Fever Cough Sore Throat Shortness of Breath

Diarrhoea Loss of sense of taste and smell

5. Are you currently taking prescribed medication?

YES NO

Name:

Date:

NOTE

It is important that the contractor has access to suitable medical expertise that can assess the questionnaire in the event of a positive response to any of the questions.

Up to date information on COVID-19 can be found on the World Health Organisation 's website

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

Example of COVID-19 Pre-Embarkation Information Sheet

The Coronavirus (COVID-19) Key facts

- COVID-19 may present severe symptoms that may prove to be fatal, particularly in those with underlying health issues such as asthma or other conditions with the respiratory system.
- There is currently no medical vaccine for COVID-19.

Symptoms of COVID-19

Current known symptoms of COVID-19 include:

- Fever
- Coughing
- Sore Throat
- Breathing Difficulty
- Fatigue
- Body Aches
- Diarrhoea
- Loss of sense of smell and taste

Symptoms usually develop within 2 to 14 days. During this time the virus can be spread to others. It is spread through ingestion, inhalation. The virus also survives and lives on surfaces and objects.

How to protect yourself and others

- Avoid large groups of people.
- Avoid those displaying any symptoms of COVID-19.
- Self-isolate yourself and communicate your actions to the Vessel Master.
- Catch your coughs and sneezes in a towel or tissue, then dispose of it and wash your hands.
- Wash your hands as the **PRIMARY** method of hygiene for at least 20 seconds with soap and warm water, as per WHO guidelines https://www.who.int/gpsc/clean_hands_protection/en/.
- Dry your hands with a single use towel.
- Use alcohol sanitiser gels as a **SECONDARY** means of hygiene, **NOT** in place of hand washing.
- Monitor trusted news sources for up to date information.

Contact the Medic **IMMEDIATELY** if you experience any COVID-19 like symptoms described above.

Example of COVID-19 Pre-Embarkation Check Sheet

COVID-19 Screening Questionnaire: General Information			Completed by Medic	Completed by Crew Member
Name:		Company:		
Travelled From (<i>country / UK location</i>):		Travelled with anyone? Who?		
Travelled through (<i>country</i>):		Mode of transport		
Date of Arrival in in this country		Country of Residence:		
Have you been able to self-isolate in the last 14 days?				
COVID-19 Screening Questionnaire: Medical Information			Completed by Medic	Completed by Person
Body Temperature:		Any visual signs of illness:	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Describe symptoms:				
Do you currently have, or have you had in the last 14 days, any of following symptoms?			Comments / Observations	
Fever	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Cough	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Body Aches	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Sore Throat	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Diarrhoea	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Nausea / Vomiting	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Shortness of Breath	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Fatigue	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Loss of sense of taste / smell	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Any unexplained illness	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Have you ever been to a healthcare facility where confirmed or suspected cases of COVID-19 were being treated?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Have you ever been in contact with a confirmed or suspected case of COVID-19?			Yes <input type="checkbox"/>	No <input type="checkbox"/>

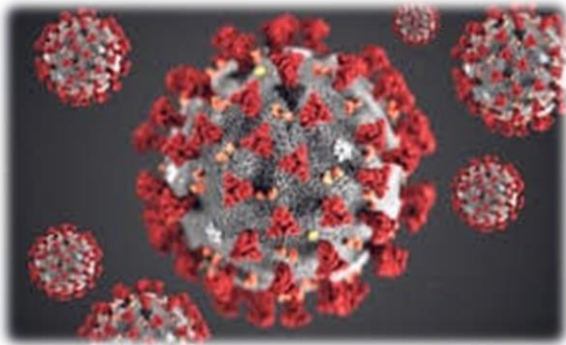
Please note, that you have a duty of care and obligation to yourself and others who you may knowingly, or unknowingly infect with COVID-19. It is therefore vital that this questionnaire is completed with factual and honest information regarding your health.

Examiner	Examinee
Medic Name: _____	Name: _____
Medic Signature: _____	Signature: _____
Date: _____	Date: _____

NOTE

It is important that the contractor has access to suitable medical expertise that can assess the questionnaire in the event of a positive response to any of the questions.

TESTING FOR CORONAVIRUS / CURRENT FACTS



The **novel coronavirus SARS-CoV-2** is the cause of the illness, COVID-19. The illness can be serious, but most sufferers under the age of approximately 60 make a full recovery.

There is much in the media about testing for the presence of the virus. In some countries, testing by health authorities and agencies has prioritised workers in the health services, and may not yet be available to all.

Perhaps not surprisingly, commercial companies have identified an opportunity and are offering testing services to anyone who will pay them. Currently there are two types of test available: the swab test (PCR test) and the blood (serological) test (antibody / antigen test).

The swab test requires the collection of samples from within the nostrils and back of the throat. The samples are then analysed for genetic material from the virus. This is the PCR testing method (PCR = Polymerase Chain Reaction).

The analysis of the sample requires sophisticated laboratory equipment. If available, the time frame from swabbing to getting a result can be up to 48 hours or more.



This method of testing is regarded as the most reliable, **BUT** the results must be treated with caution. This is because there are a variety of factors that could affect the results. These include the time lapse from contact with the virus to the time of swabbing.

The virus obviously needs time to start replicating and multiplying in infected cells, and so in the early stages of infection there may not be enough genetic material to be detected by the PCR test. However, by the manner in which PCR works, it will detect the virus at very low levels. It is generally accepted that a minimum of 24 hours after infection is required to see a positive result (the longer the time from infection, the more the virus will replicate).

Another factor is the way the swabs are collected. Research has shown that nasal swabs will detect only 2/3rds of cases and throat swabs only 1/3rd of cases. Because of this, appropriate swabbing technique is very important and a combined nasopharyngeal and oropharyngeal swab will yield the best results.

To be of any real use, PCR testing should be performed after a minimum of 2 days of strict isolation (this means NO contact with other people) and personnel should remain in strict isolation after being swabbed until the test results become available. An individual who tests positive **MUST NOT** go offshore. A negative result should not be assumed to confirm there is no virus present.

The second test method analyses small samples of blood for the presence of antibodies. This is the **serological test method**.



Antibodies are manufactured in the body as part of its defence mechanisms against foreign “invaders” such as bacteria and viruses.

Antibodies need time to be produced and to “learn” the nature of the invader. This process can take days and may not be particularly effective when the virus multiplies at a rapid rate.

To date, none of the serological test kits commercially available have proved reliable and IMCA is not aware of any serological test kits that have been accredited by reputable authorities. The number of false negative results is alarming. A negative result may actually be wrong but give a false sense of security with a subsequent relaxation of the recommended preventative measures (handwashing, social distancing etc.). A positive result does not reveal whether an individual has the disease or has had the disease and has recovered

IN SUMMARY:

- ◆ Routine testing is of little use unless it is by the PCR method, performed by an accredited laboratory using proper techniques.
- ◆ The testing must be preceded by days of strict isolation and the isolation must be maintained until the results are known.
- ◆ In the event of a positive PCR result, the individual must not be deployed offshore.
- ◆ A negative PCR result does not mean that there is no viral infection.
- ◆ Personnel may be asymptomatic but still be infected and so may spread the virus.
- ◆ Currently, serological testing is of little use.

The most effective measures we can deploy are those currently in use:

- ◆ Extensive pre-mobilisation screening.
- ◆ Identification of high-risk individuals.
- ◆ Pre-embarkation checks.
- ◆ Social distancing.
- ◆ Hand washing and the use of sanitisers.
- ◆ Increased level of cleaning onboard.
- ◆ Temperature checks.
- ◆ Increase in awareness and obligations to self and other crew members.
- ◆ Drills and contingency planning.
- ◆ Close liaison with company Medical Advisers and their review of company procedures and testing policies.