

Guidance for Medical Examiners of Divers Conducting Face-to-Face Medicals During the COVID-19 Pandemic

DMAC 34 Rev. 1 – December 2021

Supersedes DMAC 34, which is now withdrawn

1 Introduction and Scope

The purpose of this guidance note is to give advice about how medical examination and assessment of commercial divers may be done adequately and with a low risk of transmission/infection during the COVID-19 pandemic. The guidance contains advice on risk assessment of clinical examinations, spirometry and exercise testing, and how infection risk can be managed. It is not the intention of this document to be prescriptive or provide detailed advice on all aspects of the examinations.

National legislation and the requirements of professional regulatory bodies may impose restrictions on the conduct of full medical examinations of divers. These take precedence over this guidance and must be observed.

2 Background

As the prevalence of COVID-19 increased globally during the spring and early summer of 2020, diving physicians understandably became increasingly reluctant to conduct commercial diving medicals. To help reduce the risk of SARS-CoV-2 exposure and transmission during diving medicals, and so protect both divers and physicians, regulatory authorities have introduced various interim controls measures. These include: extending the period of validity of existing diving medicals; permitting telephone/video consultations; and accepting shortened medical assessments (e.g. by omitting spirometry) with reduced duration of certification.

Extending validity without a clinical examination or omitting parts of the medical examination are risk balanced temporary measures. They cannot continue indefinitely because:

- ◆ the risk of declaring divers medically fit to dive with undetected health conditions that are contraindicated will increase with time;
- ◆ new commercial divers should have a full clinical examination and assessment before being considered medically fit to dive; and
- ◆ divers who have had COVID-19 with moderate or severe symptoms should have a full health examination by a medical examiner of divers (MED) as recommended in [DMAC 33 Return to Diving after COVID-19 \(1\)](#).

It is therefore vitally important that, while COVID-19 remains a threat, appropriate infection prevention and control measures are introduced by MEDs so that face-to-face full medical examinations and assessments of commercial divers may proceed globally with low risk. It is essential that divers and the offshore energy diving industry have access to such a service going forward.

3 Risk Assessment

Appropriate risk control measures for conducting face-to-face full diving medicals during the COVID-19 pandemic will need to be based upon the findings of a suitable and sufficient risk assessment. When conducting such risk assessments, Medical Examiners of Divers should consider the following and any other relevant factors:

- a) **Vaccination** – The MED should be fully vaccinated and follow national recommendations for booster vaccines. The vaccine status of the diver should be known and is an important point in the risk assessment. Vaccines will greatly reduce the risk of severe COVID-19 infection, and will also reduce the transmissibility of the SARS-CoV-2 virus.
- b) **Pre-examination screening** - A pre-medical COVID-19 questionnaire or interview can be used to ascertain the current and recent past status of the diver prior to coming for a medical (see Appendix 1). Divers with reported symptoms of infections or in quarantine should not be examined until they have been proven not to be infectious. The questionnaire should be used to inform the MED’s decision on whether or not to proceed with a face-to-face medical assessment.
- c) **COVID-19 transmission** - Transmission routes to consider are direct transmission to the respiratory tract by inhalation of droplets and indirect transmission via touching surfaces contaminated by deposited virus particles.
- d) **Hygiene measures** - Simple hygienic measures are important to prevent virus transmission. Handwash and an alcohol-based hand sanitiser should be readily available and used both by diver and health personnel before and during the examination.
- e) **Extra time** - The total time allocated for each examination should be extended to allow for necessary preparations, time-consuming procedures and clean-up. Urgency is a risk factor for transmission of virus. The need for extra time will probably decrease to some degree with practice under the changed circumstances.
- f) **Individual vulnerabilities** - Some medical conditions can make a person more susceptible to infection and/or more likely to have severe disease. Vulnerabilities of all involved persons must be considered i.e. the diver, the medical examiner and any member of the medical team involved in the examination. Information regarding vulnerability assessments can be found in the links below. Based on a risk assessment, it may be recommended to exclude a person from working face-to-face with patients.
- g) **The workplace** - The medical facility where the person is examined by the MED. Potential work-place hazards will vary from clinic to clinic and it is not the intention to provide a detailed list here. General factors to consider are:
 - ◆ Exposure time and spatial distance considerations - MEDs should plan examinations so that the amount of time spent in the presence of the diver is minimised. In particular, it is recommended that the MED should not be within 2 metres of the diver for a period in excess of 15 minutes. The interview part of the consultation can be done via telephone or appropriately confidential and secure video link to reduce face-to-face contact time. National legislation and the requirements of professional regulatory bodies must be followed.
 - ◆ Ventilation/air flow should be used to reduce the risk of transmission of infection (2). For example, doors and windows may be opened where it is safe to do so. In addition, parts of the examination, such as the exercise test, may be performed outside. The use of infection control equipment – Personal Protective Equipment (PPE) includes masks, gloves, gowns, visors, goggles, screens etc. Proper procedures for putting on, taking off, using and disposing PPE are important. Examples of procedures can be found on the [Public Health England web pages](#) (3).
 - ◆ Cleaning and disinfection of the clinic, consulting room and medical equipment used. Ensure that the disinfectants used are effective against COVID-19 at the concentration being used. The US Environmental Protection Agency (EPA) has a list of disinfectants meeting EPA’s criteria for use against the SARS-CoV-2 virus (4). It is useful to have a several products and methods available as some may require longer contact time to work, may not be suitable on some materials or may cause discomfort when airborne etc. Where applicable, equipment must be cleaned according to manufacturer’s recommendations.
 - ◆ Dose reduction - The risk of infection relates to the accumulated dose of exposure to viral particles. The development of procedures designed to minimise the total load throughout the day may be more helpful in reducing risk than attempting to avoid contact with any SARS-CoV-2 viral particle 100% of the time.

4 Main Areas for Concern

The spirometry and physical fitness assessments have been the components of the diving medical examinations that have raised the most concern amongst MEDs, due to an assumed increased risk of transmission through exhaled aerosolised virus particles. However, it is the opinion of DMAC that the omission of these assessments from diving medical examinations for an extended period of time is not acceptable. Pulmonary changes have been highlighted as a potential long-term effect of COVID-19. Such changes have been found among persons who suffered moderate or severe symptoms of COVID-19, but they have also been seen in people who have had confirmed COVID-19 but were asymptomatic or suffered mild symptoms only, see [DMAC 33 Return to Diving after COVID-19 \(1\)](#). Therefore, it is particularly important to include lung function testing and physical fitness assessments in diving medicals to adequately conclude on medical fitness to dive.

There is little evidence to confirm or refute spirometry as an aerosol generating procedure. However, the Association for Respiratory Technology and Physiology in the UK has [published guidance](#) stating that full PPE must be worn, including the use of a visor and FFP3 (or equivalent) facemask for all those undertaking spirometry (5). If FFP3 masks are not available FFP2 masks can be used (6). The guidance also states that tests must be performed with the proper lung function filters in place. Such guidance needs to be read with due diligence as contradictory or out of date information could be present in one single document of a certain date.

As noted previously, exercise testing can be performed outdoors to reduce the risk of transmission. If this is not possible, presence in the room during and immediately after exercise testing should be kept to a minimum. A minimum distance of 2 metres should be maintained, barriers should be put in place (screen or curtain) and the need for PPE for the examiner should also be assessed.

With suitable equipment, robust safe working procedures and appropriate PPE, it is possible to reduce the risks of spirometry and fitness testing to an acceptable low level. The risk assessments from which safe working procedures are derived must take into account multiple factors (see Section 3 above) including any current local changes in the prevalence of COVID-19.

5 Conclusion

It is DMAC's view that, following an appropriate risk assessment and with adequate controls in place, the medical examination and assessment of commercial divers can be conducted safely, with a low risk of infection. At the time of writing of this document, the current situation with respect to the COVID-19 pandemic warrants full medical examinations of divers including lung function and exercise testing.

6 References

1. DMAC 33, Return to Diving after COVID-19, The Diving Medical Advisory Committee, June 2020
<http://www.dmac-diving.org/guidance/DMAC33.pdf>
2. Atkinson J, Chartier Y, Pessoa-Silva CL, Jensen P, Li Y, Seto W-H (eds): Natural Ventilation for Infection Control in Health-Care Settings, World Health Organization, 2009
https://apps.who.int/iris/bitstream/handle/10665/44167/9789241547857_eng.pdf;jsessionid=062B84656C96F6B4D2138E7882C3E5E7?sequence=1
3. COVID-19: personal protective equipment use for aerosol generating procedures, Public Health England, 2020
<https://www.gov.uk/government/publications/COVID-19-personal-protective-equipment-use-for-aerosol-generating-procedures>
4. Disinfectants for Use Against SARS-CoV-2 (COVID-19), United States Environmental Protection Agency
<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-COVID-19>
5. Respiratory Function Testing During Endemic COVID-19, Association for Respiratory Technology & Physiology, UK, 26th May 2020
<https://www.artp.org.uk/News/artp-guidance-respiratory-function-testing-and-sleep-services-during-endemic-COVID-19>

6. European Respiratory Society. Recommendation from ERS Group 9.1 (Respiratory function technologists /Scientists) Lung function testing during COVID-19 pandemic and beyond.
<https://ers.app.box.com/s/zs1uu88wy51monr0ewd990itoz4tsn2h>.

Example of COVID-19 Pre-Diving Medical Examination Screening Questionnaire.

COVID-19 Screening Questionnaire: General Information			
Name:		Company:	
Travelled from (country):			
Travelled through (country):			
Date of Arrival in this Country		Country of Residence:	
List of countries visited in the last 14 days			
COVID-19 Screening Questionnaire: Medical Information			
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"/>	
Loss of taste or smell	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"/>	
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"/>	
Any unexplained illness/symptoms	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Description of symptoms (if present)			
Have you been to a healthcare facility where confirmed or suspected case of COVID-19 were being treated within the last 14 days?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Have you received vaccination for COVID-19?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Dates of vaccination (if vaccinated)			
Have you been in contact with a confirmed or suspected case of COVID-19 within the last 14 days?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	

Medical Examiner of Divers

Doctor's Name: _____

Doctor's Signature: _____

Date: _____

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.