

Fitness to dive examination

When we dive, we get to know a new world under water. However, we also enter an environment which is governed by different physical laws to which our bodies must adjust. Therefore, every diver must have a certain level of fitness and health.

As many diving accidents have medical causes, we recommend that every diver undergo regular medical examinations. This is done by way of a fitness to dive examination, which is carried out by a doctor who is specifically trained in diving medicine by the German Society for Diving and Hyperbaric Medicine (Gesellschaft für Tauch- und Überdruckmedizin (GTÜM e. V., www.gtuem.org).

Before the examination, each diver first completes a comprehensive **questionnaire**. This asks whether there are any pre-existing conditions, whether any medication is being taken or any operations have been carried out. Naturally, questions regarding previous diving ex-



periences and diving incidents must also be answered.

Following this, there is a detailed **consultation** with the doctor with whom any specific health problems are discussed in greater detail. If any illnesses are known, it is essential to bring along current test results and / or medical reports from your consultant. Although there was previously a strict diving ban for certain illnesses, it is now possible to dive even with chronic illnesses such as diabetes or high blood pressure under certain conditions. The appropriate use of the correct medication (which must be compatible with diving), regular check-ups and a responsible attitude towards the illness are of particular importance here.

Next, the doctor performs a full body **physical examination**. This includes an examination of the eyes, lungs, reflexes and balance. The ear examination is very important for successful pressure equalisation.

Heart function is tested by way of an **ECG**. Divers aged over 40 are also subject to a stress ECG, i.e. an ECG on

a bicycle where it becomes more and more difficult to pedal. This tests whether the heart still functions well during physical exertion as a certain amount of physical fitness is important for diving. Under water, the cardiovascular system is placed under greater stress purely as a result of different ambient pressure. Factors such as a current may cause the dive to be even more stressful. It is not for nothing that we refer to diving as a sport!

The **pulmonary function test**, or PFT, is a very important part of the fitness to dive examination. This involves breathing into the test equipment as hard as possible so that the speed at which air is released from the lungs can be measured amongst other things. The results can be used to exclude any lung disease that is relevant to diving.

Healthy lungs are very important for a diver, because Boyle-Mariotte's law applies here, which you may remember from your diving course. As we dive deeper, our lung volume reduces. When we resurface, the air in our lungs expands and has to be breathed out through our airways. This is not a problem if the airways are not constricted, which can happen e.g. in the event of a chronic lung disease (COPD) or after many years of smoking. A perfectly healthy lung is particularly important for apnoea diving.

If any abnormalities are discovered during the examinations, it may be necessary to carry out further tests or to consult a specialist before you can dive.

Fitness to dive examinations should be repeated regularly depending on your age. They should be carried out annually if you are aged under 18 or over 40. Otherwise, it is sufficient to repeat the examination every three years.

Examinations may need to be carried out more frequently for certain illnesses for safety purposes. Sometimes diving may be possible with restrictions, which are marked on the certificate. In the event of a physical impairment, specific requirements may need to be made in relation to the diver training, the buddy or the equipment.

You must also check whether you can continue to dive in the event of any new illnesses, if you start taking new medication or if you have any operations. This is important e.g. in the event of travelling on holiday to the tropics if a course of malaria tablets is needed.

We advise every diver to undergo regular fitness to dive examinations in order to dive more safely.