

The Diving Medical Advisory Committee

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DMAC Statement on Commercial Diving and Health

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Divers intending a career in the industry as well as those responsible for their management, safety and welfare need to be aware of the health risks associated with work in the industry. This statement is intended to provide a summary of the current state of knowledge.

- 1 Diving and other activities which involve exposure to significant changes in ambient pressure are associated with a number of pressure related phenomena and specific injuries or diseases. These include high pressure neurological syndrome, compression arthralgia, decompression illness, barotrauma and dysbaric osteonecrosis. These latter disorders are well recognised and may cause acute or permanent disability.
- 2 The risk to the diver associated with these disorders results partly from the pressure exposure and partly from individual susceptibility. The risk from pressure exposure can be controlled by adoption of safe diving practices. Considerable reduction in the number of incidents of decompression sickness etc. has occurred over the last 20 years as a result of changes in diving practice and further improvements may be expected as a result of increasing knowledge in the future. The relative importance of individual susceptibility increases as the diving practice risk decreases. It is unlikely that the risk of these disorders can be completely eliminated.
- 3 Commercial diving also involves risks to health from other factors, which include the environmental conditions (sea state etc.), the equipment in use and the type of work activity undertaken underwater. Many of these risks are similar to those experienced in other industries, e.g. the construction industry. Examples include direct trauma, biological and toxic exposures such as hyperoxia or hydrocarbons. The impact of such events may be greater because of their occurrence in the remote and isolated situation of a diving worksite.
- 4 The long term health impact of commercial diving has proved difficult to define and clarify. Some effects are well documented, such as the long term effects of direct trauma, failure to recover from acute decompression illness, dysbaric osteonecrosis and noise induced hearing loss. Studies of commercial divers over the last 30 years have demonstrated some changes in lung and nervous system function that may be on the borders of normality and which may occur in a larger percentage than normal of the diving population, but the clinical importance of these findings cannot be determined and remains uncertain. Particularly, it has been unclear to what extent these result in any disease process or disability.
- 5 Recent investigations of possible long term health effects conducted in populations of commercial divers have demonstrated that overall there is no difference in health status between divers and non-divers. However, some symptoms, particularly of forgetfulness and musculo-skeletal pain, are reported by more divers than non-divers. These symptoms are mainly mild and not associated with a definite illness but they do effect quality of life. It has not been possible to identify any specific diving related factor as a cause and many non-diving factors, which include a history of accidents, toxic exposures, head injuries and lifestyle factors, are associated with these symptoms. These findings were seen in divers whose diving work had been at least 15 years ago.
- 6 These findings indicate that although long term health effects are mostly minor in nature, there is a continuing need to improve all aspects of safety within the diving industry. The improvements in diving procedures which have resulted in significant reductions in incidence of decompression illness may contribute to a reduction in long term health effects in the future. However, attention should also be paid to other aspects of commercial diver safety including the risks of trauma and the control of toxic exposures. Measures to control these risks would be expected to reduce any long term health impact in the future.

Footnote: This is a summary statement. Individuals wishing further detailed information should contact their diving medical adviser.

DMAC, the independent body comprising diving medical specialists from across Europe, seeks to provide advice about medical and certain safety aspects of commercial diving.