

# The Diving Medical Advisory Committee

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## Human Immunodeficiency Virus (HIV) Infection and Acquired Immune Deficiency Syndrome (AIDS) in Commercial Diving

DMAC 18 Rev. 1 – December 2010

*Supersedes DMAC 18 which is now withdrawn*

### Background

Guidance Note DMAC 18 was first issued in 1989 when AIDS had become a topic of concern for divers and the offshore population. Since that time there have been major developments in the medical management of patients infected with HIV and it has become appropriate to review the guidance in the light of these developments and to answer questions which are frequently asked. The subject of fitness to dive in an individual who is HIV positive is also considered.

- 1 Many patients will have no symptoms around the time of HIV infection but around 50% will suffer an illness, usually similar to glandular fever, which develops 3-6 weeks after infection. This acute seroconversion illness lasts 2-3 weeks and is followed by a complete recovery followed by a period of asymptomatic infection. Most patients will have asymptomatic infection for years after acquiring HIV. The length of time before developing symptoms varies considerably, but the average is 6-8 years after first acquiring the virus.
- 2 Modern drug therapy is now very effective in preventing or delaying the development of AIDS-defining illness and life expectancy has improved and may be near normal in many patients, especially if they are diagnosed and start treatment before there has been a significant decline in their immune function. This means there is an increasing population of HIV infected individuals who are fit for various forms of work. The improved side-effect profile of antiviral drugs that have been licensed in recent years means that most patients on modern HIV therapy can make a full contribution to the workforce.
- 3 The HIV virus attacks the body's defence mechanisms and the white blood cells which are important in the processes of immunity. This reduces the body's efficiency in preventing and dealing with infections. Patients suffering from immune deficiency are prone to a diverse range of infections. When examining divers, the possibility of HIV infection should be considered in anyone with (amongst other things) chronic diarrhoea, weight loss and lethargy, oral thrush, hairy leukoplakia, recurrent chest infections, chronic skin infections, recurrent bacterial sinusitis or multiple dermatome herpes zoster.
- 4 Transmission most commonly occurs through exchange of blood products or bodily fluids. The virus does not survive long outside the body unless in bodily fluids. Hence the need for great attention to hygiene measures in the workplace. The virus is known to be transmitted through sexual intercourse and through the use of infected needles. It may also occur in blood transfusions where the screening of blood products is inadequate and in maternity during delivery or breast feeding. HIV has been isolated in low concentration in saliva. Transmission through exhaled air resuscitation, although theoretically possible, has never been known to occur and hence is unlikely in divers sharing a regulator when buddy breathing or from sharing other equipment such as helmets. Nevertheless, a scuba diving instructor should have an alternative breathing source available for a client under instruction. Personalisation of oronasal diving equipment is recommended as is thorough cleaning using an approved disinfectant and drying after use.
- 5 There remains some uncertainty about the possibility of an adverse effect of the hyperbaric environment on a compromised immune system. The medical literature provides conflicting evidence of suppression of the immune response in divers, which might represent a hazard for an HIV infected individual. In practice, although

skin, external ear and wound infections are common in saturation divers, these respond rapidly to normal treatment.

- 6 Once somebody is known to be HIV positive, a decision to commence therapy is made dependent upon an assessment of the level of immune damage which is currently measured by the CD4 lymphocyte cell count. Once on therapy, individuals require regular specialist assessment to ensure the treatment is working. Effective therapy leads to a fall in the HIV blood level to an undetectable level at which point the patients would be regarded as a very low infection risk to others. Patients on effective treatment would be expected to have good health, although they may experience some drug side effects. A diver known to be HIV positive will continue to require specialist care and decisions regarding fitness to work should be made with specialist advice. HIV positive status does not represent a contraindication to work as a diver including saturation diving. There is no information at present to indicate that this represents a risk to other diving personnel. However, the requirement for specialist medical care may present logistical problems and the development of the AIDS illness is likely to be incompatible with diving.
- 7 The number of HIV positive individuals in the general population continues to increase. Risk factors for transmission have been identified. Normal daily contact with an infected person is safe and communal handling of objects such as crockery, cutlery, food, towels, clothes or furniture does not represent a risk. A risk of transmission is present through open wounds that bleed, but normal procedures based on the assumption that all bodily fluids are potentially infectious are required to be adequate and appropriate in order to provide protection from other blood borne viruses.
- 8 Mandatory testing for HIV is not indicated for commercial divers or others in the industry. Diver training should include education about blood borne infectious diseases including guidance on hygiene measures. Divers who present with suspicious symptoms should be offered testing, where appropriate with counselling which covers both the illness and the impact on their work.
- 9 DMAC encourages divers who are aware of their positive HIV status to discuss this with their medical advisers.