

NATO STANDARD

AAMedP-1.6

TEMPORARY FLYING RESTRICTIONS DUE TO EXOGENOUS FACTORS AFFECTING AIRCREW EFFICIENCY

Edition A Version 1

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NORTH ATLANTIC TREATY ORGANIZATION

ALLIED AEROMEDICAL PUBLICATION

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CHAPTER 1 INTRODUCTION

1.1 AIM

The aim of this standard is to stipulate the minimum temporary restrictions to be placed upon aircrew following random exposure to certain physiological conditions.

1.2 GENERAL

1. The use of modern aircraft requires the optimal physical and mental fitness in the aircrew.

2. Apart from pathological conditions, fitness may be adversely affected by a variety of exogenous factors, the effects of which may be hardly perceptible and therefore negligible in everyday activities. However, these same factors may have a considerable effect on aircrew efficiency.

3. In the interests of flight safety those responsible for the medical supervision of aircrew should be aware of these factors and the appropriate preventive measures.

4. The main factors to be considered are:

- a. The administration by medical staff, or self-administration, of pharmaceutical and certain non-pharmaceutical over the counter (OTC) substances to aircrew;
- b. Immunization procedures;
- c. Blood donation;
- d. Hypobaric chamber exposure;
- e. Centrifuge training;
- f. Simulator training;
- g. Diving, hyperbaric exposure;
- h. Strenuous physical activities;
- i. Exposure to chemical warfare agent simulants;
- j. Ophthalmologic examination.

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CHAPTER 2 FLYING RESTRICTIONS AFTER SPECIFIC EXOGENOUS FACTORS

2.1 ADMINISTRATION OF PHARMACEUTICAL SUBSTANCES

1. The medical treatment of all aircrew should be under the supervision of an aviation medicine qualified physician (flight surgeon). Aircrew receiving any medical or dental treatment likely to provoke adverse reactions should be suspended from flying duties until declared fit by a flight surgeon.

2. Aircrew should not fly for at least 48 hours after general, spinal or epidural anaesthetics, or for at least 8 hours after a local or regional (dental) anaesthetic. This period may be extended at national discretion or following any adverse reaction to anaesthetic.

2.2 ALCOHOL AND SELF ADMINISTERED DRUGS

1. Education is the primary preventive safety measure concerning flying and the use of alcohol, and the role of the flight surgeon is of key importance. The flight surgeon should provide aircrew with valid data and rational guidelines for the sensible use of alcohol by personal contact, safety meetings and other formal and informal encounters. Aircrew should not consume alcohol within 12 hours of pre-flight brief. Aircrew should not perform flying duty under the influence of alcohol or in the time of post-alcohol impairment.

2. All drugs taken with the knowledge of the flight surgeon are considered to be medical treatment and are therefore covered by paragraph 2.1.1. above. Aircrew should not fly while under the influence of any drug (prescribed or over-the-counter (OTC), including ointments) without their flight surgeon's prior approval, the only exception being if an OTC drug is being used in accordance with published national policy. Certain nutritional supplements contain pharmaceutical substances that may adversely affect aircrew performance and a flight surgeon should be consulted for advice before use.

2.3 IMMUNIZATION PROCEDURES

Immediate or delayed reactions may occur after any immunization procedure; suspension from flying duties should be mandatory where such reactions do occur. An initial suspension of at least 12 hours is recommended.

2.4 BLOOD DONATION

Aircrew should only donate blood in exceptional circumstances. In this event they should be suspended from flying duties for a minimum period of 36 hours.

2.5 HYPOBARIC CHAMBER EXPOSURE

1. When adverse symptoms or reactions occur during or after a hypobaric chamber exposure, suspension from flying duties is mandatory until fitness is declared by a flight surgeon.
2. Based on evolving research on neurological damage associated with repeated hypobaric exposure it is recommended that after hypobaric chamber training to 7620 m (25,000 feet) or above, aircrew should be protected from further hypobaric exposure to 6096 m (20,000 feet) or above (be it hypobaric chamber or cabin altitude) for 72 hours, unless operationally essential.
3. After hypobaric chamber exposure to 8230 m (27,000 feet) or below aircrew may fly without delay provided the cabin altitude of their aircraft does not exceed 3048 m (10,000 feet).
4. All altitudes in b. & c. are with reference to mean sea level (MSL).

2.6 CENTRIFUGE EXPOSURE

Centrifuge exposure may adversely affect aircrew due to physical strain of high G-load and sensory disturbance induced by centrifuge manoeuvres. After centrifuge exposure aircrew should be suspended from flying duties for at least 6 hours.

2.7 SIMULATOR TRAINING

Simulator training may adversely affect aircrew due to induced sensory disturbance. When adverse symptoms or reactions occur after simulator training, clearance for flying duty is delayed until fitness is declared by a flight surgeon.

2.8 DIVING, HYPERBARIC EXPOSURE

1. The incidence of decompression sickness during flight is considerably increased after exposure to any environment above atmospheric pressure, e.g. in SCUBA diving, hyperbaric chamber exposure. The following safety rules are to be observed:
 - a. Under normal circumstances, personnel should not be exposed to a cabin altitude above 600 m (2000 feet) during flying or altitude chamber training for at least 12 hours following SCUBA diving, compressed air dives or hyperbaric chamber exposure. A minimum period of 24 hours is required following exposure to a pressure of 2 ATA or more (diving to 10 m or deeper). This period of rest takes into consideration the hazard of decompression sickness developing, as well as the attendant general fatigue that normally

accompanies such activity. This restriction should also apply to passengers.

2. After underwater escape training using helicopter emergency underwater breathing apparatus, flying may be permitted after a minimum of 4 hours if all the following criteria are met:
 - a. The time of immersion is less than 20 minutes;
 - b. The depth of immersion has not exceeded 3 m (10 feet);
 - c. The cabin pressure altitude is not above 2450 m (8000 feet).
3. Decompression sickness symptoms occurring during or after diving impose a ban on flying until medical clearance has been obtained.

2.9 STRENUOUS PHYSICAL ACTIVITIES

Strenuous or prolonged physical exercise may adversely affect aircrew's ability to withstand the stress of flight. Flight surgeons are to ensure that aircrew are aware of the possible consequences of such exercise and are to provide guidelines. In cases of doubt, aircrew should be encouraged to consult their flight surgeon.

2.10 EXPOSURE TO CHEMICAL WARFARE AGENT SIMULANTS

Following exposure to any chemical warfare training simulant an aircrew member shall not perform aircrew duty until all physical and psychological changes produced by the simulant have cleared. A minimum period of 12 hours is always required.

2.11 OPHTHALMOLOGIC EXAMINATION

The examination by an eye specialist may include the application of mydriatic and/or cycloplegic agents. Aircrew should not fly for 24 hours after the application of these agents.

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