



Islamic Republic of Afghanistan  
Civil Aviation Authority

# **AEROMEDICAL MANUAL**

**AFGHANISTAN CIVIL AVIATION AUTHORITY DIRECTIVE  
(ACAD)**

**ACAD-PEL-024.0**

**Personnel Licensing**

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## 0 Administration and Control

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The following list contains key abbreviations used in this document, as well as others likely to be in common use in the respective area.

### 0.1 Abbreviations

ACAA .....	Afghanistan Civil Aviation Authority
ACAR .....	Afghanistan Civil Aviation Regulation
AIB .....	Accident Investigation Bureau
AIDS .....	Acquired Immune Deficiency Virus
AMA .....	Aeromedical Assessor
AME .....	Aviation Medical Examiner
AMS .....	Aeromedical Standards
ATCO .....	Air Traffic Controller(s)
ATF .....	Alcohol Testing Form
BAC .....	Blood Alcohol Concentration
BrAC .....	Breath Alcohol Concentration
cART .....	Combined Antiretroviral Therapy
CCF .....	Custody and Control Form
DAAS .....	Directorate of Airspace and Aerodrome Standards
EBT .....	Evidential Breath Tester
FIE .....	Flight Instructor Examiner
HIV .....	Human Immunodeficiency Virus
LPC .....	License Proficiency Check
MFT .....	Medical Flight Test
PEL .....	Personnel Licensing
ZFM .....	Zero Fuel Mass



## 0.2 Record of Revision

The revision page shall be completed to show: revision number, effective date of the revision, description of changes and the responsible person. Revised pages will display the DD MMM YYYY revision date and revision number on the bottom of each page. Any revision shall display the next sequential number.

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## 1 Procedure for the Authorization of Aviation Medical Examiner

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### 1.1 Purpose

This chapter is issued to provide guidance and procedures for the authorization and administration of the Aviation Medical Examiner (AME) including terminating the authorization. The Authority is responsible for oversight and management of the AMEs and establishes policies, plans, procedures and regulations governing the AME.

### 1.2 References

1.2.1 ACAR Version 2.6 November 2011, Part 2.2.1.6 (a) (7), 2.11.1.3 and ACAR-IS Version 2.6 November 2011, Part 2.11.1.3 and 2.11.1.8.

1.2.2 The prescribed forms: FORM: O-MED-009; FORM: O-MED-012; FORM: O-MED-013; FORM: O-MED-015.

1.2.3 Checklists: CL: O-MED-001; CL: O-MED-002.

### 1.3 Guidance and Procedures

#### 1.3.1 General Information

- a) AMEs are normally contracted and designated as Medical Examiners and are not employees of the Authority. They have certain responsibilities directly related to the Afghanistan Civil Aviation Authority safety program. They have the responsibility to ensure that only those applicants who are physically and mentally able to perform safely may exercise the privileges of licenses and certificates.
- b) To properly discharge the duties associated with these responsibilities, AMEs shall have received training in aviation medicine and shall maintain familiarity with general knowledge applicable to aviation. They also shall have detailed knowledge and understanding of the civil aviation rules, regulations, policies and procedures related to the medical certification. AMEs must also possess acceptable equipment and adequate facilities necessary to carry out the prescribed examinations.

#### 1.3.2 Authorization of an AME

The Authority will issue authorization under ACAR Part 2.2.1.6 only to professionally qualified and appropriately licensed doctors. Only those doctors who enjoy the respect of their associates and members of the public whom they serve shall be authorized and be retained as AMEs.

#### 1.3.3 Application Requirements

- a) Advise the applicant to bring the following documents attached to the application form on applying for the authorization:
  - (i) a properly completed prescribed Application Form;





- (ii) a certified report to demonstrate adequate competence in aviation medicine and substantiating the experience and training shown on the application form;
- (iii) License(s) to practice medicine in Afghanistan; and
- (iv) a statement affirming that there are no current restrictions of medical practice and there are no adverse actions proposed or pending that would limit medical practice by the Afghanistan licensing board, any medical society, any hospital staff, or by any other organization that may have licensing or certification Authority.

#### 1.3.4 Review of the Application

- a) Collect and evaluate the documents and records listed above; and
- b) Check the Application Form for accuracy, using the instructions attached to the form.

#### 1.3.5 Verify Applicant's Identity

- a) Inspect acceptable forms of identification to establish the applicant's identity. Compare the identification with the personal information provided on the prescribed application form. Return the applicant's identification, after making and certifying the photocopy.
- b) If the applicant's identity can be verified, proceed with the task.
- c) If the applicant's identity cannot be verified because of lack of identification or inadequate identification, explain what types of identification are acceptable. Advise the applicant to return with appropriate identification to reapply.
- d) If the applicant's identity appears to be different from the information supplied on the prescribed application form, or it appears that an attempt at falsification has been made, do not continue with this task. Collect the falsified documents and bring them to the attention of the director of licensing for further action.

#### 1.3.6 Establish Eligibility for the Authorization

Determine if the applicant meets the specific eligibility, knowledge, competency and experience requirements for the authorization as an Aviation Medical Examiner (AME) as specified in Part 2 of the Afghanistan Civil Aviation Regulations.

#### 1.3.7 Conditions of Authorization

To be designated as an AME, the applicant must comply with the following conditions:

- a) Credentials:  
The AME must notify the Authority at any time there is a change in status of the license to practice medicine;
- b) Professionalism:  
Be informed of the principles of aviation medicine; be thoroughly familiar with instructions as to techniques of examination, medical assessment, and certifica-



tion of all persons requiring aviation medical certification as specified in Part 2 of the Afghanistan Civil Aviation Regulations; and abide by the policies, rules, and regulations of the Authority.

c) Examinations:

The AME shall personally conduct all medical examinations at an established office address. Paraprofessional medical personnel (e.g. nurses, nurse practitioners, doctor assistants, etc.) may perform limited parts of the examinations (e.g. measurement of visual acuity, hearing, phorias, blood pressure, and pulse, and conduct of urinalysis and electrocardiography) under the supervision of the AME.

d) The AME shall conduct the general physical examination, and sign the Authority Form and the report to the Authority. In all cases, the AME shall review, certify, and assume responsibility for the accuracy and completeness of the full report of the examination.

e) The Authority retains the right to reconsider any action of an AME under ACAR Part 2.11.1.8 (e) (1).

**1.3.8 Discrepancies and Ineligibility**

If a discrepancy that cannot be immediately corrected exists in any of the documents, return the application and all submitted documents to the applicant. Inform the applicant of the reasons for ineligibility and explain how the applicant may correct the discrepancies.

**1.3.9 Medical Examination Fees**

The medical examination fees charged by AMEs should, as a general rule, be equivalent to the fees generally charged for a comparable medical examination service.

**1.3.10 AME's Contact**

- a) All AME will be listed in the aeromedical office with the office location and telephone number.
- b) An AME is required to promptly advise the Authority in writing, of any change in office location or telephone numbers.

**1.3.11 Conduct of the Aviation Medical Examination**

The AME will comply with the policies, orders and regulations of the Authority. The AME's attention is drawn ACAR Part 2.11.1.4 and IS 2.11.1.4 in which it is indicated that an applicant, who does not furnish the AME with accurate and complete medical information or history or fails to authorize the release of such information requested by the AME may result in the application being denied as well as suspending, modifying or revoking all the applicant's medical certificates.

**1.3.12 Prohibited Examinations**

An AME may not perform self-examination for issue of a medical certificate nor issue a medical certificate to him or herself.



#### 1.3.13 Duration of an AME's Authorization

The authorization of an AME is valid for 3 years from the date issued unless terminated earlier by the Authority. For continued service as an AME, a new Authorization shall be issued. The AME shall have completed at least 10 examinations for a medical certificate per year. Re-authorization will be at the discretion of the authorization.

#### 1.3.14 Authority of the AMEs and System of Identification

- a) An AME is authorized and obligated to –
  - (i) examine an applicant in accordance with medical practice and the requirements under ACAR Part 2.11;
  - (ii) issue of medical certificates under ACAR Part 2.11.1.8 (b);
  - (iii) submit the signed medical evaluation report to the Authority as required by ACAR Part 2.11.1.3 (e) within 5 working days;
  - (iv) report to the Authority any individual cases where, in his judgment, an applicant for a license or certificate fails to meet any requirement, which could jeopardize flight safety; and
  - (v) defer issuance of a medical certificate to the Authority in circumstances where he/she is in doubt of the medical fitness or otherwise of the applicant. The Authority shall have the final say on such issues after subjecting the applicant to further medical assessment and investigation(s).
- b) Authorization Numbering

A system of authorization numbering shall be used to identify the AME's authorization, indicating each AME's designation number. There will be a stamp issued by the Authority for the use by an AME on certifying reports and records.

#### 1.3.15 Aviation Medical Examiner Seminars

- a) The purpose of AME seminars is to develop aeromedical knowledge and clinically proficient AMEs committed to aviation safety. They are also designed to provide standardization in the application of the Authority medical certification policies, procedures and regulations.
- b) After initial designation, and as a requirement for continued designation, an AME should attend an AME seminar every year. More than 3 years should not elapse between AME seminar attendances.
- c) Travel costs and other expenses for the AME to attend seminars are the responsibility of the AME.

#### 1.3.16 Familiarization Flight

- a) In order to acquire practical knowledge of, and experience in the conditions in which the holders of licenses, certificates, ratings and authorizations carry out their duties, an AME will be required to be 'scheduled' for a familiarization flight at least once within the validity of each designation (cf. [1.3.13](#)).



- b) The Authority will program an AME on a familiarization flight in compliance with the requirements of ACAR Part 8.5.1.13 (restrictions on admission to the flight deck).

**1.3.17 Facilities and Equipment**

- a) The applicant shall have adequate facilities for performing the required examinations and possess or agrees to obtain such equipment prior to conducting any Aviation Medical examinations. Some of the equipment is as listed below (list set out below is a purely indicative):
  - (i) Standard Snellen Test: Types for visual acuity (both near and distant) and appropriate eye lane. Near vision acuity test card may be used for near and intermediate vision testing. Metal, opaque plastic or cardboard occlude.
  - (ii) Muscle Test-Light: May be a spot of light 0.5 cm in diameter, a regular muscle-test light, or an ophthalmoscope.
  - (iii) Maddox Rod: May be hand typ.
  - (iv) Horizontal Prism Bar - Risley, Hughes, or hand prism are acceptable alternatives.
  - (v) Color Vision Test Apparatus. Standard Pseudoisochromatic plates, (American Optical Company (AOC), 1965 edition; AOC-HRR, 2nd edition); Dvorine, 2nd edition; Ishihara, Concise 14 -, 24 -, or 38- plate editions; or Richmond (1983 edition, 15-plates). Acceptable substitutes are: Farnsworth Lantern; Keystone Orthoscope; Keystone Telebinocular; LKC Technologies Inc., Apt- 5 Color Vision Tester; OPTEC 2000 Vision Tester (Models 2000PAAME, and 2000OPI); Titmus Vision Tester; Titmus II Vision Tester (Model Nos. TII and TIIS); and Titmus 2 Vision Tester (Models T2A and T2S).
  - (vi) A wall target consisting of a 50-inch square surface with a matte finish (may be black felt or dull finish paper) and a 2-mm white test object (may be a pin) in a suitable handle of the same color as the background.
  - (vii) Other vision test equipment that is acceptable as a replacement for 1 through 4 above includes the American Optical Company Site-Screener, Bausch and Lomb Orthorator, Keystone Orthoscope or Telebinocular, Titmus Vision Tester, or Stereo Optical Co. OPTEC 2000 Vision Tester.
  - (viii) Standard doctor diagnostic instruments and aids including those necessary to perform urinalysis.
  - (ix) Electrocardiography equipment: Senior (class 1) Aviation Medical Examiners must have access to electrocardiographic equipment. Digital equipment with electronic transmission capability may be used if available.
  - (x) Audiometric equipment: All Aviation Medical Examiners must have access to audiometric equipment or a capability of referring applicants to other medical facilities for audiometric testing.
- b) Procedure for Inspection of an AME Facility



The medical facility of an AME shall be inspected prior to his/ her appointment as an AME and periodically after authorization. The procedure for the inspection of the AME facility will be as follows:

- (i) The AME shall be notified of the inspection of his medical facility by the Authority in writing at least 5 working days before the inspection is carried out. The AME is required to notify the Authority of his/her inability to be available for the inspection. A new date will then be agreed upon between the Authority and AME.
- (ii) On arrival at the medical facility of the AME the medical assessor will introduce himself/herself to the facility receptionist, and request to see the AME with his/her official identification card visibly worn.
- (iii) The medical assessor is also required to officially brief the AME of his reason for the inspection and discuss the modality for the inspection with the AME. The checklist to be used for the inspection will be discussed in detail with the AME and any comments made by the AME noted by the medical assessor.
- (iv) The medical assessor will request the AME to sign the relevant areas of the checklist and proceed with the facility inspection as outlined in the checklist.
- (v) The medical assessor will after completing the inspection brief the AME of any preliminary finding(s) that will need to be addressed pending a more detailed report.
- (vi) The medical assessor will finish his/her documentation of the inspection and write a detailed report of the inspection. The medical assessor will indicate his/her findings and recommendations in the relevant part of the checklist.
- (vii) The findings and recommendation of the medical assessor will be communicated to the AME. The AME will be given time to address any finding and a follow-up visit paid at a later date by the medical assessor to confirm that corrective action has been carried out by the AME.

#### 1.3.18 Issue of the Letter of Authorization

- a) When an applicant has satisfactorily met all requirements for the Authorization, and the prescribed application form has been completed, the letter of Authorization will be issued or renewed;
- b) Ensure the prescribed Authorization fee is paid (if applicable);
- c) Prepare the Authorization letter;
- d) Allocate the AMEs designation number;
- e) Provide the applicant with an AMEs Certifying Stamp;
- f) Make a copy of the Authorization letter for the licensing file;
- g) Provide applicant with the Authorization letter;
- h) File all documents on the AME licensing file;



**1.3.19 Renewal or Re-Authorization**

- a) For the re-authorization the Authority shall consider that at least ten (10) medical examinations have been performed by the AME and that the AME's services are still required.
- b) An AME should apply for renewal of the Authorization at least 21 days before it expires. If the AME has not reapplied within 21 days before the expiration date it would be inferred that the AME does not desire to renew the authorization.
- c) The AME must submit to the Authority a completed prescribed application form for reauthorization along with a list of activities and tests done within the previous 12 months preceding the application.

**1.3.20 Termination of the Authorization**

- a) The Authority shall identify those AMEs committing serious certification errors and notify them, in writing, as required, so that appropriate action may be taken.
- b) The AME's services may be terminated by not renewing the Authorization, rather than by cancellation of the Authorization during its validity period.
- c) Where there is no longer a need for the AME's services the Authorization will be terminated either for the whole Authorization or for part of the Authorization.
- d) Termination or non-renewal of Authorization may be based in whole or in part on the following criteria:
  - (i) No examinations performed within the 12 months of the initial Authorization;
  - (ii) Disregard of or failure to demonstrate knowledge of the civil aviation rules, regulations, policies, and procedures;
  - (iii) Careless or incomplete reporting of the results of medical examinations;
  - (iv) Failure to comply with the mandatory AME training requirements;
  - (v) Unprofessional office maintenance and appearance;
  - (vi) Unprofessional performance of examinations;
  - (vii) Failure to promptly deliver medical examinations evaluation reports to the Authority;
  - (viii) Loss, restriction, or limitation of a license to practice medicine;
  - (ix) Any action that compromises public trust or interferes with the AME's ability to carry out the responsibilities of his or her Authorization;
  - (x) Any illness or medical condition that may affect the doctor's sound professional judgment or ability to perform examinations;
  - (xi) Arrest, indictment, or conviction for violation of law;
  - (xii) Request by the doctor for termination of Authorization; and
  - (xiii) Any other reason the Authority deems appropriate.



1.4 **Results**

Completion of this task results in the issue of one of the following:

[1] Letter of Authorization; or

[2] Letter of Denial.

1.5 **Future Activities**

Applicant may return for re-authorization.



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## 2 Issue, Renewal or Re-Issue of a Medical Certificate

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### 2.1 Purpose

2.1.1 This chapter is issued to provide guidance and procedures for issue, renewal and re-issue of a class 1, 2 and 3 medical certificates. It provides information to assist an Aviation Medical Examiner (AME) in performing his duties in an efficient and effective manner under ACAR Part 2, and to assist applicants for medical certificates on the requirements and standards to be met for the issue, re-issue or renewal of a medical certificate.

2.1.2 It also describes the AME's responsibilities as the Authority's representative in medical certification to determine the fitness of applicants to hold a medical certificate.

2.1.3 Each person to be issued a medical certificate must undergo a medical examination based on physical and mental requirements contained in the set standards.

### 2.2 References

2.2.1 ACAR Part 2.11.

2.2.2 The prescribed forms: FORM: O-MED-001; FORM: O-MED-002; FORM: O-MED-003; FORM: O-MED-004; FORM: O-MED-005; FORM: O-MED-012; FORM: O-MED-013; FORM: O-MED-015.

### 2.3 Guidance and Procedures

#### 2.3.1 General Information

- a) The authorized aviation medical examiner takes on a responsibility of medically certifying the flight and cabin crew member and air traffic controllers. The consequences of negligent or wrongful certification, which would permit an unqualified person to take the controls of an aircraft or control air traffic, can be serious for the public, for the country and for the examiner.
- b) If the examination is cursory and the examiner fails to find a disqualifying defect that should have been discovered in the course of a thorough and careful examination, a safety hazard may be created.

#### 2.3.2 Authorization of an Aviation Medical Examiner (AME)

An AME is delegated by the Authority to examine applicants for medical fitness for the issue, renewal or re-issue of a medical certificate.

#### 2.3.3 No "Alternate" Examiners Designated

The AME is to conduct all medical examinations at their designated address only. An AME is not permitted to conduct examinations at a temporary address and is not permitted to name an alternate examiner to act on his behalf. During an AME's absence from the permanent office, applicants for flight crew member and air traffic





controller medical certification must be referred to another AME authorized by the Authority.

#### 2.3.4 Issue of a Medical Certificate

- a) A medical certificate is issued to any person who meets the medical requirements prescribed in ACAR Part 2, based on the medical examination and evaluation of the applicant's history and condition.  
The items on the certificate are indicated in part IS 2.11.1.8.
- b) The applicant for a medical certificate is required to:
  - (i) seek an appointment with an AME;
  - (ii) complete the prescribed medical certificate application form;
  - (iii) pay the prescribed fees for medical examinations;
  - (iv) furnish the AME with information required by ACAR Part 2.11.1.4;
  - (v) present a photo identification card or passport for identification. If the applicant's identity cannot be verified because of lack of identification or inadequate identification, the AME will explain what types of identification are acceptable and advise the applicant to return with appropriate identification to reapply.

#### 2.3.5 Deferral of Medical Examination

- a) The medical examination for renewal of a license, when the holder is operating in an area distant from the designated medical examiner facilities, may be deferred by the Authority, but the applicant is required to pass a medical examination with a medical examiner acceptable to the Authority.
- b) The prescribed re-examination of a license holder operating in an area outside Afghanistan distant from an Afghanistan AME facility should be that such deferment shall be made as an exception and shall not exceed:
  - (i) a single period of six months in the case of a flight crew member of an aircraft engaged in non-commercial operations;
  - (ii) two consecutive periods each of three months in the case of a flight crew-member of an aircraft engaged in commercial operations provided that in each case a favorable medical report is obtained after examination by a designated medical examiner of the area concerned, or, in cases where such a designated medical examiner is not available, by a physician legally qualified to practice medicine in that area. A report of the medical examination shall be sent to the Authority;
  - (iii) in the case of a private pilot, a single period not exceeding 24 months where the medical examination is carried out by an examiner designated by a contracting state in which the applicant is temporarily located. A report of the medical examination shall be sent to the Authority.



**2.3.6 Medical Certification Decision Making**

- a) An AME may issue a medical certificate only if the applicant meets all medical standards, including those pertaining to medical history.
- b) An AME shall not issue a medical certificate if the applicant fails to meet specified minimum standards or demonstrates any of the findings or diagnoses described in ACAR Part 2.11.2.2, 2.11.2.6 (b) (1), 11.2.7 (b) (1) and 11.2.8 (b) (1).
- c) AMEs must be aware that an established medical history or clinical diagnosis described ACAR Part 2.11.2.6 (b) (2), 11.2.7 (b) (2) and 11.2.8 (b) (2) is disqualifying.

**2.3.7 Initial Medical Certificate Issuance**

The initial issue of a Class 1 medical certificate will be done by the Authority or may be specifically delegated to an AME. The initial issue of a Class 2 and 3 certificates may be delegated to an AME as described under ACAR Part 2.11.1.8 (b) (1).

**2.3.8 Archiving of the medical reports of Applicants**

The medical reports of applicants shall be archived for a period of ten (10) years.

**2.3.9 Classes and validity of medical certificates**

An applicant may apply and be granted any class of a medical certificate as long as the applicant meets the required medical standards for that class of medical certificate.

- a) However, an applicant must have the appropriate class of medical certificate for the flying duties the applicant intends to exercise. For example, an applicant who exercises the privileges of an airline transport pilot license (ATPL) must hold a Class 1 medical certificate; an applicant who exercises the privileges of a private pilot license or a cabin crew member certificate may hold a Class 1 or 2 medical certificate and an applicant who exercises the privileges of an air traffic control license must hold a Class 3 medical certificate.
- b) The three classes of the medical certificates, identifying the application and validity of each class are specified under ACAR Part 2.11.1.8, 2.11.2.6, 2.11.2.7 and 2.11.2.8.

**2.3.10 Validity dates of medical certificates**

- a) Initial:  
Validity of a medical certificate begins on the date the medical examination is performed.
- b) Renewal or Re-issue:  
Applicants whose medical examination is conducted within 45 days before the applicant's license current expiry date will use the license expiry date as the start date of the new validity period. Applicants whose medical examinations conducted after the current expiry date or earlier than 45 days before license expiry date will use the date of the medical examination as the start date of the new validity period.



### 2.3.11 Reduction of the medical validity period

The period of validity of a medical certificate may be reduced by the Authority when clinically indicated.

### 2.3.12 Re-Validation of Medical Certificate

#### a) Class 1 Medical Certificate

- (i) If a license holder allows his medical certificate to expire by more than five years, renewal shall require an initial or extended examination, at the Authority's discretion.
- (ii) If a license holder allows his medical certificate to expire by more than two years but less than five years, renewal shall require the prescribed standard or extended examination to be performed by an AME who has obtained his relevant medical records, or at the discretion of the Authority, subject to the records of medical examinations for flight crew licenses being made available to the medical examiners.
- (iii) If a license holder allows his certificate to expire by more than 90 days but less than two years, renewal shall require the prescribed standard or extended examination to be performed by an AME at the discretion of the Authority.

#### b) Class 2 and 3 Medical Certificate

- (i) If a license holder allows his medical certificate to expire by more than five years, renewal shall require an initial aeromedical examination. Prior to the new certificate issue the relevant medical records shall be obtained by the AME.
- (ii) If a license holder allows his medical certificate to expire by more than two years but less than five years, renewal shall require the prescribed standard or extended examination to be performed by an AME who has obtained his relevant medical records, or at the discretion of the Authority, subject to the records of medical examinations for flight crew licenses being made available to the medical examiners.
- (iii) If a license holder allows his certificate to expire by less than two years renewal shall require the prescribed examination to be performed.
- (iv) If an instrument rating is added to the license, pure tone audiometry must have been performed within the last 60 months if the license holder is 39 years of age or younger, and within the last 24 months if the license holder is 40 years of age or older.
- (v) An extended aeromedical examination shall always be considered to contain a standard aeromedical examination and thus count both as a standard and an extended examination.



**2.3.13 Decrease in Medical Fitness**

A person who holds a current medical certificate issued by the Authority and who is taking medication or receiving other treatment for a medical condition that results in the person being unable to meet the requirements for the medical certificate must not exercise the privileges of their licenses, certificates, ratings or authorizations at any time they are aware of any decrease in their medical fitness which might render them unable to safely and properly exercise the privileges in compliance with ACAR Part 2.11.1.6.

License holders shall inform the Authority of any decrease in medical fitness of a duration of more than 20 days or which requires continued treatment with prescribed medication or which has required hospital treatment.

**2.3.14 Curtailment of Privileges of License Holders Aged 60 years or more**

- a) No person may serve nor may any AOC holder use a person as a required PIC in single pilot operations on an aircraft engaged in commercial air transport operations if that person has reached his or her 60th birthday as prescribed under ACAR Part 8.10.1.1 (a).
- b) For aircraft engaged in commercial air transport operations requiring more than one pilot as flight crewmembers, the AOC holder may use one pilot up to the age of 65 provided the other pilot is less than age 60 in compliance as prescribed ACAR Part 8.10.1.1 (b).
- c) Additional medical tests for pilots aged 60 - 65 years holding or being issued a Class 1 medical certificate shall include the following:
  - (i) Stress electrocardiogram at age 60 and 2 yearly thereafter;
  - (ii) Extended ophthalmological and otorhinolaryngological examinations at age 60 and 2 yearly thereafter.

**2.3.15 Re-examination of a Flight Crew, Cabin Crew Member or Air Traffic Controller**

A medical certificate holder may be required to undergo a re-examination at any time if, in the opinion of the inspector of the Authority or in the opinion of a medical assessor of the Authority for the purpose, there is a reasonable basis to question the holder's ability to meet the medical standards, that are applicable to the medical certificate holder's operation.

**2.3.16 Submission of Medical Certificates and Medical Reports to the Authority**

All certificates and medical reports, unless otherwise directed by the Authority, must be submitted to the Authority by the medical examiner within 14 days after completion of the medical examination. Originals and all copies must be signed by the AME and the applicant.

In the case of the medical examination being carried out by a constituted group of examiners, the Authority shall appoint the head of the group responsible for coordinating the results of the examination and signing the report.



### 2.3.17 Evaluation of the Medical Reports Submitted to the Authority by AMEs

- a) The Authority shall employ the services of doctors who are experienced in the practice of aviation medicine, to evaluate medical reports submitted to the Authority by the AMEs.
- b) Medical reports submitted to the Authority by AMEs shall:
  - (i) be received and stamped by the Authority, indicating the date they were received;
  - (ii) evaluated by the aeromedical assessors of the Authority using the medical assessment report form;
  - (iii) Errors in the filling of the application and assessment forms, conduct of the medical examination and reporting by the AMEs shall be documented in the error generation form by the Authority's medical assessors.
  - (iv) The AME shall be notified of his error rate in writing by the Authority quarterly.
  - (v) Minor deficiencies in aeromedical disposition by the AME will be noted and the applicant informed of the corrective measures to be taken within a given time frame.
  - (vi) Where flight safety will be jeopardized the medical certificate of the applicant shall be temporarily suspended by the Authority while further medical assessment and investigations are carried out. The AME concerned shall be notified of the temporarily suspension of the medical certificate of the applicant and the further medical evaluation being carried out by the Authority.
  - (vii) The medical assessor shall sign all medical reports evaluated by him/her indicating the limitations, restrictions and recommendations in the medical assessment report form.
  - (viii) After the evaluation by the medical assessors, of the medical reports submitted to the Authority by the AMEs, the reports are then entered into the Authority's electronic aircrew data bank of aircrew with the hardcopies filled in the different files of the aircrew kept in a fire-proof cabinet.

### 2.3.18 Accessibility to Medical Reports

- a) Medical confidentiality shall be respected at all times.
- b) All medical reports and records shall be securely held with accessibility restricted to authorized personnel.
- c) When justified by operational considerations, the medical assessor shall determine to what extent pertinent medical information is presented to relevant officials of the Authority.

### 2.3.19 Protection and Destruction of Application Forms

Examiners are cautioned to provide adequate security for blank medical application and certificate forms to ensure that they do not become available for illegal use.



When new or revised medical forms and certificates are issued, an AME will be advised by the Authority to dispose of the old forms and certificates.

If requested, the AME should be prepared to account for the forms. The AME is responsible for making provisions to return all the unused forms at the time the AME ceases to exercise the privileges of an AME, either by resignation, retirement, termination, or death.

**2.3.20 Examiners Responsibility to Review Application**

A medical certificate shall not be issued to an applicant who refuses to answer any of the items on the medical assessment/evaluation form.

**2.3.21 Issue or Denial of a Medical Certificate**

After reviewing the medical history and completing the examination, the AME should:

- a) Issue a medical certificate in accordance with ACAR Part 2.11.1.8 (b);
- b) Issue a medical certificate with the appropriate limitations in accordance with ACAR Part 2.11.1.5 (a) (3);
- c) Deny issuance of a medical certificate in accordance with ACAR Part 2.11.1.8 (e). Issue the applicant with a certificate of denial;
- d) Give the applicant the original of the relevant medical certificate and retain a copy for the applicant's medical file;
- e) The medical report shall be forwarded to the Authority under ACAR Part 2.11.1.3 (e).

**2.4 Results**

Completion of this task results in the issue of one of the following:

- [3] A Medical Certificate;
- [4] A Certificate of Denial;
- [5] Forwarding a full Medical Report to the Authority.

**2.5 Future Activities**

An applicant may return for renewal or re-issue of a medical certificate.



### 3 Alcohol and Psychoactive Substance Abuse Policy

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#### 3.1 Purpose

This chapter is issued to provide guidance and procedures to aeromedical assessors in the testing procedures, regulations, enforcement actions and aeromedical disposition involving aircrew/ATCO on alcohol and psychoactive substance use.

#### 3.2 References

3.2.1 ACAR Part 1.2.1.8, 2.11.1.7 and 8.5.1.5.

3.2.2 The prescribed forms: FORM: O-MED-006; FORM: O-MED-007; FORM: O-MED-008; FORM: O-MED-010; FORM: O-MED-011; FORM: O-MED-014.

#### 3.3 Guidance and Procedures

##### 3.3.1 General Information

- a) Holders of flight crew member and air traffic controller licenses must not engage in the use of substances which might render them unable to safely and properly exercise the privileges of the license in compliance with ACAR Part 2.11.1.7.

**Note:** *A history of acute toxic psychosis need not be regarded as disqualifying, provided that the applicant has suffered no permanent impairment.*

- b) The psychoactive substances comprise the following;

- Alcohol
- Opiates
- Cannabinoids
- Sedatives
- Hypnotics
- Cocaine
- Heroin
- Psycho stimulants
- Hallucinogens and
- Volatile solvents

(i) Alcohol

The effects of alcohol on performance are:

- [A] Euphoria – Blood alcohol concentration (BAC) of 25mg/100ml
- [B] Lack of co-ordination – BAC of 50 - 100mg/100ml
- [C] Unsteadiness – BAC of 100 - 150mg/100ml
- [D] Stupor – BAC of 200 - 400mg/100ml
- [E] Respiratory depression and death BAC >400mg/100ml



(ii) Other effects of psychoactive substance abuse are:

[A] Alteration of mental state;

[B] Interference with judgment, vision, alertness, and co-ordination;

[C] Addiction.

### 3.3.2 Alcohol and Psychoactive Substance Testing and Reporting

- a) An employee who performs any function requiring a license, rating, qualification or authorization prescribed by these regulations directly or by contract for a certificate holder under the provision of these regulations may:
  - (i) Be denied any license, certificate, rating, qualification, or authorization for a period of up to 1 year after the date of refusal to submit to a drug or alcohol test;
  - (ii) Have his or her license, certificate, rating, qualification, or authorization issued under these regulations suspended or revoked.
- b) Any person subject to these regulations who is convicted for the violation of any local or national statute relating to the growing, processing, manufacture, sale, disposition, possession, consumption, transportation, importation of narcotic drugs, marijuana, depressant, stimulant drugs or substance may:
  - (i) Be denied any license, certificate, rating, qualification, or authorization issued under these regulations for a period of up to 1 year after the date of final conviction; or
  - (ii) Have his or her license, certificate, rating, qualification, or authorization issued under these regulations suspended or revoked.
- c) Any person subject to these regulations who refuses to submit to a drug or alcohol test to indicate the percentage by weight of alcohol in the blood, when requested by a law enforcement officer, or other persons duly authorized by the Authority or refuses to furnish or to authorize the release of the test results requested by the Authority may:
  - (i) Be denied any license, certificate, rating, qualification, or authorization issued under these regulations for a period of up to 1 year after the date of that refusal; or
  - (ii) Have his/her license, certificate, rating, qualification, or authorization issued under these regulations suspended or revoked.
- d) No person may act or attempt to act as a crewmember of a civil aircraft:
  - (i) While under the influence of alcohol or
  - (ii) While using any drug that affects the person's faculties in any way contrary to safety.
- e) A crew member shall, up to 8 hours before or immediately after acting or attempting to act as a crew member, on the request of a law enforcement officer or the Authority, submit to a test to indicate the presence of alcohol or psychoactive drugs in the blood.





- f) Airline and ATC operators are to institute an alcohol work place policy for their employees which will be reviewed by the Authority periodically. This policy shall include the random testing of personnel by the employer while at work.
- g) The maximum permissible limit of blood alcohol concentration (BAC) for aircrew and ATCOs is 0.019 or less (i.e. less than 0.02).
- h) Zero tolerance testing for the following illicit drugs:
  - Cocaine,
  - Marijuana,
  - Opiates,
  - Amphetamines,
  - Phencyclidine,
  - Inhalation of solvents,
  - Heroin
  - and other hallucinogens.
- i) "Bottle to Throttle" time of 8 hours for Aircrew.
- j) Immediate suspension from flight or ATCO duties of any personnel on the suspicion of alcohol and or drug intoxication.
- k) Suspicion and investigation for alcohol abuse of an applicant if he/ she shows up drunk for an appointment with the AME for his/her periodic medical assessment.
- l) Random and on the spot assessment of aviation personnel for alcohol (breathalyzer) and or drug abuse (urine testing) will be carried out by the police, the Authority or their representatives.

#### 3.3.3 Reasons for Testing

Reasons for testing are:

- a) Post-accidence
- b) Reasonable suspicion/cause
- c) Random
- d) Return-to-duty
- e) Follow up

#### 3.3.4 Timing and Location for Testing

- a) The testing of aviation personnel by the Authority for alcohol or psychoactive substance abuse will be carried out at any time and at any of the following locations:
  - (i) Return-to-duty and follow-up testing shall be conducted at the Authority's testing room.



- (ii) Reasonable suspicion, random and post-accident testing may be carried out in:
  - [A] Briefing room of aircrew before a flight
  - [B] In the cockpit of an aircraft after walk around by pilot but before the call for passengers to embark aircraft or before commencing control of air-space in the case of an ATCO and;
  - [C] Immediately after completing his/her duty.
  - [D] In the control tower, enroute center, or approach center in the case of an ATCO who is already on duty.
- (iii) A convenient and secure place in the case of other aviation personnel.
- b) After an accident involving aviation personnel, a test shall be conducted within 2 hours but not later than 8 hours of the accident.
  - (i) The post-accident testing shall be conducted at the most convenient place with as much security and privacy as possible.

#### **3.3.5 Information and Briefing**

- a) The representative of the employer of the personnel to be tested present at the scene will be duly informed by the Authority of the testing to be carried out.
- b) If a random test is to be carried out, the personnel to be tested will be randomly selected by a method to be determined by the Authority which shall be free from bias.
- c) If the test is based on reasonable suspicion, upon a report received on personnel or after an accident, the personnel will be so informed, singled out and tested as appropriate.
- d) The personnel is free to accept or refuse to be tested for alcohol or psychoactive substance abuse. A refusal for testing shall be treated as a positive test and the personnel shall be immediately removed from safety-sensitive functions for a period not less than one year.

#### **3.3.6 Alcohol Testing**

##### **Types of Tests**

- Screening Test
- Confirmatory Test

##### **a) Screening Test**

- (i) A screening test shall be performed on the personnel based on modalities mentioned above using an Alco Sensor IV Evidential Breath Tester (EBT) with or without a printer.
- (ii) If the screening test result of Breath Alcohol Concentration (BrAC) is less than 0.02, the test shall be deemed to be negative.



(iii) However if the screening test result is 0.02 or greater, a confirmatory test will be performed.

b) Confirmatory Test

(i) A confirmatory test is conducted only when a screening test result is 0.02 or greater.

(ii) It can only be carried out using an Evidential Breath Tester (EBT) device which has a printer (RBT IV).

3.3.7 Testing Procedure

- a) An Alcohol Testing Form (ATF) in triplicate shall be used when the Authority Evidential Breath test (EBT) on any personnel.
- b) The ATF shall be filled in four steps as outlined below in [3.3.8](#), [3.3.9](#), [3.3.10](#) and [3.3.11](#).
- c) The employee or personnel to be tested will be asked to identify his/herself by photo ID, national driver's license or any government issued identification document. Identification enforcement officer, medical assessor or any representative of the Authority conducting the test will also identify himself/herself if so demanded by the employee.
- d) The employee or personnel to be tested shall then be informed of the procedure of the test, which can also be found at the back of the alcohol testing form of the Authority.
- e) The employee shall be further informed that if the screening test is 0.02 or greater a confirmatory test shall be carried out after a 15-minute waiting period. In the event that the confirmatory test is 0.02 or greater the test shall be deemed as being positive with attendant consequences, which will be applied by the Authority in consonance with his/her employers.

3.3.8 Step 1 of the Test

- a) The employee or personnel name, personnel photo ID number or license number, employer's name, address, telephone number and reason for test will be entered in the provided spaces on the ATF.
- b) The personnel to be tested will be required to confirm that the information entered on the ATF is true and correct.

3.3.9 Step 2 of the Test (Certification Statement)

- a) The personnel being tested will be required to sign this part of the ATF indicating his/her acceptance to be tested. If however the personnel refuses to sign this part of the ATF it shall be treated as a 'refusal to test'.
- b) The employee is then asked to pick a sealed mouth piece.
- c) The mouth piece is then unsealed gently by the medical assessor or the representative of the Authority and inserted into the EBT instrument, which will then prompt for the test to proceed.



- d) The employee or personnel to be tested is then instructed to take a deep breath, hold it briefly and blow continuously into the EBT instrument through the mouthpiece until he/she is told to stop.
- e) A click will be heard if enough breath sample has been introduced into the EBT instrument and the test will therefore proceed with the instrument analyzing the collected breath sample.
- f) Within a few seconds, the result of the test will be displayed on the 4-digit LCD display of the EBT instrument.

#### **3.3.10 Step 3 of the Test**

Step 3 of the test has to be completed by the medical assessor or representative of the Authority.

- a) The information to be filled on the ATF in this step of the test shall include the following; the name, address and telephone number of the person conducting the test, the device being used, the sample being used for the test (saliva or breath), whether a 15-minute waiting period was observed in the case of a positive screening test requiring a confirmation test. Other details to be written on the ATF are; details of screening test: (test number, testing device name, testing device serial number or lot number and expiration date, time of test with any device-dependent activation times, and the results).
- b) Confirmation Test
  - (i) Once a screening test result is 0.02 or greater the personnel being tested is informed of the result and the need for a confirmation test after a mandatory 15-minute waiting period to be conducted.
  - (ii) The personnel will be informed by the person conducting the test not to engage in any of the following during the fifteen-minute waiting period; eating, smoking, belching, putting anything in his/her mouth or drinking. Failure to comply with this instruction will be deemed as a 'refusal to test'.
  - (iii) The personnel will remain in the testing area being closely monitored for compliance with the above instructions during the mandatory 15-minute waiting period.
  - (iv) An air blank with a result of 0.00 must be recorded by the Alcosensor IV instrument at the expiration of the 15-minute waiting period and the result of the air blank test shown to the personnel being tested before the confirmation test proceeds.
  - (v) After observing the mandatory 15-minute waiting period, the test will be repeated with the personnel being tested blowing into the Alcosensor IV device. The test result will be printed out immediately in triplicate by the EBT.
  - (vi) The personnel being tested is then shown the printed test result before it is affixed with a tamper-evident tape to the three copies of the Alcohol Testing Form (ATF).
  - (vii) If the confirmation test result is 0.02 or greater (positive confirmation test) the personnel being tested is then asked to read, sign and date the em-



ployee or personnel certification statement found in step 4 of the Alcohol Testing Form (ATF).

- (viii) A positive (0.02 or greater) confirmation test result shall be immediately communicated to the employer of the personnel. The employee shall then be immediately taken off his/her duty for further administrative action.
- (ix) However if the confirmation test result is less than 0.02 (negative confirmation test result) the employee or personnel is not required to read, sign and date the certification statement in Step 4 of the ATF. The personnel is declared free of alcohol abuse, and the test is deemed to be completed.
- (x) The documents are then signed and dated by the person conducting the test and a copy of the ATF is given to the personnel being tested, one copy mailed to his/her employers and one is retained by the person who conducted the test.

#### 3.3.11 Step 4 of the Test

- a) This step of the test is to be completed by the personnel being tested if the confirmation test result is 0.02 or higher, affirming that he/she has submitted to the alcohol test, the results of which are accurately recorded on the form and that he/she will not drive, perform safety sensitive duties, or operate heavy equipment because the results are 0.02 or greater.
- b) Refusal to sign the employee certification statement in step 4 of the ATF by the personnel being tested is not deemed as a refusal to test. A note will however be made by the person conducting the test in the remarks column in step 3 of the refusal of the personnel to sign the employee certification statement.

#### 3.3.12 Insufficient Breath Sample (Shy Lung)

- a) In the event that the breath sample introduced into the EBT instrument by the personnel being tested is insufficient, the instrument will display "NOGO" or "V006" or another notification as described in the operating instructions of the EBT instrument on the third attempt.
- b) The test is to be repeated three times with proper instructions by the person conducting the test to the personnel being tested on the need to provide a sufficient breath sample by taking a deep breath, holding it for a few seconds and blowing continuously into the mouth piece of the Alcosensor IV device.
- c) This will be noted in the remark column in step 3 of the ATF and the employee sent to a competent respiratory physician for a medical check to exclude medical pathology as cause for the insufficient breath sample.
- d) If the medical report reveals the absence of any medical pathology resulting to his/her inability to produce a sufficient breath sample, this will be treated as a 'refusal to test' which shall carry the same penalty as a positive test.
- e) If however, there is a medical cause for the employee's inability to produce a sufficient breath sample, a manual EBT testing shall be carried out using the manual provision on the Alcosensor IV device.



### 3.3.13 Testing for Psychoactive Substance

- a) If the personnel is going to be tested for alcohol and drug abuse, the alcohol test will be carried out before the drug test, if practicable.
- b) Employee Identification

The employee shall be identified by an acceptable means of identification to include: Photo identification (e.g. driver's license, employee badge issued by the employer, other means of identification duly issued by the Government of the Islamic Republic of Afghanistan or identification by an employer or PIC, lead crew, or most senior ATCO on duty.
- c) General Requirements
  - (i) The personnel to be tested shall be required to produce an unadulterated urine sample for the test which shall be a split-sample, to ensure confirmation in a laboratory in case of a positive screening test.
  - (ii) A drug testing Custody and Control Form (CCF) shall be used for drug testing by the Authority.
- d) Procedure for Urine Collection
  - (i) The medical assessor or representative of the Authority conducting the test must have received training in urine collection and be duly certified.
  - (ii) Urine collection site
    - [A] A urine collection site (temporary or permanent) will be selected by the Authority where the personnel will provide their urine specimen.
    - [B] The collection facility may either be; a single –toilet restroom, with a full length door or a multi-stall restroom, with partial length doors.
  - (iii) A collection site must have the following;
    - [A] Restroom or stall with a toilet for the employee to have privacy while providing the urine sample. If possible a single toilet restroom, with a full-length privacy door is to be made available.
    - [B] A source of water for washing hands, if practicable should be external to the restroom where urination occurs. If not practicable, the medical assessor must secure the water source before the urine collection takes place by using tamper-evident tape or cutting off the water supply.

Moist hygienic towelettes should be provided outside the rest room if there is no water.
    - [C] All urine collections are to be monitored by the urine collector.
  - (iv) Security requirements at urine collection sites
    - [A] Restrictions to prevent unauthorized access to the site during the collection.
    - [B] Toilets are to be secured to prevent access by unauthorized persons.



- [C] A suitable clean surface to use as a work area and for completing the required paper work.
  - [D] Removal of all items that can be used to adulterate the urine sample.
  - [E] Provisions for the secure handling and storage of specimens.
- e) Drug Custody and Control Form (CCF)
- (i) The CCF will be used to document every urine collection and testing.
  - (ii) The CCF shall consist of 4 copies namely;
    - [1] laboratory copy (which accompanies the split specimen for confirmation of test;
    - [2] Authority's copy (retained by the Authority);
    - [3] employer's copy; and
    - [4] employee's copy.
  - (iii) The CCF is to be completed by the medical assessor or urine collector.
- f) Urine collection procedure
- (i) The information to be provided in the first step of the CCF shall include the following; employer ID No, reason for test, drugs to be tested for, collection site address.
  - (ii) The personnel to be tested is required to identify him/herself with the appropriate employer identification card or government issued ID card. He/she will also confirm the details above as being correct.
  - (iii) The urine collector will then explain the process to the personnel to be tested and ask him/her to go to the urine collection site/toilet to produce the urine in a container given to him by the urine collector. The personnel to be tested is to return the urine sample to the urine collector on completion of the collection.
  - (iv) The urine collector will note in the appropriate column of the CCF the temperature and color of the urine specimen produced by the personnel.
  - (v) The urine sample is then split into two bottles (split sample) by the urine collector. The first bottle is to contain at least 30 mls and the second bottle 15 mls of urine.
  - (vi) The urine bottles are both sealed with a tamper-evident seal and a label affixed on the bottles which will have the same serial number as the CCF being used to fill the details of the personnel being tested and the testing process.
  - (vii) The personnel being tested will be required to sign the label affixed to the urine bottle and the date of the test also be indicated on the label
  - (viii) The personnel will then sign step 5 of the CCF confirming that he/she has not adulterated the urine sample in any way and that the urine bottles were sealed with a label affixed in his/her presence.



- (ix) The urine collector will indicate the mode of transfer of the sealed urine bottles to the testing laboratory.
  - (x) In the event that a random test will be conducted by the urine collector on the urine sample of the personnel, the testing card which must be sealed will be dipped into the urine in one of the containers in the presence of the personnel. The result on the test strip will be immediately shown to the personnel and noted in the remark column as the screening test.
  - (xi) In the event of a positive screening test the result of the second split urine sample sent to the laboratory must be received before a conclusion is reached. However the personnel will be removed from any safety-sensitive job before the receipt of the confirmation test result.
- g) Shy bladder procedure
- (i) In the situation that the employee fails to provide a sufficient amount of urine (45 ml) for a required drug test; it is referred to as “shy bladder”.
  - (ii) The urine collector shall treat all cases of “shy bladder” with understanding and explain to the employee the process of a “shy bladder” collection.
  - (iii) The employee is required to drink 40 ounces of fluids, distributed reasonably through a period of 3 hours, or until the individual has provided sufficient amount of urine specimen whichever occurs first.
  - (iv) A water log is started from the start of water intake until 40 ounces of fluid is consumed, by the employee being tested.
  - (v) Refusal to drink fluid by the employee as required is not treated as a “refusal” to test.
  - (vi) Insufficient urine sample should be discarded and new specimen bottles used for the next collection.
  - (vii) In the event that the employee is unable to provide sufficient urine sample (45 ml), after drinking 40 ounces of fluid over a 3 hour period, a medical evaluation by a competent urologist acceptable to the Authority will be required.
  - (viii) If the medical evaluation shows no evidence of pathology, it shall be deemed a “refusal” to test by the Authority and shall be treated in the same manner as a positive test.

**3.3.14 Aeromedical disposition on testing positive to alcohol**

For an aircrew or ATCO who tests positive to an alcohol test, the following steps shall be taken:

- a) Revocation of aircrew/ATCO license for one (1) year.
- b) Treatment by a competent psychiatrist/rehabilitation facility.
- c) Re-certification after the one (1) year period of license revocation will be after successful treatment or where no treatment is necessary, after the cessation of





the problematic use of substances and upon determination that the person's continued performance of the function is unlikely to jeopardize safety.

- d) Follow-up aircrew surveillance will be maintained for a period of sixty (60) months.

3.3.15 Aeromedical disposition on testing positive to psychoactive substance(s)

For an aircrew or ATCO who test positive to psychoactive substance(s), the following steps shall be taken:

- a) Revocation of aircrew/ATCO license for one (1) year.
- b) Treatment by a competent psychiatrist/rehabilitation facility.
- c) Re-certification after the one (1) year period of license revocation will be after successful treatment or where no treatment is necessary, after the cessation of the problematic use of substances and upon determination that the person's continued performance of the function is unlikely to jeopardize safety.
- d) Follow-up aircrew surveillance will be maintained for a period of sixty (60) months.

3.4 **Results**

Completion of this task results in the issue of one of the following:

- [1] Revocation of aircrew/ATCO license for one (1) year.
- [2] Re-certification after the one (1) year period of license revocation with evidence that the problem has been resolved with no danger to safety.

3.5 **Future Activities**

An applicant may return for re-certification after one (1) year.



## 4 Procedures for Evaluation of Borderline Certification Cases

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### 4.1 Purpose

This chapter is issued to provide guidance and procedures for medical assessors for the evaluation of borderline certification cases (special circumstances).

### 4.2 References

4.2.1 ACAR Part 2.11.1.5.

4.2.2 ICAO Manual of Civil Aviation Medicine (ICAO Doc 8984).

### 4.3 General Information

#### 4.3.1 Objective

Borderline medical conditions should first be referred to a specialist for a thorough investigation as outlined in the following chapters of this manual. This should include an evaluation of whether or not the condition is progressive, to what extent functions is impaired, and whether there is any risk of future deterioration or sudden incapacitation.

#### 4.3.2 Sample medical flight tests

- a) If the applicant fails to meet the medical requirements but the condition, in the examiner's opinion, does not affect the regular and safe performance of duties, the licensing Authority might wish additionally to assess any skill and experience demonstrated during practical flight tests, in order to make certain that the applicant is capable of performing duties without endangering flight safety.
- b) Special medical flight testing, appropriate to the applicant's deficiencies, is conducted to help the licensing Authority estimate the applicant's ability to perform under normal as well as adverse flight conditions. Therefore, testing of the applicant could include marginal or simulated marginal conditions such as might be encountered in emergency operations, in adverse weather, in twilight or at night, in haze or cloudiness, and in flight towards the sun as appropriate to the condition being assessed.
- c) The flight test report should comment on the conditions under which tests were given.
- d) Reasonable simultaneous tasks should be introduced during medical flight testing (such as map reading and navigation, operation of flight equipment, maintenance of communications, and even equipment or engine malfunction) to estimate the applicant's ability to perform more than one task simultaneously.
- e) Specifications for such special medical flight tests provide guidelines to help in determining the applicant's abilities and limitations.
- f) Where the applicant's abilities are compared to those of the flight examiner, it is assumed that the relevant flight examiner's physical attributes are normal. If not, the applicant should be reassigned to another flight examiner.



- g) All of the medical flight test items should be observed and assessed by the flight examiner, but additional tests may be added as deemed necessary at the time of the testing.
- h) A medical flight test should be conducted when assessing borderline cases described below. The descriptions apply mainly to general aviation pilots but the same principles are relevant to professional pilot operations.

#### 4.3.3 Deformity or absence of extremities

An applicant might be assessed as fit if able to demonstrate:

- a) Ability to reach readily and operate effectively all controls that would normally require use of the deficient extremity (or extremities), noting any unusual body position required to compensate for the defect.
- b) Ability to perform satisfactorily emergency procedures in flight, such as recovery from stalls and power-off control, as well as on the ground, including evacuation of the aircraft.

#### 4.3.4 Defective hearing

Defects in hearing would not normally necessitate tests under actual flight conditions since all pertinent factors may be readily simulated. Whether conducted on the ground or in flight conditions, the main considerations to be assessed in such cases are:

- a) Ability to hear radio voice and signal communications.
- b) Ability to understand ordinary conversational voice on the ground, in the cockpit with engine on and engine off. (The examiner should guard against the applicant lip-reading.)

#### 4.3.5 Speech defects - stammering, stuttering

An applicant might be assessed as fit, if able to demonstrate ability to converse and be clearly understood in direct conversation and over the radio.

#### 4.3.6 Visual deficiencies

- a) The following circumstances represent some of the typical conditions defining the visual abilities required of a general aviation pilot. Possession of these abilities by an applicant or the applicant's inability to meet the required level of proficiency may be established by simulation or, more realistically, in actual flight conditions. In either case, the ability of an applicant to perform specified tasks is a practical requirement which is not easily established by a conventional test.
- b) Suggested testing procedures may determine the following:
  - [1] Ability to select emergency landing fields from a distance, preferably over unfamiliar terrain and from high altitude.
  - [2] Ability to undertake simulated forced landings in difficult fields. Note the manner of approach, rate of descent, and comparative distance at which obstructions (stumps, boulders, ditches) are recognized.



- [3] Ability to recognize other aircraft approaching on a collision course (possibly by pre-arrangement), especially aircraft approaching from the far right or far left.
- [4] Ability to judge distances (compared with the examiner's judgment), such as distance from other aircraft and from the ground, and to recognize landmarks at the limit of the examiner's vision.
- [5] Manner in which landings are made, including crosswind landings.
- [6] Ability to read aeronautical maps in flight and to tune the radio on a predetermined station accurately and quickly.
- [7] Ability to read instrument panels quickly and correctly (including overhead panel, if any).
- c) Additional color perception tests
  - [8] An applicant failing to obtain a satisfactory score when tested with pseudo-isochromatic plates may nevertheless be assessed as fit, as specified in ICAO Annex 1, 6.2.4.4, provided the applicant is able to readily distinguish the colors used in air navigation and correctly identify aviation colored lights.
  - [9] This can be tested, usually for aviation red, green and white light, by means of a color perception lantern recognized by the licensing Authority. Failure of the applicant to name each color correctly within the time during which the light is being shown (usually about four seconds) shall indicate failure of the test.
  - [10] Several such lanterns are in use.
  - [11] Additional diagnostic testing may be carried out by anomaloscopy.

#### 4.3.7 Medical flight test reports

All results of special medical flight tests should be reported to the licensing Authority.

The report should include information about:

- a) deficiency, test and recommendations;
- b) any additional procedures deemed necessary by the examiner;
- c) any physical attributes of the examiner relevant to comparison of the examiner's abilities with those of the applicant;
- d) marginal or simulated marginal conditions for the test;
- e) the applicant's susceptibility to distraction caused by simultaneous tasks; and
- f) any recommended operating limitations for the license concerned or, alternatively, the fact that no limitations are required.

#### 4.4 Results

Completion of a medical flight test may result in one of the following:



- [1] Issuance of an medical certificate (unrestricted or with the appropriate limitation)
- [2] Upholding the initial denial of medical certificate.

#### 4.5 **Future Activities**

An applicant who fails a medical flight test may re-apply for the conduct of another medical flight test with improvement in his/her medical condition.



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## 5 Procedure for On Board Inspection of First Aid and Medical Kits

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### 5.1 Purpose

This chapter is issued to provide guidance and procedures for medical assessors on the conduct of in-board inspection of first aid and medical kits of aircraft.

### 5.2 References

5.2.1 ACAR Part 7.9.1.11 and 7.9.1.12.

5.2.2 Checklists: CL: O-MED-008 (Checklist for the on-board inspection of First aid and Medical kit).

### 5.3 Guidance and Procedures

#### 5.3.1 General Information

There is the need to periodically inspect the first aid and medical kits carried on aircraft for the handling of medical emergencies that may occur during flights (in-flight medical emergencies). The periodic inspection of these kits is to ensure that the drugs and equipment being carried in them are not expired and are in compliance with the provisions of the regulations.

#### 5.3.2 Inspection procedure

- a) The medical assessor will approach and board a randomly picked aircraft after the discharge of passengers.
- b) The medical assessor will then inform the captain of the flight or lead cabin crew his/her assignment.
- c) Using a prepared checklist the medical assessor will either (1) require that all the first aid and medical kits on-board the aircraft are brought for inspection or (2) locate the first aid and medical kits on-board the aircraft by himself and take for inspection.
- d) The name of the airline, name of flight crew, date of inspection and the number of first and medical kits on board the aircraft are noted in the checklist.
- e) The captain or lead cabin crew member will then sign the consent for inspection.
- f) The first aid and medical kits will be inspected for the following:
  - (i) Integrity of the medical kit (storage, case, safety pin etc.).
  - (ii) Conformity of the contents of the kits in relation to the regulations.
  - (iii) Expiry date of the drugs and equipment in the kits
- g) Any noted minor discrepancies will be discussed with the flight crew.



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- h) Any kit with expired drugs or equipment will be immediately withdrawn from service and the airline required replacing it before the next operation of that aircraft.
  - i) The medical assessor makes a note of the registration of the aircraft and ensures that another inspection of the kits in the aircraft is carried out as soon as it is practicable to ensure compliance with the regulations.
  - j) Failure to comply will result to enforcement action through consultation with the operations directorate and legal unit of the Authority.



## 6 Airport Emergency Medical Preparedness, Aircraft Accident Investigation and General Rules

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### 6.1 Purpose

This chapter is issued to provide guidance and procedures to medical assessors on the conduct of airport emergency medical preparedness, participation in aircraft accident investigation and the general rules for handling aircraft accident casualties.

### 6.2 References

6.2.1 ICAO Annex 13.

6.2.2 Relevant checklists: CL: O-MED-003; CL: O-MED-004; CL: O-MED-005.

### 6.3 Guidance and Procedures

#### 6.3.1 General Information

There is the need for medical assessors to be informed of their roles in respect of airport medical emergencies especially in relation to aircraft accidents resulting in mass deaths or injuries.

#### 6.3.2 Airport emergency medical preparedness

- a) The aeromedical standards department of the Authority will be involved in the preparation, organization and implementation of airport emergency/disaster plans at all airports in the country in collaboration with the all other departments of the Authority, aerodrome service providers, emergency management agencies, security agencies, hospitals etc.
- b) Mock exercises shall be conducted periodically thereafter to prepare the airports to handle medical emergencies when they arise.
- c) A checklist for airport emergency mock exercises will be used.

#### 6.3.3 Aircraft accident investigation

- a) The aeromedical standards department of the Authority will form part of the “Human Factors Group” in any aircraft accident investigation within the Islamic Republic of Afghanistan. The department will avail its expertise to accident investigators of the Accident Investigation Bureau (AIB). This group is usually responsible for all aeromedical aspects of the crew’s performance including physical, physiological and psychological elements. It is concerned with issues of crew incapacitation.
- b) The analysis of the “Human Factors Group” shall include the following:
  - (i) The presence of any physical or psychological disorder that may have contributed to impaired function of the flight deck crew.
  - (ii) Any specific environmental factor(s) that may have affected the crew’s performance.





- (iii) Any factors in the medical, paramedical and psychological background of the crew which might suggest or explain a decrement in their function or efficiency.
- (iv) The bioengineering aspects that will include among other things an attempt to establish the relationship of injuries sustained by casualties to the cockpit, cabin structure, seat orientation, harness restraint, etc.
- (v) The factors that may have affected negatively the immediate evacuation of the aircraft and escape. The efficiency of survival aids will also come under scrutiny.
- (vi) The pattern of injuries that may provide sound evidence as to the sequence of events or even the cause of the accident.
- (vii) The services of a forensic pathologist will be required in fatal aircraft accidents in matters relating to body recovery, identification; and subsequent post-mortem examinations.
- (viii) The body recovery and identification forms will be used for each victim of an aircraft accident.

#### 6.3.4 General rules to be observed in the handling of aircraft accident casualties

- a) Do not remove any of the bodies until all inquiries and examination which can be made on the spot have been concluded.
- b) Determine and record the position of each body in relation to the crash site.
- c) Do not touch any wreckage, human remains or property until all evidence that might assist in the identification has been photographed or recorded, and even when the examination and identification of the victims is finished, do not touch any wreckage until the competent Authorities (Police, AIB, ACAA etc.) have completed their investigations.
- d) Collect all personal possessions that may belong to the deceased and keep these with the remains to which they belong.
- e) Attach immediately a tag carrying an identification number marked in indelible ink to each corpse: the tag should be attached to the body itself and not to a stretcher or to a blanket in which the remains have been wrapped.
- f) Ensure the early transfer of all human remains to a mortuary facility.
- g) Assist the pathologist in carrying out the post-mortem examinations on the remains of the casualties.



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## 7 Medical Assessment of Pregnancy

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### 7.1 Purpose

This chapter is issued to provide guidance and procedures for medical assessors in the medical assessment of pregnant crew members.

### 7.2 References

- 7.2.1 ACAR Part 2.11.2.6 (b) (34), (35) and (36), 2.11.2.7 (b) (32), (33) and (34) and 2.11.2.8 (b) (31), (32) and (33).

### 7.3 Guidance and Procedure

#### 7.3.1 General Information

Pregnancy is a normal physiological process; however, major anatomical and hormonal disturbances are associated with it which increases the risk of incapacitation accordingly.

#### 7.3.2 Evaluation of fitness

- a) Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicates a low risk, uncomplicated pregnancy.  
The fit assessment period may be limited to the end of the 26th week for Class 1 medical assessment and 34th week for Class 2 and 3 medical assessments.  
In the event of an unfit status, a medical report shall be sent to the Authority.
- b) A crew member who confirms that she is pregnant is to immediately inform the Authority in writing.
- c) Following confinement or termination of pregnancy, the applicant shall not be permitted to exercise the privileges of her license until she has undergone re-evaluation in accordance with best medical practice and has been assessed as fit to safely exercise the privileges of her license and ratings.



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## 8 Procedure for the Appeal of Aeromedical Decisions

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### 8.1 Propose

This chapter is issued to provide guidance and procedures for the appeal of decisions by the Authority in respect of denial or revocation of medical certificates.

### 8.2 References

8.2.1 ACAR Part 1.4.1.

### 8.3 Guidance and Procedures

8.3.1 Decisions of the Authority may be appealed and this includes those related to the denial or revocation of a medical certificate.

8.3.2 The applicant notifies the Authority in writing to the Director General within sixty days from the date of denial/revocation requesting a review of his or her case.

8.3.3 The Director General will refer the case to the head of aeromedical standards who will convene a medical review panel. The panel may comprise external medical consultants with expertise in the medical condition under review and relevant officers of the Authority from aeromedical, legal and the appropriate technical directorate(s).

8.3.4 The panel will review the case taking into consideration the nature of the duties to be performed by the applicant, the limitations of the medical condition and holding safety as the guiding principle.

8.3.5 The Authority will convey the decision to the applicant in writing within fourteen (14) working days.

8.3.6 The decision will subsist during the appeal process.



## 9 Aeromedical Disposition of Aircrew or Air Traffic Controllers who are Seropositive to the HIV

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### 9.1 Purpose

This chapter is issued to provide guidance and procedures for the aeromedical disposition of aircrew or air traffic controllers who are zero positive to the Human Immunodeficiency Virus (HIV).

### 9.2 References

- 9.2.1 ACAR Part 2.11.2.6 (b) (32) and (33), 2.11.2.7 (b) (30) and (31) and 2.11.2.8 (b) (29) and (30).

### 9.3 Guidance and Procedures

- 9.3.1 Following a diagnosis of HIV seropositivity the applicant should be declared unfit for an initial certificate. The AME may defer the issue of a medical certificate to the Authority.

- 9.3.2 An applicant with Acquired Immune Deficiency Syndrome (AIDS) shall be assessed as unfit.

- 9.3.3 For renewal or re-certification following a diagnosis of HIV seropositivity, the applicant is assessed temporarily unfit and shall undergo the following reviews before possible re-certification.

a) HIV specialist review

This will include:

- (i) History of disease
- (ii) Current and previous symptoms
- (iii) Stability of condition
- (iv) History of opportunistic infections or associated illnesses
- (v) History of CD4+ T cell counts
- (vi) History of Viral Load measurements
- (vii) Medication history (including 'over the counter' medications and alternative medicines)
- (viii) Report concerning side effects of medications
- (ix) Laboratory testing to include:

- Hepatitis B & C, Cytomegalovirus, toxoplasma, tuberculosis.
- Full Blood Count, urea, creatinine and electrolytes, liver function tests, fasting glucose, lipids

b) Neurology review

- (i) This can be undertaken by a HIV specialist, or a neurologist.



- (ii) Assessment for neurological sequelae. This includes assessment of primitive reflexes (because of their association with cognitive decline).
- c) Neuropsychological review
  - (i) Baseline neuropsychological assessment.  
Tests should include timed psychomotor tasks and memory  
Tasks requiring attention, learning, active monitoring and retrieval of information.
  - (ii) Psychiatry review  
Assessment for psychiatric sequelae related to HIV seropositivity and antiretroviral treatment.
  - (iii) Cardiology Review (only if indicated)  
Cardiological review is recommended if the following exist:
    - Lipodystrophy or metabolic syndrome
      - dyslipidaemia – raised total cholesterol,
      - low high density lipoprotein cholesterol and raised triglycerides or
      - insulin resistance with hyperglycaemia);
    - Cardiac risk factors are present, including:
      - Hypertension,
      - evidence of left ventricular hypertrophy,
      - smoking,
      - raised lipids,
      - diabetes,
      - age over 40 years.

#### 9.3.4 Aeromedical certificatory assessment

- a) On receipt of satisfactory reports, applicants who are asymptomatic, stable, without significant opportunistic infection may be considered for certification, if their CD4+ count is above the minima stated below. Once diagnosed HIV positive, solo operation as a pilot should not be accepted for Class 1 or Class 2 applicants.

Age (yr)	Minimum CD4+ Count
20 – 39	350
40 – 59	400
60 +	500

**Table 9-1: Applicants not established on combined Antiretroviral Therapy (cART)**



- b) Applicants over 40 years of age with CD4+ counts below these levels but above 350/mm<sup>3</sup> may be considered for certification on an individual basis.

CD4 Count	> 350 = 0	201-350 = +0.62	51-00= +1.46	< 50 = +2.44
BMI	< 18 = +0.80	18.1 - 25 = 0	> 25 = -0.29	
Viral Load	< 500 = 0	≥ 500 = +0.18		
CD4 slope (3 month)	< -25/mm <sup>3</sup> = +0.49	-25 to +25/mm <sup>3</sup> = 0	>25/mm <sup>3</sup> = +0.18	
Anaemia	No = 0 Hb > 14.0g/dl male Hb > 12.0g/dl female	Mild = +0.68 Hb 8.01 - 14.0g/dl male Hb 8.01 - 12.0g/dl female	Severe = +1.02 Hb < 8.0g/dl	
ART experience prior to cART	Yes = 0	No = -0.39		
Taking antiretrovirals	Yes = 0	No = +1.24		
Age	Age x 0.027			
Infected with HIV	Via intravenous drug use = +0.25		Via any other route = 0	
Prior diagnosis of AIDS at start- ing cART	No = 0	Yes = +0.19		
Total Score	% Risk of clinical progression in following twelve months			
<1.5	0.5			
1.5 - 2.99	1.4			
3.0 - 4.49	6.25			
>4.5	>20			

**Table 9-2: Applicants established on combined Antiretroviral Therapy (cART)**

- c) [Table 9-2](#) enables a risk assessment to be undertaken. The figures are summed to reach a score that allows a prediction of risk of progression during the next 12 months.

#### 9.3.5 Medication

- a) Acceptable medications include abacavir, didanosine, emtricitabine, lamivudine, tenofovir, zidovudine, atazanavir, fosamprenavir, lopinavir/ ritonavir, nelfinavir, saquinavir, nevirapine and efavirenz.
- b) Unacceptable medications include enfuvirtide, zalcitabine, indinavir and stavudine.



- c) Recently available medication, e.g. tipranavir, darunavir, raltegravir and maraviroc, may be acceptable on an individual basis. Particular attention needs to be given to the toxicity and side-effect profile of such medications.
- d) A “temporary unfit” assessment should be made when initiating, modifying or discontinuing ART. When stable, recertification after 3 months of monitoring may be permitted providing that there has been an acceptable serological response, no ongoing side-effects and FB C, LFTs, lipids and fasting glucose are acceptable.
- e) Those commencing or modifying efavirenz treatment requires a psychiatric and neurological examination at initial certification or within 6 months after initiating therapy.
- f) Reviews should take account of any over the counter medications and alternative therapies being taken.

#### 9.3.6 Follow-up

- a) Regular follow-up is required, to include:
  - (i) 3 monthly CD4+ and viral load measurements
  - (ii) 6 monthly neurology assessment (by HIV specialist or neurologist including consideration of the need for psychiatric evaluation)
  - (iii) if taking ART: 6 monthly LFTs, FBC, lipids and fasting glucose.
- b) Annual cognitive function assessment
  - (i) Evidence of having passed a License Proficiency Check (LPC) or the report from a Medical Flight Test (MFT) with a Flight Instructor Examiner (FIE) may be considered in lieu of this where disease stability and the risk of disease progression is acceptable.
  - (ii) Impaired performance will require further neuropsychological assessment to be compared with baseline testing and any deficits will require that the pilot is declared temporarily unfit. Neuropsychological assessment should be undertaken if there are any clinical concerns about cognitive impairment.
- c) Further co-infection testing should be undertaken where clinically indicated and those with new positive tests must be deferred for further assessment.
- d) If an applicant develops new symptoms and/or fails to achieve the nominal levels listed above at any time after certification the Authority should be informed. The Authority will declare an unfit status.
- e) The unfit status would be reversed when the acceptable fitness levels are achieved in line with the nominal levels listed earlier.

#### 9.3.7 Variations in CD4+ counts

- a) CD4+ T cell counts are subject to substantial variability due to both biological and laboratory methodologies and can vary up to 30 percent on repeated measures in the absence of a change in clinical status.



- b) Therefore it is important to monitor trends over time rather than take a decision on one specific determination. Sudden changes in the count need to be confirmed by a second determination.





## 10 Other Medical Conditions

### 10.1 Purpose

This chapter is issued to provide guidance and procedures on aeromedical fitness for conditions involving the various systems of the human body.

### 10.2 References

10.2.1 ACAR Part 2.11.2.6, 2.11.2.7 and 2.11.2.8; ICAO Manual of Civil Aviation Medicine (ICAO Doc 8984).

10.2.2 Checklists: CL: O-MED-006.

### 10.3 Guidance and Procedures

10.3.1 The detailed information for guidance and procedures regarding all the systems of the human body and related medical conditions are contained in ICAO Doc 8984.

#### 10.3.2 Diabetes mellitus

- a) [Table 10-1](#) shows the diagnostic criteria for classifying glucose impairment and diabetes.

Diagnostic criteria	
Condition	Blood glucose level
Diabetes	Fasting blood glucose: 7.0 mmol/L (126mg/dL) and above or 2 hours after glucose load: 11.1 mmol/L (200 mg/dL) and above
Impaired glucose tolerance	Fasting blood glucose: less than 7.0 mmol/L (126 mg/dL) and 2 hours after glucose load: 7.8 mmol/L (140 mg/dL) and above and less than 11.1mmol/L (200 mg/dL)
Impaired fasting glucose	Fasting blood glucose: 6.1 mmol/L (110 mg/dL) and above and less than 7.0 mmol/L (126 mg/dL) and 2 hours after glucose load: less than 7.8 mmol/L (140 mg/dL)
Modified from Definition, diagnosis and classification of diabetes mellitus and its complications  Report of a WHO consultation (WHO, Geneva, 1999) and the International Diabetes Federation.	

**Table 10-1: Diagnostic criteria for classifying glucose impairment and diabetes**



- b) It is essential that aircrew have satisfactory control before being returned to the operational environment. They should be free from diabetic symptoms and maintain good nutrition.
- c) Their metabolic control should be good and should not focus solely on blood glucose. In order to decrease cardiovascular risk, a holistic approach should be taken.
- d) The targets for the relevant parameters are shown in [Table 10-2](#).

Good control	
Glucose:	
Fasting	6.7 mmol/L
Post-prandial peak	9.0 mmol/L
HbA1c	< 7.0%
Blood pressure	130/80 mmHg
Total cholesterol	< 4.8 mmol/L
LDL-C	< 2.5 mmol/L
Triglycerides	< 2.3 mmol/L
HDL-C	> 1.0 mmol/L

**Table 10-2: Diagnostic criteria for classifying glucose impairment and diabetes**

- e) The key to returning diabetic aircrew to aviation duties safely is to use evidence-based medicine to avoid incapacitation in the aviation environment.
- f) The aviation physician must liaise closely with the endocrinologist treating the aircrew, in order that the benefits of both disciplines can be consolidated to produce a fair and objective assessment. All policies for certification should be audited regularly in the light of developments in the world literature and modified accordingly.



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## 11 Use of Medication, Drugs and Other Treatments

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### 11.1 Purpose

This chapter is issued to provide guidance and procedures to medical assessors for the surveillance of licensed aircrew who are on medication and other treatments.

### 11.2 References

11.2.1 ACAR Part 1.2.1.7, 2.11.1.6 and 2.11.2.1.7.

11.2.2 Checklists: CL: O-MED-007.

### 11.3 Guidance and Procedures

#### 11.3.1 General Information

- a) Holders of medical certificates shall not take any prescription or nonprescription (over the counter) medication or drug; or undergo any other treatment, unless they are completely sure that the medication, drug or treatment will not have any adverse effect on their ability to safely perform their duties.
- b) If there is doubt, advice shall be sought from the Authority, or the Aviation Medical Examiner (AME).

#### 11.3.2 Relevant Circumstances

- a) Holders of medical certificates shall, without delay, seek the advice of the Authority or an AME or shall inform the Authority in writing, when becoming aware of any of the relevant circumstances:
  - [1] Hospital or clinic admission for more than 12 hours; or
  - [2] Surgical operation or invasive procedure; or
  - [3] The regular use of medication; or
  - [4] The need for regular use of correcting lenses; or
  - [5] Being pregnant, ill or injured.
  - [6] Any significant personal injury involving incapacity to function as a member of a flight crew; or
  - [7] Any illness involving incapacity to function as a flight crew for a period of 20 days or more; or
  - [8] Twenty (20) days has elapsed in the case of illness.
- b) The Authority shall be informed when the pregnancy has ended after safe confinement or miscarriage.
- c) Validity of the medical certificate
  - (i) The medical certificate of such a person shall be deemed to be suspended upon the occurrence of such injury, the elapse of such period of illness or the confirmation of pregnancy.



- (ii) In the case of injury or illness the suspension shall be lifted upon the holder being medically examined under arrangements made by the Authority and being pronounced fit to function as a member of the flight crew, or upon the Authority exempting, subject to such conditions as it thinks fit, the holder from the requirement of a medical examination.
- (iii) In the case of pregnancy the suspension may be lifted by the Authority, for such period and subject to such conditions as it thinks fit and shall cease upon the holder being medically examined under arrangements made by the Authority after the pregnancy has ended or following safe confinement and being pronounced fit to resume her functions as a member of the flight crew.

#### **11.3.3 Consumption of medication by flying personnel**

- a) Any intake of medicine or narcotic substance must be declared in the formal declaration signed by flying personnel and handed to physicians in charge of the evaluation of flying fitness at each medical examination.
- b) The decision as to whether a pilot is fit to fly under medication has always to be taken in conjunction with knowledge of his clinical situation and the dose and form of prescribed drug.
- c) Consumption of medicines or other substances must always be reported as it may justify temporary or permanent suspension from flying status.
- d) The consumption of such substances may have consequences on qualification for three reasons:
  - (i) The disease requiring a treatment may be cause for disqualification;
  - (ii) Flight conditions may modify the reactions of the body to a treatment (jet lag, dehydration, moderate hypoxia); and
  - (iii) Most important, drugs may cause adverse side effects impairing flying safety. It should be noted that the effects of medicine do not necessarily immediately disappear when the treatment is stopped (e. g. cannabis has a side effect enduring for about two weeks), and that the subject may be temporarily disqualified during the withdrawal period.
- e) Flying personnel should nevertheless not be deprived of an efficient treatment because of their professional occupation. What is important is to find the compromise between flying fitness requirements, medical treatment and illness that is the most suitable both for the patient and flying safety.
- f) Single-drug therapy may in certain cases be tolerated for flying personnel but multiple-drug therapy which may multiply adverse effects requires the greatest circumspection.
- g) As new therapeutic agents with significance advantage for flying personnel become available, the use would be introduced and insertion made following the normal amendment process.



## 11.3.4 Declaration of fitness of flying personnel

- a) Flying personnel must be declared fit by the Authority or the AME according to the circumstances; and not by their practitioner.
- b) One of the goals of aviation medical examiners must be to make flying personnel aware of the problems caused by treatments in order to entice them to refrain from taking unreported treatments whose side effects may not have been assessed.

11.4 **List of some medications for the treatment of hypertension in Aircrew**

Some medications for hypertension that are compatible with flying duties are listed below. The list below is not exhaustible and is continually under revision.

- [1] Acebutolol
- [2] Amiloride (in combination with hydrochlorothiazide)
- [3] Atenolol
- [4] Captopril
- [5] Chlorthalidone (less than 100 mg/d)
- [6] Diltiazem
- [7] Enalapril (10-15 mg/day)
- [8] Hydrochlorothiazide
- [9] Indapamide
- [10] Methyldopa
- [11] Metoprolol
- [12] Nadolol
- [13] Nifedipine (tablet only)
- [14] Oxprenolol
- [15] Pindolol
- [16] Propranolol (Inderal)
- [17] Timolol
- [18] Triamterene
- [19] Verapamil
- [20] Though most  $\beta$  - blockers are acceptable, hydrophilic  $\beta$  - blockers are preferred.



## 12 Air Ambulance Operations

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### 12.1 Purpose

- 12.1.1 This chapter is issued to provide guidance and procedures to potential operators of air ambulance services in the Islamic Republic of Afghanistan. The guidance is general in nature and not exhaustive.
- 12.1.2 Operators and pilots of air ambulance services are reminded that all operations must be conducted in compliance with the Afghanistan Civil Aviation Regulations. In particular, nothing should be taken as exempting air ambulance operations from applicable licensing, operations, airworthiness or air traffic regulations.

### 12.2 References

- 12.2.1 ACAR Parts 2, 5, 6, 8 and 9.

### 12.3 Guidance and Procedures

#### 12.3.1 Pilot qualifications

The pilot of aircraft engaged in air ambulance operations shall –

- a) as a minimum be the holder of a valid commercial pilot license with instrument rating – appropriate to the category and type of air ambulance aircraft and the mission to be flown;
- b) have received training, terrain information and demonstrated minimum competency for the relevant mission to be flown, as prescribed in the operator's operations manual; and
- c) The operations manual of the operator shall set minimum criteria for qualifications of pilots to be used for the missions intended.

#### 12.3.2 Medical qualifications

Medical personnel and medical service providers involved in air ambulance operations shall comply with the relevant legislation and regulations according to medical qualifications.

#### 12.3.3 Training of flight crew, medical personnel and operations personnel

- a) The owner or operator of an aircraft engaged in an air ambulance operation shall ensure that each flight crew member, medical personnel and operations personnel, assigned to an air ambulance operation, has successfully completed the appropriate training.
- b) However, a medical specialist who is not trained in air ambulance operations may be taken on a specific air ambulance operation, in addition to the regular medical personnel, for the benefit of the patient.
- c) The operator shall ensure that all flight crew members, medical personnel or operations personnel, as the case may be, who have not completed the training



as referred to above, shall have a standard safety briefing pertaining to the aircraft to be used for the operation.

#### 12.3.4 Aircraft configuration

The owner or operator of an aircraft engaged in air ambulance operations shall ensure that the cabin of the aircraft –

- a) has an entry which allows loading of the patient without excessive maneuvering, which is not greater than 45° tilt along the lateral axis, and not greater than 30° tilt along the longitudinal axis that;
- b) has an entry that allows loading or unloading without compromising the functioning of the monitoring systems, IV lines and manual or mechanical ventilation; and
- c) must be able to accommodate volumetrically, as a minimum:
  - (i) one stretcher unit large enough to carry a 95 percentile patient full length in supine position (6 ft stretcher);
  - (ii) two medical personnel, with sufficient access to the patient from a secured seat-belted position; and
  - (iii) all the medical equipment required by the medical service provider for the operation.

#### 12.3.5 Lighting and electrical equipment

- a) The owner or operator of an aircraft engaged in an air ambulance operation shall ensure that –
  - (i) adequate lighting equipment is provided in the patient care area;
  - (ii) portable lighting equipment is provided for use in the event of a failure or inability to utilize the main electrical system;
  - (iii) the cockpit or the flight deck, as the case may be, is screened from lights in the patient care area during night operations, or alternatively, where such protection is not possible, shall ensure that sufficient light of low intensity is used in the patient care area, provided that such lighting does not interfere with the operations of the flight deck crew;
  - (iv) without compromising the normal operation of any aircraft equipment, and if required by the medical service provider, there shall be a power source available from the aircraft;
  - (v) in cases where unaided verbal communication cannot be sustained, such aircraft is equipped with an interphone system which provides a means of two-way communication between the flight crew members and medical personnel and the pilot can isolate himself or herself from such system.
- b) The owner or operator of an aircraft engaged in an air ambulance operation shall not operate the aircraft unless such aircraft is equipped with –
  - (i) an approved restraining strap for each patient;



- (ii) an additional restraining device for a child or small adult who will not be adequately restrained with the restraining strap referred to above, if applicable;
  - (iii) an incubator, which is properly secured in position, should an incubator be needed for the flight; and
  - (iv) a stretcher and mounting system which allows for rapid detachment from the base unit.
- c) The operator shall ensure that suitable measures are taken to protect the pilot, aircraft controls, communication and navigation equipment from any interference by the patient, medical personnel or medical equipment on board the aircraft during flight or during loading and unloading.

#### 12.3.6 Medical equipment

- a) The owner or operator of an aircraft engaged in an air ambulance operation shall ensure that –
- (i) any medical equipment, supplies or other items on board of the aircraft are:
    - [A] properly secured in accordance with good aviation practice;
    - [B] so positioned that they do not or are not likely to -
      - [I] cause injury to any person on board of the aircraft;
      - [II] obstruct access to any regular or emergency exit; or
      - [III] obstruct access to any emergency equipment;
    - [C] appropriately certified by the manufacturer thereof for use in an aircraft.
- b) All portable gas cylinders shall be properly secured with approved devices during flight.
- c) All oxygen and medical gas cylinders used in an air ambulance operation shall –
- (i) have an annual visual and a five-yearly hydrostatic inspection by a testing facility approved for the purpose by the relevant regulatory body;
  - (ii) be marked with a sticker indicating approval for “return to service” and “next service due” date, which sticker shall be clearly visible to flight crew and medical personnel;
  - (iii) where applicable, bear a stamp of approval from an appropriately approved provider which stamp shall be clearly visible on each cylinder and certifying such cylinder as being approved.
- d) All oxygen and medical gas cylinders fixed in an air ambulance operation shall be maintained as per the manufacturer’s specifications.

#### 12.3.7 Relationship with medical service provide

- a) The owner or operator of an aircraft engaged in an air ambulance operation shall ensure that he or she is aligned with a medical service provider who is





compliant with all the relevant legislation administered by all relevant agencies to consult with on matters pertaining to –

- (i) the advisability of the transportation by air of the patient;
  - (ii) the type of air ambulance aircraft required for the transport;
  - (iii) the level of patient care required;
  - (iv) medical equipment needed on board the aircraft; and
  - (v) precautions to be taken during the flight and during ground transportation.
- b) Where the operator of an aircraft is also the medical service provider, such operator shall ensure that the medical aspects of the operation complies with all the relevant requirements as contained in the relevant legislation administered by all relevant agencies.

#### 12.3.8 Loading and unloading

- a) The pilot-in-command of a helicopter engaged in an air ambulance operation shall allow the loading or unloading of a patient with the rotors turning only –
  - (i) under strictly controlled circumstances overseen by appropriately trained personnel;
  - (ii) in times of a serious emergency; and
  - (iii) if the loading or unloading of a patient is undertaken by appropriately trained personnel.
- b) In cases of fixed wing multi-engine aircraft, the loading or unloading shall be undertaken only if the engine on the side of the exit is switched off.
- c) Loading or unloading shall not be undertaken in cases of single-engine aircraft.
- d) The owner or operator shall make provisions in the manual of procedure concerning circumstances and procedures for rapid patient loading and unloading.
- e) Medical personnel shall inform the pilot-in-command regarding add-on equipment for calculation of the aircraft's mass and balance.

#### 12.3.9 Infection control and fluid contamination

The owner or operator of an aircraft engaged in an air ambulance operation shall ensure that –

- a) every employee, before performing duty on, or cleaning an aircraft –
  - (i) is familiar with any infection control procedure which may apply in respect of the aircraft; and
  - (ii) takes appropriate precautions before performing duty on or cleaning such aircraft, as prescribed by the relevant legislation, and set out in the manual of procedure; and
  - (iii) used for cleaning are non-corrosive or nonabrasive to the aircraft; and



- b) such aircraft shall not be operated unless it is equipped with measures to protect the aircraft against bodily fluid contamination. The protection measures are set out in the manual of procedures and are compliant with the minimum standards as prescribed in the regulations issued by the Ministry of Health and other relevant agencies.

#### 12.3.10 Additional responsibilities

- a) The medical personnel on board the aircraft shall be responsible for patient care from the time of hand-over by the dispatching medical unit until the time of hand-over to the receiving medical unit.
- b) The pilot-in-command of the aircraft shall at all times be responsible for the safety of the aircraft operation.
- c) The manual of procedure of the operator shall clearly state conditions under which landings at non-registered landing areas may be carried out.

## Appendix I Organogram Aeromedical Standards

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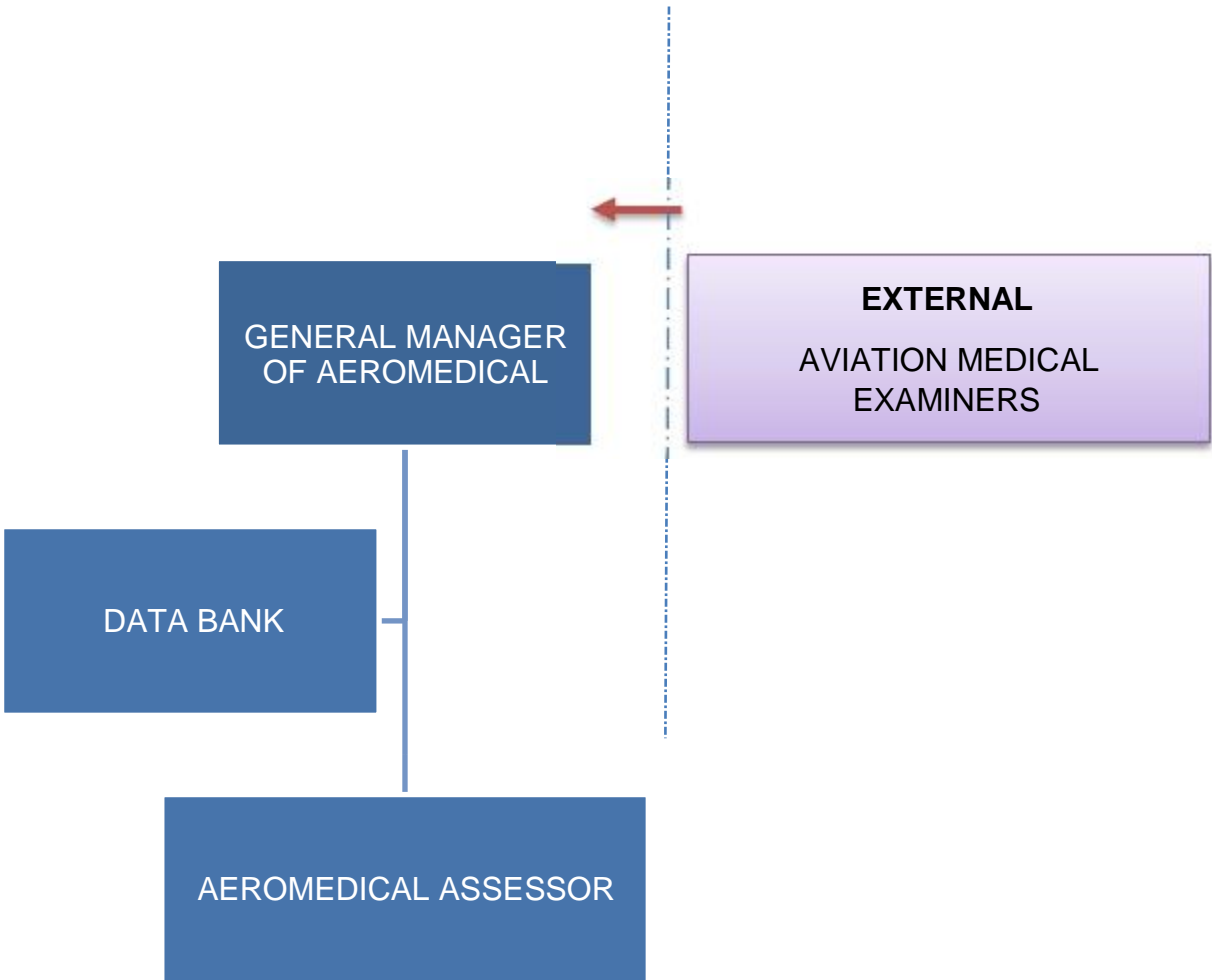


Figure I-1: Organogram Aeromedical



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## **Appendix II Functions of the Department of Aeromedical Standards**

1. Ab - initio medical assessment for aircrew and air traffic controllers (ATCO).
2. Review and evaluation of aircrew medical reports from Authorized Aviation Medical Examiners (AMEs).
3. The appointment, supervision and control of AMEs.
4. Quarterly inspection of AME facilities in Afghanistan.
5. Aeromedical data bank for collation and analysis of aircrew and ATCO medical reports for trends aimed at prevention of incidents inimical to aviation safety.
6. Periodic review and oversight of ab - initio cabin crew training and recurrent training.
7. Ensuring implementation of policy guidelines for all flight personnel who are license holders in line with ICAO SARPS.
8. The periodic updating of aeromedical regulatory standards for Afghanistan in line with ICAO SARPS.
9. The periodic inspection of medical facilities at all airports in the country including medical emergency preparedness.
10. Periodic on-board inspection of aircraft first aid and medical kits.
11. Carrying out periodic on the spot assessment of aircrew for alcohol and or psychoactive substance abuse.
12. Participation at mock air crash exercises at all airports in Afghanistan.
13. Participation in Aircraft Accident Prevention and Investigation (Human factors group).
14. Developing an aeromedical regulatory standard for air ambulance operations in Afghanistan.
15. Organization of periodic sensitization seminars on relevant issues in aviation medicine for AME's, AME staff, aircrew and airline operators.
16. Appointment on an ad-hoc basis of competent consultants in relevant medical specialties for the review of contentious aircrew medicals (Medical Advisory Panel).
17. Staff occupational health medical care – policy, review and implementation.
18. These functions are carried out by aeromedical assessors who are designated aeromedical safety inspectors of the ACAA.



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## Appendix III Function of Key Staff Department of Aeromedical Standards

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### A) General Manager of Aeromedical

The Aeromedical General Manager will carry out the following functions;

- [1] Ensuring implementation of policy guidelines for all flight personnel who are license holders in line with ICAO SARPS.
- [2] Medical information exchange with General Manager of licensing.
- [3] The periodic updating of aeromedical regulatory standards for Afghanistan in line with ICAOSARPS.
- [4] The appointment, supervision and control of external Aviation Medical Examiners (AMEs).
- [5] Appointment on an ad-hoc basis of competent consultants in relevant medical specialties for the review of contentious aircrew medical issues
- [6] Involved in management decision making of the Authority.
- [7] Overseeing the continuous and proper electronic collation of aircrew medical reports
- [8] Ad hoc assignments as delegated by the Flight Safety Director.
- [9] Staff occupational health medical care policy and review
- [10] Periodic review and oversight of ab - initio cabin crew training and recurrent training
- [11] Developing an aeromedical regulatory standard for air ambulance operations in Afghanistan

### B) Aeromedical Assessor \*

The Aeromedical Assessor will carry out the following functions;

- [12] Ab - initio medical assessment for aircrew and Air Traffic Controllers (ATCO).
- [13] Review and evaluation of aircrew medical reports from Aviation Medical Examiners (AMEs).
- [14] Periodic inspection of AMEs medical facilities in Afghanistan.
- [15] The periodic inspection of medical facilities at all airports in the country including medical emergency preparedness.
- [16] Periodic on-board inspection of aircraft first aid and medical kits.
- [17] Participation at mock air crash exercises at all air-



ports in Afghanistan.

- [18] Carrying out periodic on-the-spot assessment of aircrew for alcohol and or psychoactive substance abuse.
- [19] Staff occupational health medical care – review and implementation
- [20] Responsible for Databank
- [21] Maintenance, collation, and analysis of the aeromedical data bank of aircrew and air traffic controllers.
- [22] Databank analysis of medical issues for trends aimed at prevention of incidents/accidents inimical to aviation safety.

\* These functions are to be carried out by the General Manager of Aeromedical Department if the AMA is not employed.





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