

ANNEX IV

PART ATCO.MED MEDICAL REQUIREMENTS FOR AIR TRAFFIC CONTROLLERS

SUBPART A — GENERAL REQUIREMENTS

SECTION 1 GENERAL

ATCO.MED.A.001 Competent authority

For the purpose of this Part, the competent authority shall be:

- (a) for aero-medical centres (AeMCs):
 - (1) the authority designated by the Member State where the AeMC has its principal place of business;
 - (2) the Agency, when the AeMC is located in a third country.
- (b) for aero-medical examiners (AMEs):
 - (1) the authority designated by the Member State where the AMEs have their principal place of practice;
 - (2) if the principal place of practice of an AME is located in a third country, the authority designated by the Member State to which the AME applies for the issue of the certificate.

ATCO.MED.A.005 Scope

This Part, set out in this Annex, establishes the requirements for:

- (a) the issue, validity, revalidation and renewal of the medical certificate required for exercising the privileges of an air traffic controller licence or of a student air traffic controller licence with the exception of synthetic training device instructor; and
- (b) the certification of AMEs to issue class 3 medical certificates.

ATCO.MED.A.010 Definitions

For the purpose of this Part, the following definitions apply:

- (a) 'Accredited medical conclusion' means the conclusion reached by one or more medical experts acceptable to the licensing authority, on the basis of objective and non-discriminatory criteria, for the purposes of the case concerned, in consultation with operational experts or other experts as necessary and including an operational risk assessment;
- (b) 'Aero-medical assessment' means the conclusion on the medical fitness of an applicant based on the evaluation of the applicant's medical history and aero-medical examinations as required in this Part and further examinations and medical tests as necessary;
- (c) 'Aero-medical examination' means inspection, palpation, percussion, auscultation or any other means of investigation especially for determining the medical fitness to exercise the privileges of the licence;
- (d) 'Eye specialist' means an ophthalmologist or a vision care specialist qualified in optometry and trained to recognise pathological conditions;

- (e) 'Investigation' means the assessment of a suspected pathological condition of an applicant by means of examinations and tests to verify the presence or absence of a medical condition;
- (f) 'Licensing authority' means the competent authority of the Member State that issued the licence, or to which a person applies for the issue of a licence, or, when a person has not yet applied for the issue of a licence, the competent authority in accordance with this Part;
- (g) 'Limitation' means a condition placed on the medical certificate that shall be complied with whilst exercising the privileges of the licence;
- (h) 'Refractive error' means the deviation from emmetropia measured in dioptres in the most ametropic meridian, measured by standard methods;
- (i) 'Significant' means a degree of a medical condition, the effect of which would prevent the safe exercise of the privileges of the licence.

ATCO.MED.A.015 Medical confidentiality

All persons involved in aero-medical examination, aero-medical assessment and certification shall ensure that medical confidentiality is respected at all times.

AMC1 ATCO.MED.A.015 Medical confidentiality

To ensure medical confidentiality, all medical reports and records should be securely held with accessibility restricted to personnel authorised by the medical assessor.

ATCO.MED.A.020 Decrease in medical fitness

- (a) Licence holders shall not exercise the privileges of their licence at any time when they:
 - (1) are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges;
 - (2) take or use any prescribed or non-prescribed medication which is likely to interfere with the safe exercise of the privileges of the licence;
 - (3) receive any medical, surgical or other treatment that is likely to interfere with the safe exercise of the privileges of the licence.
- (b) In addition, holders of a class 3 medical certificate shall, without undue delay and before exercising the privileges of their licence, seek aero-medical advice when they:
 - (1) have undergone a surgical operation or invasive procedure;
 - (2) have commenced the regular use of any medication;
 - (3) have suffered any significant personal injury involving any incapacity to exercise the privileges of the licence;
 - (4) have been suffering from any significant illness involving any incapacity to exercise the privileges of the licence;
 - (5) are pregnant;
 - (6) have been admitted to hospital or medical clinic;
 - (7) first require correcting lenses.

In these cases the AeMC or AME shall assess the medical fitness of the licence holder or student air traffic controller and decide whether they are fit to resume the exercise of their privileges.

GM1 ATCO.MED.A.020 Decrease in medical fitness**MEDICATION — GUIDANCE FOR AIR TRAFFIC CONTROLLERS**

- (a) Any medication can cause side effects, some of which may impair the safe exercise of the privileges of the licence. Equally, symptoms of colds, sore throats, diarrhoea and other abdominal upsets may cause little or no problem whilst not exercising the privileges of the licence, but may distract the air traffic controller and degrade their performance whilst on duty. Therefore, one issue with medication and the safe exercise of the privileges of the licence is the underlying condition and, in addition, the symptoms may be compounded by the side effects of the medication prescribed or bought over the counter for treatment. This guidance material provides some help to air traffic controllers in deciding whether expert aero-medical advice by an AME, AeMC or Medical Assessor is needed.
- (b) Before taking any medication and exercising the privileges of the licence, the following three basic questions should be satisfactorily answered:
- (1) Do I feel fit to control?
 - (2) Do I really need to take medication at all?
 - (3) Have I given this particular medication a personal trial whilst not exercising the privileges of my licence to ensure that it will not have any adverse effects on my ability to exercise the privileges of my licence?
- (c) Confirming the absence of adverse effects may well need expert aero-medical advice.
- (d) The following are some widely used medicines with a description of their compatibility with the safe exercise of the privileges of the licence:
- (1) Antibiotics. Antibiotics may have short-term or delayed side effects which can affect the performance of the air traffic controller. More significantly, however, their use usually indicates that an infection is present and, thus, the effects of this infection may mean that an air traffic controller is not fit to control and should obtain expert aero-medical advice.
 - (2) Anti-malaria drugs. The decision on the need for anti-malaria drugs depends on the geographical areas to be visited, and the risk that the air traffic controller has of being exposed to mosquitoes and of developing malaria. An expert medical opinion should be obtained to establish whether anti-malaria drugs are needed and what kind of drugs should be used. Most of the anti-malaria drugs (atovaquone plus proguanil, chloroquine, doxycycline) are compatible with the safe exercise of the privileges of the licence. However, adverse effects associated with mefloquine include insomnia, strange dreams, mood changes, nausea, diarrhoea and headaches. In addition, mefloquine may cause spatial disorientation and lack of fine coordination and is, therefore, not compatible with the safe exercise of the privileges of the licence.
 - (3) Antihistamines. Antihistamines can cause drowsiness. They are widely used in 'cold cures' and in treatment of hay fever, asthma and allergic rashes. They may be in tablet form or a constituent of nose drops or sprays. In many cases, the condition itself may preclude the safe exercise of the privileges of the licence, so that, if treatment is necessary, expert aero-medical advice should be sought so that so-called non-sedative antihistamines, which do not degrade human performance, can be prescribed.
 - (4) Cough medicines. Antitussives often contain codeine, dextromethorfan or pseudoephedrine which are not compatible with the safe exercise of the privileges of the licence. However, mucolytic agents (e.g. carbocysteine) are well tolerated and are compatible with the safe exercise of the privileges of the licence.
 - (5) Decongestants. Nasal decongestants with no effect on alertness may be compatible with the safe exercise of the privileges of the licence.

- (6) Nasal corticosteroids are commonly used to treat hay fever, and are compatible with the safe exercise of the privileges of the licence.
- (7)
 - (i) Common pain killers and antifebrile drugs. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and paracetamol, commonly used to treat pain, fever or headaches, may be compatible with the safe exercise of the privileges of the licence. However, the air traffic controller should give affirmative answers to the three basic questions in paragraph (b) before using the medication and exercising the privileges of the licence.
 - (ii) Strong analgesics. The more potent analgesics including codeine are opiate derivatives, and may produce a significant decrement in human performance and, therefore, are not compatible with the safe exercise of the privileges of the licence.
- (8) Anti-ulcer medicines. Gastric secretion inhibitors such as H2 antagonists (e.g. ranitidine, cimetidine) or proton pump inhibitors (e.g. omeprazole) may be acceptable after diagnosis of the pathological condition. It is important to seek for the medical diagnosis and not to only treat the dyspeptic symptoms.
- (9) Anti-diarrhoeal drugs. Loperamide is one of the more common anti-diarrhoeal drugs and is usually safe to take whilst exercising the privileges of the licence. However, the diarrhoea itself often makes the air traffic controller unable to exercise the privileges of the licence.
- (10) Hormonal contraceptives and hormone replacement therapy usually have no adverse effects and are compatible with the safe exercise of the privileges of the licence.
- (11) Erectile dysfunction medication. This medication may cause disturbances in colour vision and dizziness. There should be at least six hours between taking sildenafil and exercising the privileges of the licence; and 36 hours between taking vardenafil or tadalafil and exercising the privileges of the licence.
- (12) Smoking cessation. Nicotine replacement therapy may be acceptable. However, other medication affecting the central nervous system (bupropion, varenicline) is not acceptable for air traffic controllers.
- (13) High blood pressure medication. Most anti-hypertensive drugs are compatible with the safe exercise of the privileges of the licence. However, if the level of blood pressure is such that drug therapy is required, the air traffic controller should be monitored for any side effects before exercising the privileges of the licence. Therefore, consultation with the AME, AeMC or Medical Assessor as applicable, is needed.
- (14) Asthma medication. Asthma has to be clinically stable before an air traffic controller can return to exercising the privileges of the licence. The use of respiratory aerosols or powders, such as corticosteroids, beta-2-agonists or chromoglycic acid may be compatible with the safe exercise of the privileges of the licence. However, the use of oral steroids or theophylline derivatives is usually incompatible with the safe exercise of the privileges of the licence. Air traffic controllers using medication for asthma should consult an AME, AeMC, or Medical Assessor, as applicable.
- (15) Tranquillisers, anti-depressants and sedatives. The inability to react, due to the use of this group of medicines, together with the underlying condition for which these medications have been prescribed, will almost certainly mean that the mental state of an air traffic controller is not compatible with the safe exercise of the privileges of the licence. Air traffic controllers using tranquillisers, anti-depressants and sedatives should consult an AME, AeMC, or Medical Assessor, as applicable.
- (16) Sleeping tablets. Sleeping tablets dull the senses, may cause confusion and slow reaction times. The duration of effect may vary from individual to individual and may be unduly

prolonged. Air traffic controllers using sleeping tablets should consult an AME, AeMC, or Medical Assessor, as applicable.

- (17) Melatonin. Melatonin is a hormone that is involved with the regulation of the circadian rhythm. In some countries it is a prescription medicine, whereas in most other countries it is regarded as a 'dietary supplement' and can be bought without any prescription. The results from the efficiency of melatonin in treatment of jet lag or sleep disorders have been contradictory. Air traffic controllers using melatonin should consult an AME, AeMC, or Medical Assessor, as applicable.
- (18) Coffee and other caffeinated drinks may be acceptable, but excessive coffee drinking may have harmful effects, including disturbance of the heart's rhythm. Other stimulants including caffeine pills, amphetamines, etc. (often known as 'pep' pills) used to maintain wakefulness or suppress appetite can be habit forming. Susceptibility to different stimulants varies from one individual to another, and all may cause dangerous overconfidence. Overdosage causes headaches, dizziness and mental disturbance. These other stimulants should not be used.
- (19) Anaesthetics. Following local, general, dental and other anaesthetics, a period of time should elapse before returning to exercising the privileges of the licence. The period will vary considerably from individual to individual, but an air traffic controller should not exercise the privileges of the licence for at least 12 hours after a local anaesthetic, and for at least 48 hours after a general, spinal or epidural anaesthetic.
- (e) Many preparations on the market nowadays contain a combination of medicines. It is, therefore, essential that if there is any new medication or dosage, however slight, the effect should be observed by the air traffic controller whilst not exercising the privileges of the licence. It should be noted that medication which would not normally affect air traffic controller performance may do so in individuals who are 'oversensitive' to a particular preparation. Individuals are, therefore, advised not to take any medicines before or whilst exercising the privileges of their licence unless they are completely familiar with their effects on their own bodies. In cases of doubt, air traffic controllers should consult an AME, AeMC, or Medical Assessor, as applicable.
- (f) Other treatments
- Alternative or complementary medicine, such as acupuncture, homeopathy, hypnotherapy and several other disciplines, is developing and gaining greater credibility. Such treatments are more acceptable in some States than others. There is a need to ensure that 'other treatments', as well as the underlying condition, are declared and considered by the AME, AeMC, or Medical Assessor, as applicable, for assessing fitness.

ATCO.MED.A.025 Obligations of AeMC and AME

- (a) When conducting aero-medical examinations and assessments as required in this Part, the AeMC or AME shall:
- (1) ensure that communication with the applicant can be established without language barriers;
 - (2) make the applicant aware of the consequences of providing incomplete, inaccurate or false statements on their medical history;
 - (3) notify the licensing authority if the applicant provides incomplete, inaccurate or false statements on their medical history;
 - (4) notify the licensing authority if the applicant withdraws the application for a medical certificate at any stage of the process.
- (b) After completion of the aero-medical examinations and assessments, the AeMC and AME shall:
- (1) advise the applicant whether fit, unfit or referred to the licensing authority;

- (2) inform the applicant of any limitation placed on the medical certificate; and
 - (3) if the applicant has been assessed as unfit, inform him/her of his/her right of a review of the decision; and
 - (4) submit without delay to the licensing authority a signed, or electronically authenticated, report containing the detailed results of the aero-medical examination and assessment for the medical certificate and a copy of the application form, the examination form and the medical certificate; and
 - (5) inform the applicant of their responsibility in the case of decrease in medical fitness as specified in ATCO.MED.A.020.
- (c) AeMCs and AMEs shall maintain records with details of aero-medical examinations and assessments performed in accordance with this Part and their results for a minimum period of 10 years, or for a period as determined by national legislation if this is longer.
- (d) AeMCs and AMEs shall submit to the medical assessor of the competent authority, upon request, all aero-medical records and reports, and any other relevant information when required for:
- (1) medical certification;
 - (2) oversight functions.

AMC1 ATCO.MED.A.025 Obligations of AeMC and AME

- (a) If the aero-medical examination is carried out by two or more AMEs, only one of them should be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness and signing the report.
- (b) The applicant should be made aware that the associated medical certificate may be suspended or revoked if the applicant provides incomplete, inaccurate or false statements on their medical history to the AME or AeMC.
- (c) The AME or AeMC should give advice to the applicant on treatment and preventive measures if, during the course of the examination, medical conditions which may endanger the medical fitness of the applicant in the future are found.

GM1 ATCO.MED.A.025 Obligations of AeMC and AME

GUIDELINES FOR THE AEMC AND AME CONDUCTING THE AERO-MEDICAL EXAMINATIONS AND ASSESSMENTS FOR CLASS 3 MEDICAL CERTIFICATES

- (a) Before performing the aero-medical examination, the AeMC or AME should:
 - (1) verify the applicant's identity by checking their identity card, passport, driving licence or other official document containing a photograph of the applicant;
 - (2) obtain details of the applicant's licence from the applicant's licensing authority if they do not have their licence with them;
 - (3) obtain details of the applicant's most recent medical certificate from the applicant's licensing authority if they do not have their certificate with them;
 - (4) in the case of a specific medical examination (SIC) on the existing medical certificate, obtain details of the specific medical condition and any associated instructions from the applicant's licensing authority. This could include, for example, a requirement to undergo a specific examination or test;
 - (5) except for initial applicants, ascertain, from the previous medical certificate, which routine medical test(s) should be conducted, for example electrocardiogram (ECG);

- (6) provide the applicant with the application form for a medical certificate and the instructions for its completion and ask the applicant to complete the form but not to sign it yet;
 - (7) go through the form with the applicant and give information to help the applicant understand the significance of the entries and ask any questions which might help the applicant to recall important historical medical data; and
 - (8) verify that the form is complete and legible, ask the applicant to sign and date the form and then sign it as well. If the applicant declines to complete the application form fully or declines to sign the declaration consent to the release of medical information, inform the applicant that it may not be possible to issue a medical certificate regardless of the outcome of the clinical examination.
- (b) Once all the items in (a) have been addressed, the AeMC or AME should:
- (1) perform the aero-medical examination of the applicant in accordance with the applicable rules;
 - (2) arrange for additional specialist medical examinations, such as otorhinolaryngology or ophthalmology, to be conducted as applicable and obtain the associated report forms or reports;
 - (3) complete the aero-medical examination report form in accordance with the associated instructions for completion; and
 - (4) ensure that all of the report forms are complete, accurate and legible.
- (c) Once all the actions in (b) have been carried out, the AeMC or AME should review the report forms and:
- (1) if satisfied that the applicant meets the applicable medical requirements as set out in this Part, issue a medical certificate, with limitations if necessary. The applicant should sign the certificate once signed by the AeMC or AME; or
 - (2) if the applicant does not meet the applicable medical requirements or if the fitness of the applicant is in doubt:
 - (i) refer the decision on medical fitness to the licensing authority as indicated in ATCO.MED.B.001; or
 - (ii) deny issuance of a medical certificate, explain the reason(s) for denial to the applicant and inform them of their right of a review according to the procedures of the competent authority.
- (d) The AeMC or AME should send the documents as required by ATCO.MED.A.025(b) to the applicant's licensing authority within five days from the date of the aero-medical examination. If a medical certificate has been denied or the decision has been referred, the documents should be sent to the licensing authority on the same day that the denial or referral decision is reached.

SECTION 2

REQUIREMENTS FOR MEDICAL CERTIFICATES

ATCO.MED.A.030 Medical certificates

- (a) Applicants for and holders of an air traffic controller licence, or student air traffic controller licence, shall hold a class 3 medical certificate.
- (b) A licence holder shall not at any time hold more than one medical certificate issued in accordance with this Part.

ATCO.MED.A.035 Application for a medical certificate

- (a) Applications for a medical certificate shall be made in a format established by the competent authority.
- (b) Applicants for a medical certificate shall provide the AeMC or AME with:
 - (1) proof of their identity;
 - (2) a signed declaration:
 - (i) of medical facts concerning their medical history;
 - (ii) as to whether they have previously applied for a medical certificate or have undergone an aero-medical examination for a medical certificate and, if so, by whom and with what result;
 - (iii) as to whether they have ever been assessed as unfit or had a medical certificate suspended or revoked.
- (c) When applying for a revalidation or renewal of the medical certificate, applicants shall present the most recent medical certificate to the AeMC or AME prior to the relevant aero-medical examinations.

AMC1 ATCO.MED.A.035 Application for a medical certificate

Except for initial applicants, when applicants do not present the most recent medical certificate to the AeMC or AME prior to the relevant examinations, the AeMC or AME should not issue the medical certificate unless relevant information is received from the licensing authority.

ATCO.MED.A.040 Issue, revalidation and renewal of medical certificates

- (a) A medical certificate shall only be issued, revalidated or renewed once the required aero-medical examinations and assessments have been completed and the applicant has been assessed as fit.
- (b) Initial issue:

Initial class 3 medical certificates shall be issued by an AeMC.
- (c) Revalidation and renewal:

Class 3 medical certificates shall be revalidated or renewed by an AeMC or an AME.
- (d) The AeMC or AME shall only issue, revalidate or renew a medical certificate if:
 - (1) the applicant has provided them with a complete medical history and, if required by the AeMC or AME, results of aero-medical examinations and tests conducted by the applicant's physician or any medical specialists; and
 - (2) the AeMC or AME has conducted the aero-medical assessment based on the aero-medical examinations and tests as required to verify that the applicant complies with all the relevant requirements of this Part.
- (e) The AME, AeMC or, in the case of referral, the licensing authority may require the applicant to undergo additional medical examinations and investigations when clinically indicated before the medical certificate is issued, revalidated or renewed.
- (f) The licensing authority may issue or reissue a medical certificate, as applicable, if:
 - (1) a case is referred;
 - (2) it has identified that corrections to the information on the certificate are necessary, in which case the incorrect medical certificate shall be revoked.

ATCO.MED.A.045 Validity, revalidation and renewal of medical certificates

(a) Validity:

- (1) Class 3 medical certificates shall be valid for a period of 24 months.
- (2) The period of validity of class 3 medical certificates shall be reduced to 12 months for licence holders who have reached the age of 40. A medical certificate issued prior to reaching the age of 40 shall cease to be valid when the licence holder reaches the age of 41.
- (3) The validity period of a medical certificate, including any associated examination or special investigation, shall be:
 - (i) determined by the age of the applicant at the date when the aero-medical examination takes place; and
 - (ii) calculated from the date of the aero-medical examination in the case of initial issue and renewal, and from the expiry date of the previous medical certificate in the case of revalidation.

(b) Revalidation:

Aero-medical examinations and assessments for the revalidation of a medical certificate may be undertaken up to 45 days prior to the expiry date of the medical certificate.

(c) Renewal:

- (1) If the holder of a medical certificate does not comply with point (b), a renewal aero-medical examination and assessment shall be required.
- (2) If the medical certificate has expired for:
 - (i) less than 2 years, a routine revalidation aero-medical examination shall be performed;
 - (ii) more than 2 years, the AeMC or AME shall only conduct the renewal aero-medical examination after assessment of the aero-medical records of the applicant;
 - (iii) more than 5 years, the aero-medical examination requirements for initial issue shall apply and the assessment shall be based on the revalidation requirements.

ATCO.MED.A.046 Suspension or revocation of a medical certificate

- (a) Upon revocation of the medical certificate, the holder shall immediately return the medical certificate to the licensing authority.
- (b) Upon suspension of the medical certificate, the holder shall return the medical certificate to the licensing authority on request of the authority.

ATCO.MED.A.050 Referral

If an applicant for a class 3 medical certificate is referred to the licensing authority in accordance with ATCO MED.B.001, the AeMC or AME shall transfer the relevant medical documentation to the licensing authority.

SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES

SECTION 1 GENERAL

ATCO.MED.B.001 Limitations to medical certificates

- (a) Limitations to class 3 medical certificates:
- (1) If the applicant does not fully comply with the requirements for a class 3 medical certificate but is considered to be not likely to jeopardise the safe exercise of the privileges of the licence, the AeMC or AME shall:
 - (i) refer the decision on fitness of the applicant to the licensing authority as indicated in this Subpart; or
 - (ii) in cases where a referral to the licensing authority is not indicated in this Subpart, evaluate whether the applicant is able to perform their duties safely when complying with one or more limitations endorsed on the medical certificate, and issue the medical certificate with limitation(s) as necessary.
 - (2) The AeMC or AME may revalidate or renew a medical certificate with the same limitation without referring the applicant to the licensing authority.
- (b) When assessing whether a limitation is necessary, particular consideration shall be given to:
- (1) whether accredited medical conclusion indicates that in special circumstances the applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the licence is not likely to jeopardise the safe exercise of the privileges of the licence;
 - (2) the applicant's experience relevant to the operation to be performed.
- (c) Operational limitations
- (1) The competent authority, in conjunction with the air navigation service provider, shall determine the operational limitations applicable in the specific operational environment concerned.
 - (2) Appropriate operational limitations shall only be placed on the medical certificate by the licensing authority.
- (d) Any other limitation may be imposed on the holder of a medical certificate if required to ensure the safe exercise of the privileges of the licence.
- (e) Any limitation imposed on the holder of a medical certificate shall be specified therein.

AMC1 ATCO.MED.B.001 Limitations to medical certificates

- (a) An AeMC or AME may refer the decision on fitness of an applicant to the licensing authority in borderline cases or where fitness is in doubt.
- (b) In cases where a fit assessment may only be considered with a limitation, the AeMC, AME or the licensing authority should evaluate the medical condition of the applicant with appropriate personnel from the air navigation service provider and other experts, if necessary.
- (c) Entry of limitations
- (1) Limitations TML, VDL, VML, VNL, CCL, HAL, RXO may be imposed by an AME or an AeMC.
 - (2) Limitations VXL and VXN should be imposed with advice of the air navigation service provider.

- (3) Limitations SIC and SSL should only be imposed by the licensing authority.
- (d) Removal of limitations
All limitations should only be removed by the licensing authority.

AMC2 ATCO.MED.B.001 Limitations to medical certificates

LIMITATION CODES

- (a) The following abbreviations for limitations should be used on the medical certificate as applicable:

Code	Limitation
TML	Restriction of the period of validity of the medical certificate
VDL	Wear correction for defective distant vision and carry spare set of spectacles
VXL	Correction for defective distant vision depending on the working environment
VML	Wear correction for defective distant, intermediate and near vision and carry spare set of spectacles
VNL	Have correction available for defective near vision and carry spare set of spectacles
VXN	Correction for defective near vision; correction for defective distant vision depending on the working environment
RXO	Specialist ophthalmological examinations
CCL	Correction by means of contact lenses
HAL	Valid only when hearing aids are worn
SIC	Specific medical examination(s)
SSL	Special restrictions as specified

- (b) The abbreviations for the limitation codes should be explained to the holder of a medical certificate as follows:

- (1) TML — Time limitation

The period of validity of the medical certificate is limited to the duration as shown on the medical certificate. This period of validity commences on the date of the aero-medical examination. Any period of validity remaining on the previous medical certificate is no longer valid. The holder of a medical certificate should present him/herself for reassessment or examination when advised and should follow any medical recommendations.

- (2) VDL — Wear corrective lenses and carry a spare set of spectacles

Correction for defective distant vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear spectacles or contact lenses that correct for defective distant vision as examined and approved by the AeMC or AME. Contact lenses may not be worn until cleared to do so by an AeMC or AME. A spare set of spectacles, approved by the AeMC or AME, should be readily available.

- (3) VXL — Correction for defective distant vision depending on the working environment

Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant visual acuity requirement but meet the visual acuity requirement for intermediate and near vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) may work without corrective lenses.

- (4) VML — Wear multifocal spectacles and carry a spare set of spectacles
- Correction for defective distant, intermediate and near vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear spectacles that correct for defective distant, intermediate and near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.
- (5) VNL — Have available corrective spectacles and a spare set of spectacles
- Correction for defective near vision: whilst exercising the privileges of the licence, the holder of a medical certificate should have readily available spectacles that correct for defective near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.
- (6) VXN — Have available corrective spectacles and a spare set of spectacles; correction for defective distant vision depending on the working environment.
- Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant and uncorrected near visual acuity requirements, but meet the visual acuity requirement for intermediate vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) should have readily available spectacles and a spare set that correct for defective near vision as examined and approved by the AeMC or AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.
- (7) CCL — Wear contact lenses that correct for defective vision
- Correction for defective distant vision: whilst exercising the privileges of the licence, the holder of a medical certificate should wear contact lenses that correct for defective distant vision, as examined and approved by the AeMC or AME. A spare set of similarly correcting spectacles shall be readily available for immediate use whilst exercising the privileges of the licence.
- (8) RXO — Specialist ophthalmological examination(s)
- Specialist ophthalmological examination(s), other than the examinations stipulated in this Part, are required for a significant reason.
- (9) HAL — Hearing aid(s)
- Whilst exercising the privileges of the licence, the holder of the medical certificate should use hearing aid(s) that compensate(s) for defective hearing as examined and approved by the AeMC or AME. A spare set of batteries should be available.
- (10) SIC — Specific medical examination(s)
- This limitation requires the AeMC or AME to contact the licensing authority before embarking upon renewal or revalidation aero-medical assessment. It is likely to concern a medical history of which the AME should be aware prior to undertaking the aero-medical assessment.
- (11) SSL — Special restrictions as specified
- This limitation may be considered when an individually specified limitation, not defined in this paragraph, is appropriate to mitigate an increased level of risk to the safe exercise of the privileges of the licence. The description of the SSL should be entered on the medical certificate or in a separate document to be carried with the medical certificate.

SECTION 2

SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES

ATCO.MED.B.005 General

Applicants shall be free from any of the following that would entail a degree of functional incapacity which is likely to interfere with the safe performance of duties or could render the applicant likely to become suddenly unable to exercise the privileges of the licence safely:

- (1) abnormality, congenital or acquired;
- (2) active, latent, acute or chronic disease or disability;
- (3) wound, injury or sequelae from operation;
- (4) effect or side effect of any prescribed or non-prescribed therapeutic, diagnostic or preventive medication taken.

ATCO.MED.B.010 Cardiovascular system

(a) Examination:

- (1) A standard 12-lead resting electrocardiogram (ECG) and report shall be completed at the examination for the initial issue of a medical certificate and then:
 - (i) every 4 years until the age of 30;
 - (ii) at all revalidation or renewal examinations thereafter; and
 - (iii) when clinically indicated.
- (2) An extended cardiovascular assessment shall be completed:
 - (i) at the first revalidation or renewal examination after the age of 65;
 - (ii) every 4 years thereafter; and
 - (iii) when clinically indicated.
- (3) Estimation of serum lipids, including cholesterol, shall be required at the examination for the initial issue of a medical certificate, at the first examination after having reached the age of 40, and when clinically indicated.

(b) Cardiovascular system — General:

- (1) Applicants with any of the following conditions shall be assessed as unfit:
 - (i) aneurysm of the thoracic or supra-renal abdominal aorta before surgery;
 - (ii) significant functional or symptomatic abnormality of any of the heart valves;
 - (iii) heart or heart/lung transplantation.
- (2) Applicants with an established history or diagnosis of any of the following conditions shall be referred to the licensing authority before a fit assessment may be considered:
 - (i) peripheral arterial disease before or after surgery;
 - (ii) aneurysm of the thoracic or supra-renal abdominal aorta after surgery;
 - (iii) aneurysm of the infra-renal abdominal aorta before or after surgery;
 - (iv) functionally insignificant cardiac valvular abnormalities;
 - (v) after cardiac valve surgery;
 - (vi) abnormality of the pericardium, myocardium or endocardium;
 - (vii) congenital abnormality of the heart, before or after corrective surgery;

- (viii) recurrent vasovagal syncope;
 - (ix) arterial or venous thrombosis;
 - (x) pulmonary embolism;
 - (xi) cardiovascular condition requiring systemic anticoagulant therapy.
- (c) Blood pressure:
- (1) Blood pressure shall be recorded at each examination.
 - (2) The applicant's blood pressure shall be within normal limits.
 - (3) Applicants shall be assessed as unfit when:
 - (i) they have symptomatic hypotension; or
 - (ii) when their blood pressure at examination consistently exceeds 160 mmHg systolic and/or 95 mmHg diastolic, with or without treatment.
 - (4) The initiation of medication for the control of blood pressure shall require a period of temporary unfit assessment to establish the absence of significant side effects.
- (d) Coronary artery disease:
- (1) Applicants with any of the following conditions shall be assessed as unfit:
 - (i) symptomatic coronary artery disease;
 - (ii) symptoms of coronary artery disease controlled by medication.
 - (2) Applicants with any of the following conditions shall be referred to the licensing authority and undergo cardiological evaluation to exclude myocardial ischaemia before a fit assessment may be considered:
 - (i) suspected myocardial ischaemia;
 - (ii) asymptomatic minor coronary artery disease requiring no anti-anginal treatment.
 - (3) Applicants with a history or diagnosis of any of the following conditions shall be referred to the licensing authority and undergo a cardiological evaluation before a fit assessment may be considered:
 - (i) myocardial ischaemia;
 - (ii) myocardial infarction;
 - (iii) revascularisation and stenting for coronary artery disease.
- (e) Rhythm/Conduction disturbances:
- (1) Applicants for a class 3 medical certificate with any significant disturbance of cardiac conduction or rhythm, intermittent or established shall be referred to the licensing authority and undergo cardiological evaluation with satisfactory results before a fit assessment may be considered. These disturbances shall include any of the following:
 - (i) disturbance of supraventricular rhythm, including intermittent or established sinoatrial dysfunction, atrial fibrillation and/or flutter and asymptomatic sinus pauses;
 - (ii) complete left bundle branch block;
 - (iii) Mobitz type 2 atrioventricular block;
 - (iv) broad and/or narrow complex tachycardia;
 - (v) ventricular pre-excitation;

- (vi) asymptomatic QT prolongation;
 - (vii) Brugada pattern on electrocardiography.
- (2) Applicants with any of the conditions listed in points (i) to (viii) may be assessed as fit in the absence of any other abnormality and subject to satisfactory cardiological evaluation:
- (i) incomplete bundle branch block;
 - (ii) complete right bundle branch block;
 - (iii) stable left axis deviation;
 - (iv) asymptomatic sinus bradycardia;
 - (v) asymptomatic sinus tachycardia;
 - (vi) asymptomatic isolated uniform supra-ventricular or ventricular ectopic complexes;
 - (vii) first degree atrioventricular block;
 - (viii) Mobitz type 1 atrioventricular block.
- (3) Applicants with a history of any of the following conditions shall be referred to the licensing authority and undergo cardiological evaluation with satisfactory results before a fit assessment may be considered:
- (i) ablation therapy;
 - (ii) pacemaker implantation.
- (4) Applicants with any of the following conditions shall be assessed as unfit:
- (i) symptomatic sinoatrial disease;
 - (ii) complete atrioventricular block;
 - (iii) symptomatic QT prolongation;
 - (iv) an automatic implantable defibrillating system;
 - (v) a ventricular anti-tachycardia pacemaker.

AMC1 ATCO.MED.B.010 Cardiovascular system

- (a) Electrocardiography
- (1) An exercise electrocardiogram (ECG) when required as part of a cardiovascular assessment should be symptom-limited and completed to a minimum of Bruce Stage IV or equivalent.
 - (2) Reporting of resting and exercise ECGs should be carried out by the AME or an appropriate specialist.
- (b) General
- (1) Cardiovascular risk factor assessment
 - (i) Serum/plasma lipid estimation is case finding and significant abnormalities should require investigation and management under the supervision of the AeMC or AME in consultation with the licensing authority if necessary.
 - (ii) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) should require cardiovascular evaluation by the AeMC or AME in consultation with the licensing authority if necessary.
 - (2) Extended cardiovascular assessment
 - (i) The extended cardiovascular assessment should be undertaken at an AeMC or by a cardiologist.

- (ii) The extended cardiovascular assessment should include an exercise ECG or other test that will provide equivalent information.
- (c) Peripheral arterial disease

Applicants with peripheral arterial disease, before or after surgery, should undergo satisfactory cardiological evaluation including an exercise ECG and 2D echocardiography. Further tests may be required which should show no evidence of myocardial ischaemia or significant coronary artery stenosis. A fit assessment may be considered provided:

 - (1) the exercise ECG is satisfactory; and
 - (2) there is no sign of significant coronary artery disease or evidence of significant atheroma elsewhere, and no functional impairment of the end organ supplied.
- (d) Aortic aneurysm
 - (1) Applicants with an aneurysm of the infra-renal abdominal aorta may be assessed as fit following a satisfactory cardiological evaluation.
 - (2) Applicants may be assessed as fit after surgery for an aneurysm of the thoracic or abdominal aorta if the blood pressure and cardiovascular evaluation are satisfactory. Regular evaluations by a cardiologist should be carried out.
- (e) Cardiac valvular abnormalities
 - (1) Applicants with previously unrecognised cardiac murmurs should require cardiological evaluation. If considered significant, further investigation should include at least 2D Doppler echocardiography.
 - (2) Applicants with minor cardiac valvular abnormalities may be assessed as fit by the licensing authority. Applicants with significant abnormality of any of the heart valves should be assessed as unfit.
 - (3) Aortic valve disease
 - (i) Applicants with bicuspid aortic valve may be assessed as fit if no other cardiac or aortic abnormality is demonstrated. Regular cardiological follow-up, including 2D Doppler echocardiography, may be required.
 - (ii) Applicants with mild aortic stenosis may be assessed as fit. Annual cardiological follow-up may be required and should include 2D Doppler echocardiography.
 - (iii) Applicants with aortic regurgitation may be assessed as fit only if regurgitation is minor and there is no evidence of volume overload. There should be no demonstrable abnormality of the ascending aorta on 2D Doppler echocardiography. Cardiological follow-up including 2D Doppler echocardiography may be required.
 - (4) Mitral valve disease
 - (i) Applicants with rheumatic mitral stenosis may only be assessed as fit in favourable cases after cardiological evaluation including 2D echocardiography.
 - (ii) Applicants with uncomplicated minor regurgitation may be assessed as fit. Regular cardiological follow-up including 2D echocardiography may be required.
 - (iii) Applicants with mitral valve prolapse and mild mitral regurgitation may be assessed as fit.
 - (iv) Applicants with evidence of volume overloading of the left ventricle demonstrated by increased left ventricular end-diastolic diameter should be assessed as unfit.
- (f) Valvular surgery

Applicants with cardiac valve replacement/repair should be assessed as unfit. After a satisfactory cardiological evaluation, fit assessment may be considered.

- (1) Asymptomatic applicants may be assessed as fit by the licensing authority six months after valvular surgery subject to:
 - (i) normal valvular and ventricular function as judged by 2D Doppler echocardiography;
 - (ii) satisfactory symptom-limited exercise ECG or equivalent;
 - (iii) demonstrated absence of coronary artery disease unless this has been satisfactorily treated by re-vascularisation;
 - (iv) no cardioactive medication is required;
 - (v) annual cardiological follow-up to include an exercise ECG and 2D Doppler echocardiography. Longer periods may be acceptable once a stable condition has been confirmed by cardiological evaluations.
 - (2) Applicants with implanted mechanical valves may be assessed as fit subject to documented exemplary control of their anti-coagulant therapy. Age factors should form part of the risk assessment.
- (g) Thromboembolic disorders
- Applicants with arterial or venous thrombosis or pulmonary embolism should be assessed as unfit during the first six months of anticoagulation. A fit assessment, with a limitation if necessary, may be considered by the licensing authority after six months of stable anticoagulation. Anticoagulation should be considered stable if, within the last six months, at least five international normalised ratio (INR) values are documented, of which at least four are within the INR target range and the haemorrhagic risk is acceptable. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months. Applicants with pulmonary embolism should also be evaluated by a cardiologist. Following cessation of anticoagulant therapy, for any indication, applicants should undergo a reassessment by the licensing authority.
- (h) Other cardiac disorders
- (1) Applicants with a primary or secondary abnormality of the pericardium, myocardium or endocardium should be assessed as unfit. A fit assessment may be considered following complete resolution and satisfactory cardiological evaluation which may include 2D Doppler echocardiography, exercise ECG, 24-hour ambulatory ECG, and/or myocardial perfusion scan or equivalent test. Coronary angiography may be indicated. Regular cardiological follow-up may be required.
 - (2) Applicants with a congenital abnormality of the heart should be assessed as unfit. Applicants following surgical correction or with minor abnormalities that are functionally unimportant may be assessed as fit following cardiological assessment. No cardioactive medication is acceptable. Investigations may include 2D Doppler echocardiography, exercise ECG and 24-hour ambulatory ECG. Regular cardiological follow-up may be required.
- (i) Syncope
- (1) Applicants with a history of recurrent episodes of syncope should be assessed as unfit. A fit assessment may be considered after a sufficient period of time without recurrence provided cardiological evaluation is satisfactory.
 - (2) A cardiological evaluation should include:
 - (i) a satisfactory symptom exercise ECG. If the exercise ECG is abnormal, a myocardial perfusion scan or equivalent test should be required;

- (ii) a 2D Doppler echocardiogram showing neither significant selective chamber enlargement nor structural or functional abnormality of the heart, valves or myocardium;
 - (iii) a 24-hour ambulatory ECG recording showing no conduction disturbance, complex or sustained rhythm disturbance or evidence of myocardial ischaemia;
 - (iv) a tilt test carried out to a standard protocol showing no evidence of vasomotor instability.
 - (3) Neurological review should be required.
- (j) Blood pressure
 - (1) Anti-hypertensive treatment should be agreed by the licensing authority. Medication may include:
 - (i) non-loop diuretic agents;
 - (ii) Angiotensin Converting Enzyme (ACE) inhibitors;
 - (iii) angiotensin II receptor blocking agents;
 - (iv) long-acting slow channel calcium blocking agents;
 - (v) certain (generally hydrophilic) beta-blocking agents.
 - (2) Following initiation of medication for the control of blood pressure, applicants should be re-assessed to verify that the treatment is compatible with the safe exercise of the privileges of the licence.
- (k) Coronary artery disease
 - (1) Applicants with chest pain of an uncertain cause should undergo a full investigation before a fit assessment may be considered. Applicants with angina pectoris should be assessed as unfit, whether or not it is abolished by medication.
 - (2) Applicants with suspected asymptomatic coronary artery disease should undergo a cardiological evaluation including exercise ECG. Further tests (myocardial perfusion scanning, stress echocardiography, coronary angiography or equivalent) may be required, which should show no evidence of myocardial ischaemia or significant coronary artery stenosis.
 - (3) After an ischaemic cardiac event, including revascularisation, applicants without symptoms should have reduced any vascular risk factors to an appropriate level. Medication, when used to control cardiac symptoms, is not acceptable. All applicants should be on acceptable secondary prevention treatment.
 - (i) A coronary angiogram obtained around the time of, or during, the ischaemic myocardial event and a complete, detailed clinical report of the ischaemic event and of any operative procedures should be available.
 - (A) there should be no stenosis more than 50 % in any major untreated vessel, in any vein or artery graft or at the site of an angioplasty/stent, except in a vessel subtending a myocardial infarction;
 - (B) the whole coronary vascular tree should be assessed as satisfactory by a cardiologist, and particular attention should be paid to multiple stenoses and/or multiple revascularisations;
 - (C) an untreated stenosis greater than 30 % in the left main or proximal left anterior descending coronary artery should not be acceptable.

- (ii) At least six months from the ischaemic myocardial event, including revascularisation, the following investigations should be completed:
 - (A) an exercise ECG showing neither evidence of myocardial ischaemia nor rhythm or conduction disturbance;
 - (B) an echocardiogram or equivalent test showing satisfactory left ventricular function with no important abnormality of wall motion (such as dyskinesia or akinesia) and a left ventricular ejection fraction of 50 % or more;
 - (C) in cases of angioplasty/stenting, a myocardial perfusion scan or equivalent test, which should show no evidence of reversible myocardial ischaemia. If there is any doubt about myocardial perfusion, in other cases (infarction or bypass grafting), a perfusion scan should also be required;
 - (D) further investigations, such as a 24-hour ECG, may be necessary to assess the risk of any significant rhythm disturbance.
 - (iii) Follow-up should be conducted annually (or more frequently, if necessary) to ensure that there is no deterioration of the cardiovascular status. It should include a cardiological evaluation, exercise ECG and cardiovascular risk assessment. Additional investigations may be required.
 - (iv) After coronary artery vein bypass grafting, a myocardial perfusion scan or equivalent test should be performed on clinical indication, and in all cases within five years from the procedure.
 - (v) In all cases, coronary angiography, or an equivalent test, should be considered at any time if symptoms, signs or non-invasive tests indicate myocardial ischaemia.
 - (vi) Applicants may be assessed as fit after successful completion of the three-month or subsequent review.
- (l) Rhythm and conduction disturbances
- (1) Applicants with any significant rhythm or conduction disturbance may be assessed as fit after cardiological evaluation and with appropriate follow-up. Such evaluation should include:
 - (i) exercise ECG which should show no significant abnormality of rhythm or conduction, and no evidence of myocardial ischaemia. Withdrawal of cardioactive medication prior to the test should be required;
 - (ii) 24-hour ambulatory ECG which should demonstrate no significant rhythm or conduction disturbance;
 - (iii) 2D Doppler echocardiogram which should show no significant selective chamber enlargement or significant structural or functional abnormality, and a left ventricular ejection fraction of at least 50 %.

Further evaluation may include:

 - (iv) 24-hour ECG recording repeated as necessary;
 - (v) electrophysiological study;
 - (vi) myocardial perfusion imaging or equivalent test;
 - (vii) cardiac magnetic resonance imaging (MRI) or equivalent test;
 - (viii) coronary angiogram or equivalent test.

- (2) Applicants with supraventricular or ventricular ectopic complexes on a resting ECG may require no further evaluation, provided the frequency can be shown to be no greater than one per minute, for example on an extended ECG strip.

Applicants with asymptomatic isolated uniform ventricular ectopic complexes may be assessed as fit, but frequent or complex forms require full cardiological evaluation.

- (3) Where anticoagulation is needed for a rhythm disturbance, a fit assessment may be considered if the haemorrhagic risk is acceptable and the anticoagulation is stable. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment with an appropriate limitation may be considered after review by the licensing authority after a period of three months.

- (4) Ablation

(i) Applicants who have undergone ablation therapy should be assessed as unfit for a minimum period of two months.

(ii) A fit assessment may be considered following successful catheter ablation provided an electrophysiological study (EPS) demonstrates satisfactory control has been achieved.

(iii) Where EPS is not performed, longer periods of unfitness and cardiological follow-up should be considered.

(iv) Follow-up should include a cardiological review.

- (5) Supraventricular arrhythmias

Applicants with significant disturbance of supraventricular rhythm, including sinoatrial dysfunction, whether intermittent or established, should be assessed as unfit. A fit assessment may be considered if cardiological evaluation is satisfactory.

(i) For initial applicants with atrial fibrillation/flutter, a fit assessment should be limited to those with a single episode of arrhythmia which is considered to be unlikely to recur.

(ii) For revalidation, applicants may be assessed as fit if cardiological evaluation is satisfactory and the stroke risk is sufficiently low. A fit assessment may be considered after a period of stable anticoagulation as prophylaxis, after review by the licensing authority. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months.

(iii) Applicants with asymptomatic sinus pauses up to 2.5 seconds on a resting ECG may be assessed as fit if exercise ECG, 2D echocardiography and 24-hour ambulatory ECG are satisfactory.

(iv) Applicants with symptomatic sino-atrial disease should be assessed as unfit.

- (6) Mobitz type 2 atrio-ventricular block

Applicants with Mobitz type 2 AV block may be assessed as fit after a full cardiological evaluation confirms the absence of distal conducting tissue disease.

- (7) Complete right bundle branch block

Applicants with complete right bundle branch block should require cardiological evaluation on first presentation.

(8) Complete left bundle branch block

A fit assessment may be considered as follows:

- (i) Initial applicants may be assessed as fit after full cardiological evaluation showing no pathology. Depending on the clinical situation, a period of stability may be required.
- (ii) Applicants for revalidation or renewal of a medical certificate with a de-novo left bundle branch block may be assessed as fit after cardiological evaluation showing no pathology. A period of stability may be required.
- (iii) A cardiological evaluation should be required after 12 months in all cases.

(9) Ventricular pre-excitation

Applicants with pre-excitation may be assessed as fit if they are asymptomatic, and an electrophysiological study, including an adequate drug-induced autonomic stimulation protocol, reveals no inducible re-entry tachycardia and the existence of multiple pathways is excluded. Cardiological follow-up should be required including a 24-hour ambulatory ECG recording showing no tendency to symptomatic or asymptomatic tachy-arrhythmia.

(10) Pacemaker

Applicants with a subendocardial pacemaker may be assessed as fit three months after insertion provided:

- (i) there is no other disqualifying condition;
- (ii) bipolar lead systems programmed in bipolar mode without automatic mode change have been used;
- (iii) that the applicant is not pacemaker dependent;
- (iv) regular cardiological follow-up should include a symptom-limited exercise ECG that shows no abnormality or evidence of myocardial ischaemia.

(11) QT prolongation

Applicants with asymptomatic QT-prolongation may be assessed as fit subject to a satisfactory cardiological evaluation.

(12) Brugada pattern on electrocardiography

Applicants with a Brugada pattern Type 1 should be assessed as unfit. Applicants with Type 2 or Type 3 may be assessed as fit, with limitations as appropriate, subject to satisfactory cardiological evaluation.

GM1 ATCO.MED.B.010 Cardiovascular system

MITRAL VALVE DISEASE

- (a) Minor regurgitation should have evidence of no thickened leaflets or flail chordae and left atrial internal diameter of less than or equal to 4.0 cm.
- (b) The following may indicate severe regurgitation:
 - (1) LV internal diameter (diastole) > 6.0 cm; or
 - (2) LV internal diameter (systole) > 4.1 cm; or
 - (3) Left atrial internal diameter > 4.5 cm.
- (c) Doppler indices, such as width of jet, backwards extension and whether there is flow reversal in the pulmonary veins may be helpful in assessing severity of regurgitation.

GM2 ATCO.MED.B.010 Cardiovascular system**VENTRICULAR PRE-EXCITATION**

- (a) Asymptomatic applicants with pre-excitation may be assessed as fit at revalidation with an Operational Multi-pilot Limitation (OML) if they meet the following criteria:
- (1) no inducible re-entry;
 - (2) refractory period > 300 ms;
 - (3) no induced atrial fibrillation.
- (b) There should be no evidence of multiple accessory pathways.

GM3 ATCO.MED.B.010 Cardiovascular system**COMPLETE LEFT BUNDLE BRANCH BLOCK**

Left bundle branch block is more commonly associated with coronary artery disease and, thus, requires more in-depth investigation, which may be invasive.

GM4 ATCO.MED.B.010 Cardiovascular system**PACEMAKER**

- (a) Scintigraphy may be helpful in the presence of conduction disturbance/paced complexes in the resting ECG.
- (b) Experience has shown that any failures of pacemakers are most likely to occur in the first three months after being fitted. Therefore, a fit assessment should not be considered before this period has elapsed.
- (c) It is known that certain operational equipment may interfere with the performance of the pacemaker. The type of pacemaker used, therefore, should have been tested to ensure it does not suffer from interference in the operational environment. Supporting data and a performance statement to this effect should be available from the supplier.

GM5 ATCO.MED.B.010 Cardiovascular system**ANTICOAGULATION**

Applicants and licence holders taking anticoagulant medication which requires monitoring with INR testing, should measure their INR on a 'near patient' testing system within 12 hours prior to starting a shift pattern and then at least every three days during the shift pattern. The privileges of the licence should only be exercised if the INR is within the target range. The INR result should be recorded and the results should be reviewed at each aero-medical assessment.

ATCO.MED.B.015 Respiratory system

- (a) Applicants with significant impairment of pulmonary function shall be referred to the licensing authority for the aero-medical assessment. A fit assessment may be considered once pulmonary function has recovered and is satisfactory.
- (b) Examination:
Pulmonary function tests are required at the initial examination and on clinical indication.
- (c) Applicants with a history or established diagnosis of asthma requiring medication shall undergo a satisfactory respiratory evaluation. A fit assessment may be considered if the applicant is asymptomatic and treatment does not affect safety.
- (d) Applicants with a history or established diagnosis in any of the following shall be referred to the licensing authority and undergo respiratory evaluation with a satisfactory result before a fit assessment may be considered:
- (1) active inflammatory disease of the respiratory system;

- (2) active sarcoidosis;
- (3) pneumothorax;
- (4) sleep apnoea syndrome;
- (5) major thoracic surgery;
- (6) chronic obstructive pulmonary disease;
- (7) lung transplantation.

AMC1 ATCO.MED.B.015 Respiratory system

(a) Examination

- (1) Spirometric examination is required for initial examination. An FEV1/FVC ratio less than 70 % should require evaluation by a specialist in respiratory disease before a fit assessment can be considered.
- (2) Posterior/anterior chest radiography may be required at initial, revalidation or renewal examinations when indicated on clinical or epidemiological grounds.

(b) Chronic obstructive airways disease

Applicants with chronic obstructive airways disease should be assessed as unfit. Applicants with only minor impairment of their pulmonary function may be assessed as fit after specialist respiratory evaluation. Applicants with pulmonary emphysema may be assessed as fit following specialist evaluation showing that the condition is stable and not causing significant symptoms.

(c) Asthma

Applicants with asthma requiring medication or experiencing recurrent attacks of asthma may be assessed as fit if the asthma is considered stable with satisfactory pulmonary function tests and medication is compatible with the safe execution of the privileges of the licence. Use of low dose systemic steroids may be acceptable.

(d) Inflammatory disease

- (1) For applicants with active inflammatory disease of the respiratory system, a fit assessment may be considered when the condition has resolved without sequelae and no medication is required.
- (2) Applicants with chronic inflammatory diseases may be assessed as fit following specialist evaluation showing mild disease with acceptable pulmonary function test and medication compatible with the safe execution of the privileges of the licence.

(e) Sarcoidosis

- (1) Applicants with active sarcoidosis should be assessed as unfit. Specialist evaluation should be undertaken with respect to the possibility of systemic, particularly cardiac, involvement. A fit assessment may be considered if no medication is required, and the disease is limited to hilar lymphadenopathy and inactive. Use of low dose systemic steroids may be acceptable.
- (2) Applicants with cardiac or neurological sarcoid should be assessed as unfit.

(f) Pneumothorax

Applicants with a spontaneous pneumothorax should be assessed as unfit. A fit assessment may be considered:

- (1) six weeks after the event provided full recovery from a single event has been confirmed in a full respiratory evaluation including a CT scan or equivalent;

- (2) following surgical intervention in the case of a recurrent pneumothorax provided there is satisfactory recovery.
- (g) Thoracic surgery
 - (1) Applicants requiring thoracic surgery should be assessed as unfit until such time as the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the licence.
 - (2) A fit assessment may be considered after satisfactory recovery and full respiratory evaluation including a CT scan or equivalent. The underlying pathology which necessitated the surgery should be considered in the aero-medical assessment.
- (h) Sleep apnoea syndrome/sleep disorder
 - (1) Applicants with unsatisfactorily treated sleep apnoea syndrome and suffering from excessive daytime sleepiness should be assessed as unfit.
 - (2) A fit assessment may be considered subject to the extent of symptoms, including vigilance, and satisfactory treatment. ATCO operational experience, sleep apnoea syndrome/sleep disorder education and work place considerations are essential components of the aero-medical assessment.

ATCO.MED.B.020 Digestive system

- (a) Applicants with any sequelae of disease or surgical intervention in any part of the digestive tract or its adnexa likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit.
- (b) Applicants shall be free from herniae that might give rise to incapacitating symptoms.
- (c) Applicants with disorders of the gastrointestinal system, including those in points (1) to (5) may be assessed as fit subject to a satisfactory gastroenterological evaluation after successful treatment or full recovery after surgery:
 - (1) recurrent dyspeptic disorder requiring medication;
 - (2) pancreatitis;
 - (3) symptomatic gallstones;
 - (4) an established diagnosis or history of chronic inflammatory bowel disease;
 - (5) after surgical operation on the digestive tract or its adnexa, including surgery involving total or partial excision or a diversion of any of these organs.

AMC1 ATCO.MED.B.020 Digestive system

- (a) Oesophageal varices

Applicants with oesophageal varices should be assessed as unfit.
- (b) Pancreatitis
 - (1) Applicants with pancreatitis should be assessed as unfit. A fit assessment may be considered if the cause (e.g. gallstone, other obstruction, medication) is removed.
 - (2) Alcohol may be a cause of dyspepsia and pancreatitis. If considered appropriate, a full evaluation of its use or misuse should be undertaken.
- (c) Gallstones
 - (1) Applicants with a single large gallstone may be assessed as fit after evaluation.

- (2) Applicants with multiple gallstones may be assessed as fit while awaiting treatment provided the symptoms are unlikely to interfere with the safe exercise of the privileges of the licence.
- (d) Inflammatory bowel disease
- Applicants with an established diagnosis or history of chronic inflammatory bowel disease may be assessed as fit if the disease is in established stable remission, and only minimal, if any, medication is being taken. Regular follow-up should be required.
- (e) Dyspepsia
- Applicants with recurrent dyspepsia requiring medication should be investigated by internal examination including radiologic or endoscopic examination. Laboratory testing should include haemoglobin assessment and faecal examination. Any demonstrated ulceration or significant inflammation requires evidence of recovery before a fit assessment may be considered.
- (f) Digestive tract and abdominal surgery
- Applicants who have undergone a surgical operation on the digestive tract or its adnexa, including a total or partial excision or a diversion of any of these organs, should be assessed as unfit. A fit assessment may be considered if recovery is complete, the applicant is asymptomatic and the risk of secondary complication or recurrence is minimal.

ATCO.MED.B.025 Metabolic and endocrine systems

- (a) Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit subject to demonstrated stability of the condition and satisfactory aero-medical evaluation.
- (b) Diabetes mellitus:
- (1) Applicants with diabetes mellitus requiring insulin shall be assessed as unfit.
- (2) Applicants with diabetes mellitus requiring medication other than insulin for blood sugar control shall be referred to the licensing authority. A fit assessment may be considered if it can be demonstrated that blood sugar control has been achieved and is stable.

AMC1 ATCO.MED.B.025 Metabolic and endocrine system

- (a) Metabolic, nutritional or endocrine dysfunction
- Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit if the condition is asymptomatic, clinically compensated and stable with or without replacement therapy, and regularly reviewed by an appropriate specialist.
- (b) Obesity
- (1) Applicants with a Body Mass Index ≥ 35 may be assessed as fit only if the excess weight is not likely to interfere with the safe exercise of the privileges of the licence and a satisfactory cardiovascular risk review and evaluation of the possibility of sleep apnoea syndrome has been undertaken.
- (2) Functional testing in the working environment may be necessary before a fit assessment may be considered.
- (c) Thyroid dysfunction
- Applicants with hyperthyroidism or hypothyroidism should attain a stable euthyroid state before a fit assessment may be considered.
- (d) Abnormal glucose metabolism

Glycosuria and abnormal blood glucose levels require investigation. A fit assessment may be considered if normal glucose tolerance is demonstrated (low renal threshold) or impaired glucose tolerance without diabetic pathology is fully controlled by diet and regularly reviewed.

- (e) Diabetes mellitus
- (1) The following medication, alone and in combination, may be acceptable for control of type 2 diabetes:
 - (i) alpha-glucosidase inhibitors;
 - (ii) medication that acts on the incretin pathway;
 - (iii) biguanides.
 - (2) A fit assessment may be considered after evaluation of the operational environment, including means of glucose monitoring/management whilst performing rated duties, and with demonstrated exemplary glycaemic control.
 - (3) Annual follow-up by a specialist should be required including demonstration of absence of complications, good glycaemic control demonstrated by six-monthly HbA1c measurements, and a normal exercise tolerance test.

ATCO.MED.B.030 Haematology

- (a) Blood testing, if any, shall be determined by the AME or AeMC taking into account the medical history and following the physical examination.
- (b) Applicants with a haematological condition, such as:
 - (1) coagulation, haemorrhagic or thrombotic disorder;
 - (2) chronic leukaemia;
 - (3) abnormal haemoglobin, including, but not limited to, anaemia, erythrocytosis or haemoglobinopathy;
 - (4) significant lymphatic enlargement;
 - (5) enlargement of the spleen;

shall be referred to the licensing authority. A fit assessment may be considered subject to satisfactory aero-medical evaluation.
- (c) Applicants suffering from acute leukaemia shall be assessed as unfit.

AMC1 ATCO.MED.B.030 Haematology

- (a) Anaemia
 - (1) Anaemia demonstrated by a reduced haemoglobin level should require investigation. A fit assessment may be considered in cases where the primary cause has been treated (e.g. iron or B12 deficiency) and the haemoglobin or haematocrit has stabilised at a satisfactory level. The recommended range of the haemoglobin level is 11–17 g/dl.
 - (2) Anaemia which is unamenable to treatment should be disqualifying.
- (b) Haemoglobinopathy

Applicants with a haemoglobinopathy should be assessed as unfit. A fit assessment may be considered where minor thalassaemia, sickle cell disease or other haemoglobinopathy is diagnosed without a history of crises and where full functional capability is demonstrated.
- (c) Coagulation disorders

- (1) Significant coagulation disorders require investigation. A fit assessment may be considered if there is no history of significant bleeding or clotting episodes and the haematological data indicate that it is safe to do so.
 - (2) If anticoagulant therapy is prescribed, AMC1 ATCO.MED.B.010(g) should be followed.
- (d) Disorders of the lymphatic system
- Lymphatic enlargement requires investigation. A fit assessment may be considered in cases of an acute infectious process which is fully recovered, or Hodgkin's lymphoma, or other lymphoid malignancy which has been treated and is in full remission, or that requires minimal or no treatment.
- (e) Leukaemia
- (1) Applicants with acute leukaemia should be assessed as unfit. Once in established remission, applicants may be assessed as fit.
 - (2) Applicants with chronic leukaemia should be assessed as unfit. A fit assessment may be considered after remission and a period of demonstrated stability.
 - (3) Applicants with a history of leukaemia should have no history of central nervous system involvement and no continuing side effects from treatment which are likely to interfere with the safe exercise of the privileges of the licence. Haemoglobin and platelet levels should be satisfactory.
 - (4) Regular follow-up is required in all cases of leukaemia.
- (f) Splenomegaly
- Splenomegaly requires investigation. A fit assessment may be considered if the enlargement is minimal, stable and no associated pathology is demonstrated, or if the enlargement is minimal and associated with another acceptable condition.

GM1 ATCO.MED.B.030 Haematology

HODGKIN'S LYMPHOMA

Due to potential side effects of specific chemotherapeutic agents, the precise regime utilised should be taken into account.

GM2 ATCO.MED.B.030 Haematology

CHRONIC LEUKAEMIA

A fit assessment may be considered if the chronic leukaemia has been diagnosed as:

- (a) lymphatic at stages 0, I, and possibly II without anaemia and minimal treatment; or
- (b) stable 'hairy cell' leukaemia with normal haemoglobin and platelets.

GM3 ATCO.MED.B.030 Haematology

SPLENOMEGALY

- (a) Splenomegaly should not preclude a fit assessment, but should be assessed on an individual basis.
- (b) Associated pathology of splenomegaly is e.g. treated chronic malaria.
- (c) An acceptable condition associated with splenomegaly is e.g. Hodgkin's lymphoma in remission.

ATCO.MED.B.035 Genitourinary system

- (a) Urinalysis shall form part of every aero-medical examination. The urine shall contain no abnormal element considered to be of pathological significance.

- (b) Applicants with any sequelae of disease or surgical procedures on the genitourinary system or its adnexa likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit.
- (c) Applicants with a genitourinary disorder, such as:
 - (1) renal disease;
 - (2) one or more urinary calculi;
 may be assessed as fit subject to satisfactory renal/urological evaluation.
- (d) Applicants who have undergone:
 - (1) a major surgical operation in the genitourinary system or its adnexa involving a total or partial excision or a diversion of its organs; or
 - (2) major urological surgery;
 shall be referred to the licensing authority for an aero-medical assessment after full recovery before a fit assessment may be considered.

AMC1 ATCO.MED.B.035 Genitourinary system

- (a) Abnormal urinalysis

Any abnormal finding on urinalysis requires investigation. This investigation should include proteinuria, haematuria and glycosuria.
- (b) Renal disease
 - (1) Applicants presenting with any signs of renal disease should be assessed as unfit. A fit assessment may be considered if blood pressure is satisfactory and renal function is acceptable.
 - (2) Applicants requiring dialysis should be assessed as unfit.
- (c) Urinary calculi
 - (1) Applicants with an asymptomatic calculus or a history of renal colic require investigation. A fit assessment may be considered after successful treatment for a calculus and with appropriate follow-up.
 - (2) Residual calculi should be disqualifying unless they are in a location where they are unlikely to move and give rise to symptoms.
- (d) Renal and urological surgery
 - (1) Applicants who have undergone a major surgical operation on the genitourinary system or its adnexa involving a total or partial excision or a diversion of any of its organs should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications is minimal.
 - (2) Applicants with compensated nephrectomy without hypertension or uraemia may be assessed as fit.
 - (3) Applicants who have undergone renal transplantation may be considered for a fit assessment if it is fully compensated and tolerated with only minimal immuno-suppressive therapy after at least 12 months.
 - (4) Applicants who have undergone total cystectomy may be considered for a fit assessment if there is satisfactory urinary function, no infection and no recurrence of primary pathology.

ATCO.MED.B.040 Infectious disease

- (a) Applicants who are HIV positive shall be referred to the licensing authority and may be assessed as fit subject to satisfactory specialist evaluation and provided the licensing authority has sufficient evidence that the therapy does not compromise the safe exercise of the privileges of the licence.
- (b) Applicants diagnosed with or presenting symptoms of infectious disease such as:
 - (1) acute syphilis;
 - (2) active tuberculosis;
 - (3) infectious hepatitis;
 - (4) tropical diseases;

shall be referred to the licensing authority for an aero-medical assessment. A fit assessment may be considered after full recovery and specialist evaluation provided the licensing authority has sufficient evidence that the therapy does not compromise the safe exercise of the privileges of the licence.

AMC1 ATCO.MED.B.040 Infectious disease

- (a) Infectious disease — General

In cases of infectious disease, consideration should be given to a history of, or clinical signs indicating, underlying impairment of the immune system.
- (b) Tuberculosis
 - (1) Applicants with active tuberculosis should be assessed as unfit. A fit assessment may be considered following completion of therapy.
 - (2) Applicants with quiescent or healed lesions may be assessed as fit. Specialist evaluation should consider the extent of the disease, the treatment required and possible side effects of medication.
- (c) Syphilis

Applicants with acute syphilis should be assessed as unfit. A fit assessment may be considered in the case of those fully treated and recovered from the primary and secondary stages.
- (d) HIV positivity
 - (1) Applicants who are HIV positive may be assessed as fit if a full investigation provides no evidence of HIV associated diseases that might give rise to incapacitating symptoms. Frequent review of the immunological status and neurological evaluation by an appropriate specialist should be carried out. A cardiological review may also be required depending on medication.
 - (2) Applicants with an AIDS defining condition should be assessed as unfit except in individual cases for revalidation of a medical certificate after complete recovery and dependent on the review.
 - (3) The aero-medical assessment of individual cases under (1) and (2) should be dependent on the absence of symptoms or signs of the disease and the acceptability of serological markers. Treatment should be evaluated by a specialist on an individual basis for its appropriateness and any side effects.
- (e) Infectious hepatitis

Applicants with infectious hepatitis should be assessed as unfit. A fit assessment may be considered once the applicant has become asymptomatic after treatment and specialist evaluation. Regular review of the liver function should be carried out.

GM1 ATCO.MED.B.040 Infectious disease**HIV INFECTION**

- (a) There is no requirement for routine testing of HIV status, but testing may be carried out on clinical indication.
- (b) If HIV positivity has been confirmed, a process of rigorous aero-medical assessment and follow-up should be introduced to enable individuals to continue working provided their ability to exercise their licenced privileges to the required level of safety is not impaired. The operational environment should be considered in the decision-making.

ATCO.MED.B.045 Obstetrics and gynaecology

- (a) Applicants who have undergone a major gynaecological operation shall be assessed as unfit until full recovery.
- (b) Pregnancy:
In the case of pregnancy, if the AeMC or AME considers that the licence holder is fit to exercise her privileges, he/she shall limit the validity period of the medical certificate to the end of the 34th week of gestation. The licence holder shall undergo a revalidation aero-medical examination and assessment after full recovery following the end of the pregnancy.

AMC1 ATCO.MED.B.045 Obstetrics and gynaecology

- (a) Gynaecological surgery
Applicants who have undergone a major gynaecological operation should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications or recurrence is minimal.
- (b) Pregnancy
 - (1) A pregnant licence holder may be assessed as fit during the first 34 weeks of gestation provided obstetric evaluation continuously indicates a normal pregnancy.
 - (2) The AeMC or AME or the licensing authority should provide written advice to the applicant and the supervising physician regarding potentially significant complications of pregnancy which may negatively influence the safe exercise of the privileges of the licence.

ATCO.MED.B.050 Musculoskeletal system

- (a) Applicants shall have satisfactory functional use of the musculoskeletal system to enable them to safely exercise the privileges of the licence.
- (b) Applicants with static or progressive musculoskeletal or rheumatologic conditions likely to interfere with the safe exercise of the licence privileges shall be referred to the licensing authority. A fit assessment may be considered after satisfactory specialist evaluation.

AMC1 ATCO.MED.B.050 Musculoskeletal system

- (a) Applicants with any significant sequelae from disease, injury or congenital abnormality affecting the bones, joints, muscles or tendons with or without surgery require full evaluation prior to a fit assessment.
- (b) Abnormal physique, including obesity, or muscular weakness may require aero-medical assessment and particular attention should be paid to an aero-medical assessment in the working environment.

- (c) Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders should be assessed on an individual basis in conjunction with the appropriate operational expert with a knowledge of the complexity of the tasks of the applicant.
- (d) Applicants with inflammatory, infiltrative or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission and the medication is acceptable.

ATCO.MED.B.055 Psychiatry

- (a) Applicants with a mental or behavioural disorder due to alcohol or other use or misuse of psychoactive substances, including recreational substances with or without dependency, shall be assessed as unfit until after a period of documented sobriety or freedom from psychoactive substance use or misuse and subject to satisfactory psychiatric evaluation after successful treatment. Applicants shall be referred to the licensing authority.
- (b) Applicants with a psychiatric condition such as:
 - (1) mood disorder;
 - (2) neurotic disorder;
 - (3) personality disorder;
 - (4) mental or behavioural disorder;
 shall undergo satisfactory psychiatric evaluation before a fit assessment may be considered. Applicants shall be referred to the licensing authority for the assessment of their medical fitness.
- (c) Applicants with a history of a single or repeated acts of deliberate self-harm shall be assessed as unfit. Applicants shall be referred to the licensing authority and shall undergo satisfactory psychiatric evaluation before a fit assessment may be considered.
- (d) Applicants with an established history or clinical diagnosis of schizophrenia, schizotypal, delusional disorder or mania shall be assessed as unfit.

AMC1 ATCO.MED.B.055 Psychiatry

- (a) Disorders due to alcohol or other substance use
 - (1) A fit assessment may be considered after successful treatment, a period of documented sobriety or freedom from substance use, and review by a psychiatric specialist. The licensing authority, with the advice of the psychiatric specialist, should determine the duration of the period to be observed before a medical certificate can be issued.
 - (2) Depending on the individual case, treatment may include in-patient treatment of some weeks.
 - (3) Continuous follow-up, including blood testing and peer reports, may be required indefinitely.
- (b) Mood disorder

Applicants with an established mood disorder should be assessed as unfit. After full recovery and after full consideration of an individual case, a fit assessment may be considered depending on the characteristics and gravity of the mood disorder. If stability on maintenance psychotropic medication is confirmed, a fit assessment with an appropriate limitation may be considered. If the dosage of the medication is changed, a further period of unfit assessment should be required. Regular specialist supervision should be required.
- (c) Psychotic disorder

Applicants with a history, or the occurrence, of a functional psychotic disorder should be assessed as unfit. A fit assessment may be considered if a cause can be unequivocally identified as one which is transient, has ceased and the risk of recurrence is minimal.

(d) Deliberate self-harm

Applicants who have carried out a single self-destructive action or repeated acts of deliberate self-harm should be assessed as unfit. A fit assessment may be considered after full consideration of an individual case which may require psychiatric or psychological evaluation. Neuropsychological evaluation may also be required.

ATCO.MED.B.060 Psychology

- (a) Applicants who present with stress-related symptoms that are likely to interfere with their ability to exercise the privileges of the licence safely shall be referred to the licensing authority. A fit assessment may only be considered after a psychological and/or psychiatric evaluation has demonstrated that the applicant has recovered from stress-related symptoms.
- (b) A psychological evaluation may be required as part of, or complementary to, a specialist psychiatric or neurological examination.

AMC1 ATCO.MED.B.060 Psychology

- (a) If a psychological evaluation is indicated, it should be carried out by a psychologist taking into account the ATC environment and the associated risks.
- (b) Where there is established evidence that an applicant may have a psychological disorder, the applicant should be referred for psychological opinion and advice.
- (c) Established evidence should be verifiable information from an identifiable source related to the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competence assessments, behaviour or knowledge relevant to the safe exercise of the privileges of the licence.
- (d) The psychological evaluation may include a collection of biographical data, the administration of aptitude, as well as personality tests and psychological interview.
- (e) The psychologist should submit a written report to the AME, AeMC or licensing authority as appropriate, detailing his/her opinion and recommendation.

ATCO.MED.B.065 Neurology

- (a) Applicants with an established history or clinical diagnosis of the following shall be assessed as unfit:
 - (1) epilepsy except in cases in point (b)(1) and (2);
 - (2) recurring episodes of disturbance of consciousness of uncertain cause;
 - (3) conditions with a high propensity for cerebral dysfunction.
- (b) Applicants with an established history or clinical diagnosis of the following conditions shall be referred to the licensing authority and undergo further evaluation before a fit assessment may be considered:
 - (1) epilepsy without recurrence after the age of 5;
 - (2) epilepsy without recurrence and off all treatment for more than 10 years;
 - (3) epileptiform EEG abnormalities and focal slow waves;
 - (4) progressive or non-progressive disease of the nervous system;
 - (5) a single episode of disturbances or loss of consciousness;
 - (6) brain injury;
 - (7) spinal or peripheral nerve injury;

- (8) disorders of the nervous system due to vascular deficiencies including haemorrhagic and ischaemic events.

AMC1 ATCO.MED.B.065 Neurology

- (a) Electroencephalography (EEG)
- (1) EEG should be carried out when indicated by the applicant's history or on clinical grounds.
 - (2) Epileptiform paroxysmal EEG abnormalities and focal slow waves should be disqualifying. A fit assessment may be considered after further evaluation.
- (b) Epilepsy
- (1) Applicants who have experienced one or more convulsive episodes after the age of five should be assessed as unfit.
 - (2) A fit assessment may be considered if:
 - (i) the applicant is seizure free and off medication for a period of at least 10 years;
 - (ii) full neurological evaluation shows that a seizure was caused by a specific non-recurrent cause, such as trauma or toxin.
 - (3) Applicants who have experienced an episode of benign Rolandic seizure may be assessed as fit provided the seizure has been clearly diagnosed including a properly documented history and typical EEG result and the applicant has been free of symptoms and off treatment for at least 10 years.
- (c) Neurological disease
- Applicants with any stationary or progressive disease of the nervous system which has caused or is likely to cause a significant disability should be assessed as unfit. A fit assessment may be considered after full neurological evaluation in cases of minor functional losses associated with stationary disease.
- (d) Disturbance of consciousness
- Applicants with a history of one or more episodes of disturbed consciousness may be assessed as fit if the condition can be satisfactorily explained by a non-recurrent cause. A full neurological evaluation is required.
- (e) Head injury
- Applicants with a head injury which was severe enough to cause loss of consciousness or is associated with penetrating brain injury should be evaluated by a consultant neurologist. A fit assessment may be considered if there has been a full recovery and the risk of epilepsy is sufficiently low. Behavioural and cognitive aspects should be taken into account.

ATCO.MED.B.070 Visual system

- (a) Examination:
- (1) A comprehensive eye examination shall form part of the initial examination and be undertaken periodically depending on the refraction and the functional performance of the eye.
 - (2) A routine eye examination shall form part of all revalidation and renewal examinations.
 - (3) Applicants shall undergo tonometry at the first revalidation examination after the age of 40, on clinical indication and if indicated considering the family history.
 - (4) Applicants shall supply the AeMC or AME with an ophthalmic examination report in cases where:

- (i) the functional performance shows significant changes;
 - (ii) the distant visual standards can only be reached with corrective lenses.
- (5) Applicants with a high refractive error shall be referred to the licensing authority.
- (b) Distant visual acuity, with or without optimal correction, shall be 6/9 (0,7) or better in each eye separately, and visual acuity with both eyes shall be 6/6 (1,0) or better.
 - (c) Initial applicants having monocular or functional monocular vision, including eye muscle balance problems, shall be assessed as unfit. At revalidation or renewal examinations the applicant may be assessed as fit provided that an ophthalmological examination is satisfactory. The applicant shall be referred to the licensing authority.
 - (d) Initial applicants with acquired substandard vision in one eye shall be assessed as unfit. At revalidation or renewal examinations the applicant shall be referred to the licensing authority and may be assessed as fit provided that an ophthalmological examination is satisfactory.
 - (e) Applicants shall be able to read an N5 chart or equivalent at 30 – 50 cm and an N14 chart or equivalent at 60 – 100 cm distance, if necessary with the aid of correction.
 - (f) Applicants shall have normal fields of vision and normal binocular function.
 - (g) Applicants who have undergone eye surgery shall be assessed as unfit until full recovery of the visual function. A fit assessment may be considered by the licensing authority subject to satisfactory ophthalmic evaluation.
 - (h) Applicants with a clinical diagnosis of keratoconus shall be referred to the licensing authority and may be assessed as fit subject to a satisfactory examination by an ophthalmologist.
 - (i) Applicants with diplopia shall be assessed as unfit.
 - (j) Spectacles and contact lenses
 - (1) If satisfactory visual function for the rated duties is achieved only with the use of correction, the spectacles or contact lenses must provide optimal visual function, be well tolerated, and suitable for air traffic control purposes.
 - (2) No more than one pair of spectacles, when worn during the exercise of licensed privileges, shall be used to meet the visual requirements at all distances.
 - (3) A spare set of similarly correcting spectacles shall be readily available when exercising the privileges of the licence(s).
 - (4) Contact lenses, when are worn during the exercise of licensed privileges, shall be monofocal, non-tinted and not orthokeratological. Monovision contact lenses shall not be used.
 - (5) Applicants with a large refractive error shall use contact lenses or high index spectacle lenses.

AMC1 ATCO.MED.B.070 Visual system

- (a) Eye examination
 - (1) At each aero-medical revalidation examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology.
 - (2) All abnormal and doubtful cases should be referred to an ophthalmologist. Conditions which indicate ophthalmological examination include but are not limited to a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity and/or the occurrence of eye disease, eye injury or eye surgery.
 - (3) Where ophthalmological examinations are required for any significant reason, this should be imposed as a limitation on the medical certificate.

- (4) The effect of multiple eye conditions should be evaluated by an ophthalmologist with regard to possible cumulative effects. Functional testing in the working environment may be necessary to consider a fit assessment.
- (5) Visual acuity should be tested using Snellen charts, or equivalent, under appropriate illumination. Where clinical evidence suggests that Snellen may not be appropriate, Landolt 'C' may be used.

(b) Comprehensive eye examination

A comprehensive eye examination by an eye specialist is required at the initial examination. All abnormal and doubtful cases should be referred to an ophthalmologist. The examination should include:

- (1) history;
- (2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;
- (3) objective refraction — hyperopic initial applicants with a hyperopia of more than +2 dioptres and under the age of 25 in cycloplegia;
- (4) ocular motility and binocular vision;
- (5) colour vision;
- (6) visual fields;
- (7) tonometry;
- (8) examination of the external eye, anatomy, media (slit lamp) and funduscopy;
- (9) assessment of contrast and glare sensitivity.

(c) Routine eye examination

At each revalidation or renewal examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology. All abnormal and doubtful cases should be referred to an ophthalmologist. This routine eye examination should include:

- (1) history;
- (2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;
- (3) morphology by ophthalmoscopy;
- (4) further examination on clinical indication.

(d) Refractive error

- (1) Applicants with a refractive error between +5.0/-6.0 dioptres may be assessed as fit provided optimal correction has been considered and no significant pathology is demonstrated. If the refractive error exceeds +3.0/-3.0 dioptres, a four-yearly follow-up by an eye specialist should be required.
- (2) Applicants with:
 - (i) a refractive error exceeding -6 dioptres;
 - (ii) an astigmatic component exceeding 3 dioptres; or
 - (iii) anisometropia exceeding 3 dioptres;
 may be considered for a fit assessment if:

- (A) no significant pathology can be demonstrated;

- (B) optimal correction has been considered;
 - (C) visual acuity is at least 6/6 (1.0) in each eye separately with normal visual fields while wearing the optimal spectacle correction;
 - (D) two-yearly follow-up is undertaken by an eye specialist.
- (3) Applicants with hypermetropia exceeding +5.0 dioptres may be assessed as fit subject to a satisfactory ophthalmological evaluation provided there are adequate fusional reserves, normal intraocular pressures and anterior angles and no significant pathology has been demonstrated. Corrected visual acuity in each eye shall be 6/6 or better.
- (4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.
- (e) Convergence
- Applicants with convergence outside the normal range may be assessed as fit provided it does not interfere with near vision (30–50 cm) or intermediate vision (100 cm) with or without correction.
- (f) Substandard vision
- (1) Applicants with reduced central vision in one eye may be assessed as fit for a revalidation or renewal of a medical certificate if the binocular visual field is normal and the underlying pathology is acceptable according to ophthalmological evaluation. Testing should include functional testing in the appropriate working environment.
 - (2) Applicants with acquired substandard vision in one eye (monocularity, functional monocular vision including eye muscle imbalance) may be assessed as fit for revalidation or renewal if the ophthalmological examination confirms that:
 - (i) the better eye achieves distant visual acuity of 1.0 (6/6), corrected or uncorrected;
 - (ii) the better eye achieves intermediate and near visual acuity of 0.7 (6/9), corrected or uncorrected;
 - (iii) there is no significant ocular pathology;
 - (iv) a functional test in the working environment is satisfactory; and
 - (v) in the case of acute loss of vision in one eye, a period of adaptation time has passed from the known point of visual loss, during which the applicant is assessed as unfit.
 - (3) An applicant with a monocular visual field defect may be assessed as fit if the binocular visual fields are normal.
- (g) Keratoconus
- Applicants with keratoconus may be considered for a fit assessment if the visual requirements are met with the use of corrective lenses and periodic review is undertaken by an ophthalmologist.
- (h) Heterophoria
- Applicants with heterophoria (imbalance of the ocular muscles) exceeding when measured with optimal correction, if prescribed:
- (1) at six metres:
 - 2.0 prism dioptres in hyperphoria,
 - 10.0 prism dioptres in esophoria,
 - 8.0 prism dioptres in exophoria
 - and
 - (2) at 33 centimetres:

- 1.0 prism dioptre in hyperphoria,
- 8.0 prism dioptres in esophoria,
- 12.0 prism dioptres in exophoria

may be assessed as fit provided that orthoptic evaluation demonstrates that the fusional reserves are sufficient to prevent asthenopia and diplopia. The Netherlands Optical Society (TNO) testing or equivalent should be carried out to demonstrate fusion.

(i) Eye surgery

(1) After refractive surgery or surgery of the cornea including cross linking, a fit assessment may be considered, provided:

- (i) satisfactory stability of refraction has been achieved (less than 0.75 dioptres variation diurnally);
- (ii) examination of the eye shows no post-operative complications;
- (iii) glare sensitivity is normal;
- (iv) mesopic contrast sensitivity is not impaired;
- (v) evaluation is undertaken by an ophthalmologist.

(2) Cataract surgery

Following intraocular lens surgery, including cataract surgery, a fit assessment may be considered once recovery is complete and the visual requirements are met with or without correction. Intraocular lenses should be monofocal and should not impair colour vision.

(3) Retinal surgery/retinal laser therapy

- (i) After successful retinal surgery, applicants may be assessed as fit once the recovery is complete. Annual ophthalmological follow-up may be necessary. Longer periods may be acceptable after two years on recommendation of the ophthalmologist.
- (ii) After successful retinal laser therapy, applicants may be assessed as fit provided an ophthalmological evaluation shows stability.

(4) Glaucoma surgery

A fit assessment may be considered six months after successful glaucoma surgery, or earlier if recovery is complete. Six-monthly ophthalmological examinations to follow up secondary complications caused by the glaucoma may be necessary.

(5) Extraocular muscle surgery

A fit assessment may be considered not less than six months after surgery and after a satisfactory ophthalmological evaluation.

(j) Visual correction

Spectacles should permit the licence holder to meet the visual requirements at all distances.

GM1 ATCO.MED.B.070 Visual system**COMPARISON OF DIFFERENT READING CHARTS (APPROXIMATE FIGURES)**

(a) Test distance: 40 cm

Decimal	Nieden	Jäger	Snellen	N	Parinaud
1,0	1	2	1,5	3	2
0,8	2	3	2	4	3
0,7	3	4	2,5		
0,6	4	5	3	5	4
0,5	5	5		6	5
0,4	7	9	4	8	6
0,35	8	10	4,5		8
0,32	9	12	5,5	10	10
0,3	9	12		12	
0,25	9	12		14	
0,2	10	14	7,5	16	14
0,16	11	14	12	20	

(b) Test distance: 80 cm

Decimal	Nieden	Jäger	Snellen	N	Parinaud
1,2	4	5	3	5	4
1,0	5	5		6	5
0,8	7	9	4	8.0	6
0,7	8	10	4,5		8
0,63	9	12	5,5	10	10
0,6	9	12		12	10
0,5	9	12		14	10
0,4	10	14	7,5	16	14
0,32	11	14	12	20	14

ATCO.MED.B.075 Colour vision

Applicants shall be normal trichromates.

AMC1 ATCO.MED.B.075 Colour vision

- (a) Pseudoisochromatic plate testing alone is not sufficient.
- (b) Colour vision should be assessed using means to demonstrate normal trichromacy.

GM1 ATCO.MED.B.075 Colour vision

The means to demonstrate normal trichromacy include:

- (a) anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match is trichromatic and the matching range is four scale units or less;
- (b) Colour Assessment and Diagnosis (CAD) test.

ATCO.MED.B.080 Otorhinolaryngology

(a) Examination:

- (1) A routine otorhinolaryngological examination shall form part of all initial, revalidation and renewal examinations.
- (2) Hearing shall be tested at all examinations. The applicant shall understand correctly conversational speech when tested with each ear at a distance of 2 metres from and with his/her back turned towards the AME.
- (3) Hearing shall be tested with pure tone audiometry at the initial examination and at subsequent revalidation or renewal examinations every 4 years until the age of 40 and every 2 years thereafter.
- (4) Pure-tone audiometry:
 - (i) Applicants for a class 3 medical certificate shall not have a hearing loss of more than 35 dB at any of the frequencies 500, 1000 or 2000 Hz, or more than 50 dB at 3000 Hz, in either ear separately.
 - (ii) Applicants who do not meet the hearing criteria above shall be referred to the licensing authority and undergo a specialist assessment before a fit assessment may be considered. Initial applicants shall undergo a speech discrimination test. Applicants for a revalidation or renewal of a class 3 medical certificate shall undergo a functional hearing test in the operational environment.
- (5) Hearing aids:
 - (i) Initial examination: the need of hearing aids to comply with the hearing requirements entails unfitness.
 - (ii) Revalidation and renewal examinations: a fit assessment may be considered if the use of hearing aid(s) or of an appropriate prosthetic aid improves the hearing to achieve a normal standard as assessed by fully functional testing in the operational environment.
 - (iii) If a prosthetic aid is needed to achieve the normal hearing standard, a spare set of the equipment and accessories, such as batteries, shall be available when exercising the privileges of the licence.

(b) Applicants with:

- (1) an active chronic pathological process of the internal or middle ear;
- (2) unhealed perforation or dysfunction of the tympanic membrane(s);

- (3) disturbance of vestibular function;
- (4) significant malformation or significant chronic infection of the oral cavity or upper respiratory tract;
- (5) significant disorder of speech or voice reducing intelligibility;

shall be referred to the licensing authority and undergo further ORL examination and assessment to establish that the condition does not interfere with the safe exercise of the privileges of the licence.

AMC1 ATCO.MED.B.080 Otorhinolaryngology

(a) Examination

- (1) An otorhinolaryngological examination includes:
 - (i) history;
 - (ii) clinical examination including otoscopy, rhinoscopy and examination of the mouth and throat;
 - (iii) clinical examination of the vestibular system.
- (2) Ear, nose and throat (ENT) specialists involved in the aero-medical assessment of air traffic controllers should have an understanding of the functionality required by air traffic controllers whilst exercising the privileges of their licence(s).
- (3) Where a full aero-medical assessment and functional check are needed, due regard should be paid to the operational environment in which the operational functions are undertaken.

(b) Hearing

- (1) The follow-up of an applicant with hypoacusis should be decided by the licensing authority. If at the next annual test there is no indication of further deterioration, the normal frequency of testing may be resumed.
- (2) An appropriate prosthetic aid may be a special headset with individual earpiece volume controls. Full functional and environmental assessments should be carried out with the chosen prosthetic equipment in use.

(c) Ear conditions

An applicant with a single dry perforation of non-infectious origin and which does not interfere with the normal function of the ear may be considered for a fit assessment.

(d) Vestibular disturbance

The presence of vestibular disturbance and spontaneous or positional nystagmus requires complete vestibular evaluation by a specialist. Significant abnormal caloric or rotational vestibular responses are disqualifying. At revalidation and renewal aero-medical examinations, abnormal vestibular responses should be assessed in their clinical context.

(e) Speech disorder

Applicants with a speech disorder should be assessed with due regard to the operational environment in which the operational functions are undertaken. Applicants with significant disorder of speech or voice should be assessed as unfit.

GM1 ATCO.MED.B.080 Otorhinolaryngology

HEARING

- (a) Speech discrimination test: discriminating speech against other noise including other sources of verbal communication and ambient noise in the working environment, but not against engine noise.

- (b) Functional hearing test: the objective of this test is to evaluate the controller's ability to hear the full range of communications that occur in an operational environment and not just through a headset or speaker.
- (c) Prosthetic aid: the functional hearing test to be carried out with the prosthetic aid in use is to ensure that the individual is able to perform the functions of his/her licence and that the equipment is not adversely affected by interference from headsets or other factors.
- (d) Pure-tone audiometry: testing at frequencies at or above 4 000 Hz will aid the early diagnosis of acoustic neuroma, noise-induced hearing loss (NIH) and other disorders of hearing. Particular attention should be paid in cases where there is a significant difference between thresholds of the left and right ear.

ATCO.MED.B.085 Dermatology

Applicants shall have no established dermatological condition likely to interfere with the safe exercise of the privileges of the licence held.

AMC1 ATCO.MED.B.085 Dermatology

- (a) Referral to the licensing authority should be made if doubt exists about the fitness of an applicant with eczema (exogenous and endogenous), severe psoriasis, chronic infections, drug-induced or bullous eruptions or urticaria.
- (b) Systemic effects of radiation or pharmacological treatment for a dermatological condition should be evaluated before a fit assessment may be considered.
- (c) An applicant with a skin condition that causes pain, discomfort, irritation or itching may only be assessed as fit if the condition can be controlled and does not interfere with the safe exercise of the privileges of the licence.
- (d) In cases where a dermatological condition is associated with a systemic illness, full consideration should be given to the underlying illness before a fit assessment may be considered.

ATCO.MED.B.090 Oncology

- (a) After diagnosis of primary or secondary malignant disease, applicants shall be referred to the licensing authority and shall undergo satisfactory oncological evaluation before a fit assessment may be considered.
- (b) Applicants with an established history or clinical diagnosis of an intracerebral malignant tumour shall be assessed as unfit.

AMC1 ATCO.MED.B.090 Oncology

- (a) Applicants who have been diagnosed with a malignant disease may be assessed as fit provided:
 - (1) after primary treatment there is no evidence of residual malignant disease likely to interfere with the safe exercise of the privileges of the licence;
 - (2) time appropriate to the type of tumour has elapsed since the end of primary treatment;
 - (3) the risk of incapacitation from a recurrence or metastasis is sufficiently low;
 - (4) there is no evidence of short- or long-term sequelae from treatment. Special attention should be paid to applicants who have received anthracycline chemotherapy;
 - (5) satisfactory oncology follow-up reports are provided to the licensing authority.
- (b) Applicants receiving ongoing chemotherapy or radiation treatment should be assessed as unfit.

- (c) Applicants with a benign intracerebral tumour may be assessed as fit after satisfactory specialist and neurological evaluation and the condition does not compromise the safe exercise of the privileges of the licence.
- (d) Applicants with pre-malignant conditions may be assessed as fit if treated or excised as necessary and there is a regular follow-up.

SUBPART C — AERO-MEDICAL EXAMINERS (AMES)

ATCO.MED.C.001 Privileges

- (a) In accordance with this Part, the privileges of an AME are to revalidate and renew class 3 medical certificates, and to conduct the relevant aero-medical examinations and assessments.
- (b) The scope of the privileges of the AME, and any condition thereof, shall be specified in the certificate.
- (c) Holders of an AME certificate shall not undertake aero-medical examinations and assessments in a Member State other than the Member State that issued their AME certificate, unless they have:
 - (1) been granted access by the host Member State to exercise their professional activities as a specialised doctor;
 - (2) informed the competent authority of the host Member State of their intention to conduct aero-medical examinations and assessments and to issue medical certificates within the scope of their privileges as AME; and
 - (3) received a briefing from the competent authority of the host Member State.

ATCO.MED.C.005 Application

- (a) The application for an AME certificate shall be submitted in accordance with the procedure established by the competent authority.
- (b) Applicants for an AME certificate shall provide the competent authority with:
 - (1) personal details and professional address;
 - (2) documentation demonstrating that they comply with the requirements established in ATCO.MED.C.010, including the certificate of completion of the training courses in aviation medicine appropriate to the privileges they apply for;
 - (3) a written declaration that the AME will issue medical certificates on the basis of the requirements of this Part.
- (c) When the AME undertakes aero-medical examinations in more than one location, they shall provide the competent authority with relevant information regarding all practice locations and practice facilities.

ATCO.MED.C.010 Requirements for the issue of an AME certificate

Applicants for an AME certificate with the privileges for the revalidation and renewal of class 3 medical certificates shall:

- (a) be fully qualified and licensed for the practice of medicine and hold a Certificate of Completion, or have evidence of, specialist medical training;
- (b) have successfully completed basic and advanced training courses in aviation medicine, including specific modules for the aero-medical assessment of air traffic controllers and the specific environment in air traffic control;
- (c) demonstrate to the competent authority that they:
 - (1) have adequate facilities, procedures, documentation and functioning equipment suitable for aero-medical examinations; and
 - (2) have in place the necessary procedures and conditions to ensure medical confidentiality.

ATCO.MED.C.015 Training courses in aviation medicine

- (a) Training courses in aviation medicine shall be approved by the competent authority of the Member State where the training provider has its principal place of business. The training provider shall demonstrate that the course syllabus contains the learning objectives to acquire the necessary competencies and that the persons in charge of providing the training have adequate knowledge and experience.
- (b) Except in the case of refresher training, the courses shall be concluded by a written examination on the subjects included in the course content.
- (c) The training provider shall issue a certificate of completion to the applicants when they have obtained a pass in the examination.

AMC1 ATCO.MED.C.015 Training courses in aviation medicine**BASIC TRAINING COURSE**

- (a) Basic training course for AMEs

The basic training course for AMEs should consist of 60 hours of theoretical and practical training, including specific examination techniques.
- (b) The learning objectives to acquire the necessary competences should include theoretical knowledge, risk management and decision-making principles in the following subjects. Demonstrations and practical skills should also be included, where appropriate.
 - (1) Introduction to aviation medicine;
 - (2) Basic aeronautical knowledge;
 - (3) Aviation physiology;
 - (4) Cardiovascular system;
 - (5) Respiratory system;
 - (6) Digestive system;
 - (7) Metabolic and endocrine system;
 - (8) Haematology;
 - (9) Genitourinary system;
 - (10) Obstetrics and gynaecology;
 - (11) Musculoskeletal system;
 - (12) Psychiatry;
 - (13) Psychology;
 - (14) Neurology;
 - (15) Visual system and colour vision;
 - (16) Otorhinolaryngology;
 - (17) Oncology;
 - (18) Incidents and accidents, escape and survival;
 - (19) Legislation, rules and regulations;
 - (20) Medication and air traffic control.

AMC2 ATCO.MED.C.015 Training courses in aviation medicine**ADVANCED TRAINING COURSE**

- (a) The advanced training course for AMEs should consist of another 60 hours of theoretical and practical training, including specific examination techniques.
- (b) The syllabus for the advanced training course should concentrate on the specific air traffic control environment, and demonstrations and practical skills should be included, where appropriate. The course should cover at least the following subjects:
 - (1) Air traffic control working environment;
 - (2) Ophthalmology, including demonstration and practical training;
 - (3) Otorhinolaryngology, including demonstration and practical training;
 - (4) Clinical medicine;
 - (5) Cardiovascular system;
 - (6) Neurology;
 - (7) Psychiatry;
 - (8) Oncology;
 - (9) Metabolic and endocrine systems;
 - (10) Human factors in aviation with a specific focus on the air traffic control environment;
 - (11) Problematic use of substances.
- (c) Practical training at an AeMC should be under the guidance and supervision of the Head of the AeMC.
- (d) After the successful completion of the practical training, a report of demonstrated competence should be issued.

ATCO.MED.C.020 Changes to the AME certificate

- (a) AMEs shall notify the competent authority of the following circumstances which could affect their certificate:
 - (1) the AME is subject to disciplinary proceedings or investigation by a medical regulatory body;
 - (2) there are any changes to the conditions on which the certificate was granted, including the content of the statements provided with the application;
 - (3) the requirements for the issue of an AME certificate are no longer met;
 - (4) there is a change to the aero-medical examiner's practice location(s) or correspondence address.
- (b) Failure to inform the competent authority shall result in the suspension or revocation of the privileges of the AME certificate, on the basis of the decision of the competent authority that suspends or revokes the certificate.

ATCO.MED.C.025 Validity of AME certificates

An AME certificate shall be issued for a period not exceeding 3 years. It shall be revalidated provided the holder:

- (a) continues to fulfil the general conditions required for medical practice and maintains registration as a medical practitioner;

- (b) has undertaken refresher training in aviation medicine and in the working environments of air traffic controllers within the last 3 years;
- (c) has performed at least 10 aero-medical examinations every year. This number of examinations may only be reduced by the competent authority in duly justified circumstances;
- (d) remains in compliance with the terms of their AME certificate; and
- (e) exercises the AME privileges in accordance with this Part.

AMC1 ATCO.MED.C.025(b) Validity of AME certificates

REFRESHER TRAINING IN AVIATION MEDICINE

- (a) During the period of authorisation certification, an AME should attend 20 hours of refresher training, including training with regard to the environment of air traffic control.
- (b) A proportionate number of refresher training hours should be provided by, or conducted under the direct supervision of, the competent authority or the medical assessor.
- (c) Attendance at scientific meetings and congresses and air traffic control observation may be credited by the competent authority for a specified number of hours against the training obligations of the AME, provided the medical assessor has assessed it in advance as being relevant for crediting purposes.

GM1 ATCO.MED.C.025(b) Validity of AME certificates

REFRESHER TRAINING IN AVIATION MEDICINE

Scientific meetings or congresses that may be credited by the competent authority:

- (a) European Conference of Aerospace Medicine;
- (b) International Academy of Aviation and Space Medicine annual congresses;
- (c) Aerospace Medical Association annual scientific meetings; and
- (d) Other scientific meetings.