

**Requirements for European
Class 3 Medical Certification of
Air Traffic Controllers**

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Abstract		
<p>This document is a set of medical requirements in the medical certification of Air Traffic Controllers (ATCOs), which are proposed for application in ECAC¹ States. The need for such requirements was identified during the project to harmonise ATCO licensing. The document has been developed by the Air Traffic Controller Medical Requirements Study Group (AMRSG) of the EATCHIP/EATMP² Human Resources Team (HRT), from a rigorous review of both the International Civil Aviation Organization Class 3 (ICAO, 1988) and Joint Aviation Requirements – Flight Crew Licensing 3 (JAR-FCL 3) medical requirements (JAA, 1997).</p> <p>¹ European Civil Aviation Conference ² European Air Traffic Control Harmonisation and Integration Programme, now known as the European Air Traffic Management Programme</p>		
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Contact Person	Tel	Unit
N. CLINTON	+32 2 729 3953	Human Factors and Manpower Unit (DIS/HUM)

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EATMP Infocentre
 EUROCONTROL Headquarters
 96 Rue de la Fusée
 B-1130 BRUSSELS

Tel: +32 (0)2 729 51 51




Fax: +32 (0)2 729 99 84

E-mail: eatmp.infocentre@eurocontrol.int

Open on 08:00 - 15:00 UTC from Monday to Thursday, incl.

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The following table identifies all management authorities who have successively approved the present issue of this document.

AUTHORITY	NAME AND SIGNATURE	DATE
<i>Please make sure that the EATMP Infocentre Reference is present on page ii.</i>		
Licensing Project Manager	 N. CLINTON	27.01.03
Chairman EATMP Human Resources Team (HRT)	 A. SKONIEZKI	28.1.03
Senior Director Principal EATMP Directorate (SDE)	 W. PHILIPP	03.02.03

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FOREWORD

This document has been compiled by the Air Traffic Controller Medical Requirements Study Group (AMRSG) in compliance with its Terms of Reference. The AMRSG was established by the Human Resources Team (HRT) of the European Air Traffic Control Harmonisation and Integration Programme (EATCHIP), now known as the European Air Traffic Management Programme (EATMP), at the end of 1998. Its membership comprises professionals drawn from the medical and Air Traffic Controller (ATCO) disciplines.

The need for such a group was identified during the project to harmonise ATCO licensing, which was contracted to the Safety Regulation Group (SRG) of the UK Civil Aviation Authority (CAA), with the assistance of the HRT Licensing Work Group (LWG). All work in this area falls within the Human Resources Domain (HUM) of the EUROCONTROL EATMP Programme, and is directly traceable to the European Civil Aviation Conference (ECAC) Transport Ministers' "Strategy for the 1990s" and the more recently developed "ATM Strategy for the Years 2000+" (EATMP, 1999).

The Requirements for European Medical Certification have been developed from a rigorous review of both the International Civil Aviation Organization (ICAO) Class 3 (1988) and Joint Aviation Requirements - Flight Crew Licensing 3 (JAR-FCL 3) medical requirements (JAA, 1997). These requirements will be regularly audited to ensure that they remain pertinent and necessary. They will be revised and updated as appropriate, in line with developments in aviation medicine and the Air Traffic Services (ATS) environment.

Further guidance material to assist designated licensing authorities, aeromedical authorities and Aeromedical Examiners (AMEs) is published separately in the current edition of the ICAO (1985) Manual of Civil Aviation Medicine. Additionally, as part of JAR-FCL 3, the Joint Aviation Authorities (JAA) Manual of Civil Aviation Medicine (commonly known as the 'Manual') provides an overview of pertinent medical conditions. AMEs should meet the requirements set by the Aeromedical Section (AMS) to perform the required functions and in this respect some guidance may be found in the JAR-FCL 3 Manual.

The EUROCONTROL Safety Regulatory Requirement for ATM Services' Personnel (ESARR 5) (SRC, 2000) requires air traffic controllers and student air traffic controllers, who are providing an air traffic control service, to hold a valid medical certificate of the appropriate class. This document has been developed as an Acceptable Means of Compliance (AMC).

It is appreciated that legal or other circumstances within a particular State may prevent that State from complying with a particular medical requirement. These circumstances shall be evaluated by the designated State Authority, after which the State must file a difference to the nominated body responsible for management of this document (currently under the temporary custodianship of the AMRSG pending further deliberation within EUROCONTROL). Each difference will be noted in Annex 2 to this document.

From the time a State implements the Requirements for European Class 3 Medical Certification of Air Traffic Controllers, they shall apply to all holders of, and applicants for, student ATCO and ATCO licences or certificates of competence. However, it is recognised

that there may be individual controllers who have a particular medical condition which was deemed acceptable under the previous State medical requirements, but is not acceptable under the new scheme. In these circumstances, provided the State's Designated Authority is satisfied that the controller is able to safely exercise the privileges of his licence or certificate of competence, the previous State medical requirements may continue to apply in respect of the specific medical condition only and his medical certificate must be annotated accordingly. In all other respects and for any new medical condition the controller may develop after the implementation date, the new medical requirements will apply.

In the interests of harmonisation, a continuous effort is needed among the ECAC Member States to minimise the number of differences from the basic requirements.

I. INTRODUCTION

1. General Guidance

The requirements and guidance in this document cannot, on their own, be sufficiently detailed to cover all possible individual situations. Of necessity many decisions relating to the evaluation of medical fitness must be left to the judgement and discretion of the individual designated medical examiner. The evaluation must, therefore, be based on a medical examination conducted throughout in accordance with the highest standards of medical practice. Due regard must be given to the privileges granted by the licence applied for or held by the applicant for the medical certificate and the conditions under which the licence holder is going to exercise those privileges in carrying out assigned duties. If clinically indicated, testing additional to that described in this document should be carried out under the direction of the appropriate specialist.

It should be noted that illness and its treatment may interfere with an air traffic controller's ability to exercise licence privileges to the required level of safety, or preclude him or her from continuing to undertake licensed functions. Individual ATCOs should consult their Aeromedical Examiners (AMEs) for advice regarding the likely impact of illness or medication on their fitness to provide an air traffic control service. Where there are unresolved issues, AMEs should refer the case to the Aeromedical Section (AMS). Provision of information relating to the medical certification status of controllers to service providers is a matter for individual States. The EUROCONTROL European Manual of Personnel Licensing - Air Traffic Controllers (EATMP, 2000) gives guidance on this issue.

Specialists used by the AMS to assess functionality against licensed tasks and the working environment should have a basic understanding of the ATCO's function.

2. Mechanical Aids

Where mechanical and electro-mechanical aids are used by an individual to meet the required standard for medical certification, these shall be functionally tested in the operational environment by an appropriate specialist in the equipment under test, to ensure that there is no interference. It may also be necessary for an appropriate medical specialist to assess the individual using the aid in the operational environment.

3. Oncology

The assessment of malignant conditions is also explained in the Oncology Chapter of the JAR-FCL 3 Manual (JAA, 1997), which provides information

regarding certification and should be consulted together with the Section in this document specific to the affected body system.

4. Format of this Document

The layout of this document contains requirements which must be met in the left-hand column, and variations to the requirements and associated guidance in the right-hand column.

Compliance is required where the terms 'shall' or 'must' are employed. The terms 'may' and 'should' are used to denote variations to requirements and guidance, and where a proposed course of action is recommended or suggested, rather than mandatory.

Individual States must ensure that translation into languages other than English maintains the distinction between those areas requiring compliance (i.e. 'mandatory') and those areas which are merely guidance. For instance, it is permissible to use the phrase 'is to' in place of 'shall', if more appropriate in translation.

II. EUROPEAN MEDICAL CERTIFICATION REQUIREMENTS (EMCR)

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 1: General - European Class 3 Medical Certification: Examination	EMCR(ATC) 1: General - European Class 3 Medical Certification: Examination

1.1(a) An applicant for an air traffic controller licence / certificate of competence shall undergo an initial medical examination for the issue of a European Class 3 Medical Certificate. The minimum age for issue of a European Class 3 Medical Certificate shall be seventeen years.

1.1.1 The medical certificate validity will be from the date of issue to the equivalent date in the month of expiry (date to date).

1.1(b) Except where otherwise stated in this section, holders of air traffic controller licences / certificates of competence shall have their European Class 3 Medical Certificates renewed or revalidated every two years.

1.1.2 It is recommended that when holders of air traffic controller licences / certificates of competence have passed their fortieth birthday, the two-year interval specified in para 1.1(b) should be reduced to one year.

1.1(c) The applicant for a European Class 3 Medical Certificate shall provide the authorised AME with a personally certified statement of medical facts concerning personal, familial and hereditary history. The applicant shall be made aware of the necessity for giving a statement that is as complete and accurate as the applicant's knowledge permits.

1.1(d) The authorised AME shall report to the designated AMS any individual case where there is doubt about the applicant's ability to meet any requirement. In these circumstances the AMS may decide whether the medical certificate should be issued or withheld (see para 1.1.3).

1.1.3 A medical certificate may be issued provided the applicant's ability to exercise the privileges of the licence / certificate of competence to the required level of safety is unlikely to be jeopardised.

1.1(e) When the AMS is satisfied that the requirements of this section have been met, a European Class 3 Medical Certificate shall be issued to the applicant.

1.1(f) The requirements to be met for the renewal of a European Class 3 Medical Certificate are the same as those for an initial certificate, except where otherwise specifically stated.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.1: Examination	2.1: Examination

2.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall not possess any abnormality of the cardiovascular system, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

2.1(b) A standard twelve-lead resting electrocardiogram (ECG) and report are required at the examination for first issue of a medical certificate, at four-yearly intervals until age thirty, at two-yearly intervals thereafter and on clinical indication (however, see para 2.1.1).

2.1(c) Exercise electrocardiography is required only when clinically indicated in accordance with para 2.1.2.

2.1(d) Reporting of resting and exercise electrocardiograms shall be carried out by specialists acceptable to the AMS.

2.1.1. Para 1.1.2 recommends that holders of ATCO licences / certificates of competence who have passed their fortieth birthday should have their medical certificates renewed/revalidated annually. An ECG should be carried out as part of the annual examination.

2.1.2 Exercise electrocardiography, or other appropriate cardiological testing, shall be required:

2.1.2(a) when indicated by signs or symptoms suggestive of cardiovascular disease;

2.1.2(b) for clarification of a resting electrocardiogram;

2.1.2(c) at the discretion of an aeromedical specialist acceptable to the AMS;

2.1.2(d) at age 65 and then at four-yearly intervals for European Class 3 recertification.

2.1.3(a) Where blood testing is carried out by the State Authority, as required in para 6.1(b), estimation of serum/plasma lipids, including cholesterol, to facilitate risk assessment is at the discretion of the AMS (see para 6.1.1).

2.1.3(b) Serum lipid estimation is case finding and significant abnormalities will require investigation and management under the supervision of a specialist acceptable to the AMS.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.1: Examination (cont.)	2.1: Examination (cont.)

2.1.3(c) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) will require cardiovascular evaluation by, and management under the supervision of, a specialist acceptable to the AMS, and where appropriate in conjunction with the AMC or AME.

2.1(e) At age 65 years, a European Class 3 Medical Certificate holder shall be reviewed at an AMC by a cardiologist acceptable to the AMS. This review shall include exercise electrocardiography, or other tests that will provide equivalent information, and shall be repeated at four-yearly intervals.

2.2: Blood pressure	2.2: Blood pressure
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2.2(a) The blood pressure shall be recorded with the technique given in para 2.2.1.

2.2.1 The systolic pressure shall be recorded at the appearance of the Korotkoff sounds (phase I) and the diastolic pressure at their disappearance (phase V), or the electronic measurement equivalent. If the blood pressure is raised and/or the resting heart rate is increased, further observations should be made. Blood pressure readings, taken on separate occasions, should be made in the same fashion to ensure uniform results.

2.2(b) When the blood pressure exceeds 160 mmHg systolic and/or 95 mmHg diastolic consistently, on a minimum of three occasions, each separated by at least 24 hours, with or without treatment, the applicant shall be assessed as unfit.

2.2(c) Treatment for the control of blood pressure shall be compatible with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence (see para 2.2.2). The initiation of drug therapy requires a period of temporary suspension of the medical certificate to establish the absence of significant side-effects.

2.2.2 Anti-hypertensive treatment shall be agreed by the AMS. Medication acceptable to the AMS may include:

- 2.2.2(a) non-loop diuretic agents;
- 2.2.2(b) certain (generally hydrophilic) beta-blocking agents;
- 2.2.2(c) Angiotensin Converting Enzyme (ACE) Inhibitors;
- 2.2.2(d) long-acting slow-channel calcium blocking agents;
- 2.2.2(e) angiotensin two receptor blocking agents;

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.2: Blood pressure (cont.)	2.2: Blood pressure (cont.)

2.2.2(f) At commencement of anti-hypertensive treatment, the individual will be assessed as temporarily unfit because of potential side-effects, until the blood pressure is satisfactorily controlled without side-effects.

2.2(d) Applicants with symptomatic hypotension shall be assessed as unfit.

2.3: Coronary artery disease	2.3: Coronary artery disease
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2.3(a) An applicant with suspected coronary artery disease shall be investigated. An applicant with asymptomatic, minor, coronary artery disease may be considered fit by the AMS subject to compliance with para 2.3.1.

2.3.1 In suspected asymptomatic coronary artery disease, exercise electrocardiography shall be required and, if necessary, followed by scintigraphy and/or coronary angiography.

2.3(b) Applicants with symptomatic coronary artery disease shall be assessed as unfit.

2.3(c) Applicants shall be assessed as unfit following myocardial infarction. A fit assessment may be considered by the AMS subject to compliance with para 2.3.2.

2.3.2 An asymptomatic applicant who has satisfactorily controlled risk factors if any, and requiring no medication for ischaemic heart pain six months after the index event (myocardial infarction) shall have completed investigations, demonstrating:

2.3.2(a) satisfactory symptom limited exercise ECG;

2.3.2(b) left ventricular ejection fraction of greater than 50% without significant abnormality of wall motion and normal right ventricular function;

2.3.2(c) satisfactory 24-hour ambulatory ECG recording; and

2.3.2(d) coronary angiography showing less than 30% stenosis or other imaging testing showing no significant reversible ischaemia in any vessel remote from the myocardial infarction and no functional impairment of myocardium subtended by any such vessel.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.3: Coronary artery disease (cont.)	2.3: Coronary artery disease (cont.)

2.3(d) Applicants demonstrating satisfactory recovery six months following coronary bypass surgery or angioplasty may be assessed as fit by the AMS subject to compliance with para 2.3.3.

2.3.2(d) Follow-up investigation requires annual cardiovascular system review, including exercise ECG or exercise scintigraphy. Coronary angiography or other imaging testing is required no later than five years after the index event, unless non-invasive tests, e.g. exercise ECG/stress echo, are impeccable.

2.3.3 An asymptomatic applicant having satisfactorily controlled risk factors and using, if necessary, Beta blockers, ACE inhibitors, Statins and aspirin, who does not need to suppress ischaemic heart pain, may be reviewed. This review, carried out six months after the index event, shall include the following investigations demonstrating:

2.3.3(a) satisfactory symptom limited exercise ECG into Bruce Stage 4 or equivalent;

2.3.3(b) left ventricular ejection fraction of greater than 50% without significant abnormality of wall motion and normal right ventricular ejection function;

2.3.3(c) satisfactory 24-hour ambulatory ECG recording; and

2.3.3(d) post-treatment coronary angiography showing patent grafts with a good run off, less than 30% stenosis in any ungrafted major vessel, no change in the appearance of an angioplastied vessel, and no functional impairment of myocardium subtended by any such vessel.

Follow-up investigation requires annual cardiovascular system review, including exercise ECG or exercise scintigraphy. Coronary angiography or other imaging testing is required no later than five years after the index event, unless non-invasive tests, e.g. exercise ECG/stress echo, are impeccable.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.4: Rhythm/conduction disturbances	2.4: Rhythm/conduction disturbances

2.4(a) Applicants with clinically significant disturbance of atrial rhythm, whether paroxysmal or established, shall be assessed as unfit pending cardiological evaluation in accordance with para 2.4.1(a).

2.4.1(a) Any clinically significant disorder of rhythm or conduction requires evaluation by a cardiologist acceptable to the AMS. Such evaluation may include the following, on clinical indication:

- (1) resting and exercise electrocardiography;
- (2) 24-hour ambulatory electrocardiography;
- (3) 2D Doppler echocardiography;
- (4) coronary angiography;
- (5) electrophysiological investigation.

2.4(b) Applicants with asymptomatic sinus bradycardia or sinus tachycardia may be assessed as fit in the absence of significant underlying abnormality.

2.4.1(b) One atrial or ventricular ectopic complex on a resting electrocardiogram may require no further evaluation, provided the frequency can be shown to be not greater than one per minute (for example, on an extended rhythm strip).

2.4(c) Applicants with evidence of sinoatrial disease require cardiological assessment in accordance with para 2.4.1.

2.4(d) Applicants with asymptomatic isolated uniform ventricular ectopic complexes need not be assessed as unfit but frequent or complex forms require full cardiological evaluation in accordance with para 2.4.1.

2.4(e) In the absence of other abnormality, applicants with incomplete bundle branch block or stable left axis deviation may be assessed as fit. Applicants with complete right or left bundle branch block require cardiological evaluation on first presentation in accordance with para 2.4.1.

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

2.4(f) Applicants with ventricular pre-excitation, e.g. Wolf-Parkinson-White syndrome, shall be assessed as unfit unless cardiological evaluation confirms that the applicant fulfils the requirement of para 2.4.1.

2.4.1(d) 2D Doppler echocardiography should show no abnormality.

2.4.1(e) A Holter recording shall demonstrate no tendency to symptomatic or asymptomatic tachy-arrhythmia.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.4: Rhythm/conduction disturbances (cont.)	2.4: Rhythm/conduction disturbances (cont.)

2.4(g) Applicants with an endocardial pacemaker shall be assessed as unfit unless cardiological evaluation confirms that the requirements of para 2.4.2 can be met.

2.4.2 Applicants with an endocardial pacemaker may be considered for recertification three months after an insertion provided:

- (1) there is no other disqualifying disorder;
- (2) bipolar lead systems have been used;
- (3) the applicant is not pace-maker dependent, i.e. incapacitating cessation of cardiac activity would be unlikely;
- (4) symptom limited exercise electrocardiography into Bruce Stage 4 or equivalent shows no abnormality or evidence of myocardial ischaemia. Scintigraphy may be helpful in the presence of conduction disturbance/paced complexes in the resting electrocardiogram;
- (5) six monthly follow-up by a cardiologist acceptable to the AMS with a pace-maker check and Holter monitoring can be carried out;
- (6) experience has shown that any failures of pacemakers are most likely to occur in the first three months after being fitted. Therefore, recertification should not be considered before this period has elapsed. It is known that certain operational equipment may interfere with the performance of the pacemaker. The type of pacemaker used, therefore, shall have been tested to ensure it does not suffer from interference in the operational environment. Supporting data and a performance statement to this effect must be available from the supplier.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.5: General	2.5: General

2.5(a) Applicants with peripheral vascular disease shall be assessed as unfit, before or after surgery. If, however, there is no sign of significant coronary artery disease, or evidence of significant atheroma elsewhere, and no functional impairment, as demonstrated by a satisfactory exercise ECG into Stage 4 of the Bruce protocol, or equivalent, an applicant may be assessed as fit. Applicants with aneurysm of the aorta, before or after surgery, shall be assessed as unfit. Minor venous disease shall not entail unfitness. Significant venous disease requires individual evaluation by the appropriate specialist in consultation with the AMS.

2.5(b) Applicants with clinically significant abnormality of any of the heart valves shall be assessed as unfit.

2.5(c) Applicants with minor cardiac valvular abnormalities may be assessed as fit by the AMS following cardiological evaluation in accordance with para 2.5.1(a) and (b).

2.5.1(a) Unidentified cardiac murmurs shall require assessment by the AMS following evaluation by a cardiologist acceptable to the AMS. If considered significant, further investigation shall include 2D Doppler echocardiography.

2.5.1(b) Valve Conditions

(1) Bicuspid aortic valve is acceptable without restriction if no other cardiac or aortic abnormality is demonstrated, but requires review on a two-yearly basis with echocardiography.

(2) Mild aortic stenosis (less than 25 mmHg differential pressure or a Doppler flow rate of less than 2 m per second) may be acceptable. Annual review shall be required, with 2D Doppler echocardiography, by a cardiologist acceptable to the AMS.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.5: General (cont.)	2.5: General (cont.)

2.5.1 (b) (3) Aortic regurgitation is acceptable for unrestricted certification only if minor, with no evidence of volume overload. There shall be no demonstrable abnormality of the ascending aorta on 2D Doppler echo-cardiography. Annual review shall be carried out by a cardiologist acceptable to the AMS.

(4) Mitral valve disease (rheumatic mitral stenosis) is normally disqualifying. Mitral leaflet prolapse and mild mitral regurgitation may be acceptable. Applicants with isolated mid-systolic click may need no restriction. Applicants with uncomplicated minor regurgitation may be acceptable with regular cardiological follow-up.

(5) Applicants with evidence of volume overloading of the left ventricle by increased left ventricular end-diastolic diameter shall be assessed as unfit. Annual review by a cardiologist acceptable to the AMS and assessment by the AMS is required.

2.5(d) Applicants with cardiac valve replacement/repair shall be assessed as unfit. Favourable cases may be assessed as fit by the AMS following cardiological evaluation in accordance with para 2.5.1(c).

2.5.1(c) Valvular surgery

(1) Applicants with implanted mechanical valves shall be assessed as unfit.

(2) Applicants with tissue valves may be assessed as fit by the AMS six months after surgery subject to:

(i) normal valvular and ventricular function as judged by 2D Doppler echocardiography;

(ii) satisfactory symptom limited exercise electrocardiography, or equivalent;

(iii) the demonstrated absence of coronary artery disease unless this has been satisfactorily treated by re-vascularisation;

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 2: Cardiovascular System	EMCR(ATC) 2: Cardiovascular System
2.5: General (cont.)	2.5: General (cont.)

2.5.1(c) (2)
 (iv) no cardioactive medication is required;
 (v) annual cardiological review by a cardiologist acceptable to the AMS shall be required.

2.5(e) Oral anticoagulant therapy is disqualifying. After completion of treatment, applicants may be considered fit by the AMS in accordance with para 2.5.2.

2.5.2 Following anticoagulant therapy, review will be required by a cardiologist acceptable to the AMS. Subcutaneous heparin treatment may be acceptable subject to a satisfactory report from an appropriate specialist acceptable to the AMS.

2.5(f) Applicants with any abnormality of the pericardium, myocardium or endocardium shall be assessed as unfit until complete resolution has occurred or following cardiological evaluation in accordance with para 2.5.3.

2.5.3 Abnormalities of the pericardium, myocardium and endocardium, primary or secondary, shall generally be assessed as unfit until clinical resolution has taken place. Cardiovascular assessment at the discretion of a cardiologist acceptable to the AMS may need to include 2D Doppler echocardiography, exercise electrocardiography, 24-hour ambulatory electrocardiographic monitoring, myocardial scintigraphy and coronary angiography.

2.5(g) Applicants with congenital heart conditions, before or after corrective surgery, shall generally be assessed as unfit. Applicants with minor abnormalities may be assessed as fit by the AMS following cardiological investigation in accordance with para 2.5.4.

2.5.4 Congenital heart conditions including those surgically corrected, shall normally be assessed as unfit unless functionally unimportant and no medication is required. Cardiological assessment by the AMS shall be required. Investigations may include Doppler echocardiography, exercise electrocardiography and 24-hour ambulatory electrocardiographic monitoring. Regular cardiological review shall be required. Periodicity of review should be at the discretion of a cardiologist acceptable to the AMS.

2.5(h) An applicant having undergone cardiac transplantation shall be assessed as unfit.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 3: Respiratory System	EMCR(ATC) 3: Respiratory System
3.1: General	3.1: General

3.1(a) An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any abnormality of the respiratory system, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

3.1(b) Posterior/anterior chest radiography is required at the initial examination. It may be required at revalidation or renewal examinations when indicated.

3.1(c) Pulmonary function tests (see para 3.1.1) are required at the initial examination. A Peak Flow Test shall be performed at first renewal examination after age thirty, four-yearly thereafter and when clinically indicated. Applicants with significant impairment of pulmonary function shall be assessed as unfit.

3.1(d) Any significant abnormality shall require further evaluation by a specialist in respiratory diseases.

3.1.1 Spirometric examination is required for initial European Class 3 examination. An FEV1/FVC ratio less than 70% shall require evaluation by a specialist in respiratory disease.

3.2: Disorders	3.2: Disorders
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3.2(a) Applicants with significant chronic obstructive airway disease shall be assessed as unfit. Where appropriate, applicants should be referred to a specialist in respiratory diseases for assessment.

3.2(b) Applicants with reactive airway disease (bronchial asthma) requiring medication shall be assessed in accordance with the criteria in para 3.2.1.

3.2.1 Applicants experiencing recurrent attacks of asthma shall be assessed as unfit. European Class 3 certification may be considered by the AMS if the patient has mild asthma, with acceptable pulmonary function tests and medication compatible with the safe execution of the functions of the licence / certificate of competence.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 3: Respiratory System	EMCR(ATC) 3: Respiratory System
3.2: Disorders (cont.)	3.2: Disorders (cont.)

3.2(c) Applicants with active inflammatory diseases of the respiratory system shall be assessed as temporarily unfit.

3.2(d) Applicants with sarcoidosis shall be assessed as unfit (see para 3.2.2).

3.2(e) Applicants with spontaneous pneumothorax shall be assessed as unfit pending full evaluation (see para 3.2.3).

3.2(f) Applicants requiring major chest surgery shall be assessed as unfit following operation and until such time as the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the applicable licences / certificates of competence (see para 3.2.4). The underlying pathology which necessitated the surgery will need to be considered in the recertification process.

3.2(g) Cases of pulmonary emphysema should be assessed as unfit only if the condition is causing significant symptoms.

3.2.2 Applicants with active sarcoidosis are unfit. Certification may be considered by the AMS if the disease is:

- (a) fully investigated with respect to the possibility of systemic involvement; and
- (b) limited to hilar lymphadenopathy and the applicant is taking no medication.

3.2.3 Spontaneous pneumothorax

3.2.3(a) Certification following a fully recovered single spontaneous pneumothorax may be acceptable following a period of assessment after the event with full respiratory evaluation including Magnetic Resonance Imaging (MRI).

3.2.3(b) Recertification may be considered by the AMS if the applicant fully recovers from a single spontaneous pneumothorax after six weeks.

3.2.3(c) A recurrent spontaneous pneumothorax is disqualifying. Certification may be considered by the AMS following surgical intervention with a satisfactory recovery.

3.2.4 Pneumonectomy is disqualifying. However, recertification following pneumonectomy or lesser chest surgery may be considered by the AMS after satisfactory recovery and full respiratory evaluation including MRI.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 3: Respiratory System	EMCR(ATC) 3: Respiratory System
3.2: Disorders (cont.)	3.2: Disorders (cont.)

3.2(h) Cases of active pulmonary tuberculosis, duly diagnosed, shall be assessed as unfit. Cases of quiescent or healed lesions which are known to be tuberculous, or are presumably tuberculous in origin, may be assessed as fit.

3.2(i) Initial applicants suffering from sleep apnoea syndrome shall be assessed as unfit (however, see para 3.2.5).

3.2.5 At renewal, applicants suffering from sleep apnoea may be assessed as fit subject to the extent of the symptoms, satisfactory treatment and functional evaluation in the working environment, in accordance with the guidance at Item 1 of Annex 1 to this document.

EMCR(ATC) 4: Digestive System	EMCR(ATC) 4: Digestive System
4.1: General	4.1: General

4.1 An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any functional or structural disease of the gastro-intestinal tract or its adnexae which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

4.2: Disorders	4.2: Disorders
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4.2(a) Applicants with recurrent dyspeptic disorders requiring medication or with pancreatitis shall be assessed as unfit (however, see para 4.2.1).

4.2.1(a) Recurrent dyspepsia requiring medication shall be investigated by internal examination (radiologic or endoscopic). Laboratory testing should include haemoglobin assessment and faecal examination. Any demonstrated ulceration or significant inflammation requires evidence of recovery before revalidation or renewal by the AMS.

4.2.1(b) Certification of individuals with conditions involving pancreatitis may be considered by the AMS if the cause or obstruction (e.g., drug, gallstone) is removed.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 4: Digestive System	EMCR(ATC) 4: Digestive System
4.2: Disorders (cont.)	4.2: Disorders (cont.)

- 4.2(b) Applicants exhibiting symptomatic multiple gallstones or a single large gallstone shall be assessed as unfit until effective treatment has been applied (see para 4.2.2).
- 4.2(c) An initial applicant who has an established medical history or clinical diagnosis of acute or chronic inflammatory bowel disease (regional ileitis, ulcerative colitis, diverticulitis) shall be assessed as unfit (however, see para 4.2.3).
- 4.2(d) An applicant with herniae that may give rise to complications leading to incapacitation shall be assessed as unfit.
- 4.2(e) Any sequela of disease or surgical intervention in any part of the digestive tract or its adnexae likely to cause incapacitation, in particular any obstruction due to stricture or compression, shall be assessed as unfit.
- 4.2(f) An applicant who has undergone a surgical operation on the digestive tract or its adnexae, involving a total or partial excision or a diversion of any of these organs, shall be assessed as unfit (however, see para 4.2.4).
- 4.2.1(c) Alcohol may be a cause of dyspepsia and pancreatitis. If considered appropriate a full evaluation of its use/abuse is required.
- 4.2.2 A single large gallstone may be compatible with certification after consideration by the AMS. An individual with asymptomatic multiple gallstones while awaiting assessment or treatment may be considered for recertification by the AMS.
- 4.2.3 Recertification and initial certification may be considered by the AMS if there is full remission and minimal, if any, medication is being taken. Regular follow-up is required.
- 4.2.4 Following major abdominal surgery, it is unlikely that an individual will be fit to return to work before a minimum of three months has elapsed. The AMS may consider earlier recertification if recovery is complete, the applicant is asymptomatic, there is a minimal risk of secondary complication or recurrence and the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the applicable licences / certificates of competence. Where the surgery involved is of a minor nature, it is acceptable for the AME to make the decision.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 5: Metabolic, Nutritional and Endocrine Diseases	EMCR(ATC) 5: Metabolic, Nutritional and Endocrine Diseases

5.1(a) An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any functional or structural metabolic, nutritional or endocrine disorder which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

5.1(b) An applicant with metabolic, nutritional or endocrine dysfunction shall be assessed as unfit (however, see para 5.1.1).

5.1(c) Applicants with diabetes mellitus shall be assessed as unfit (however, see para 5.1.2 and 5.1.3).

5.1(d) Applicants with diabetes requiring insulin shall be assessed as unfit.

5.1(e) The use of antidiabetic medications is disqualifying (see para 5.1.3).

5.1.1. Initial certification and recertification may be considered by the AMS if the condition is asymptomatic, clinically compensated and stable with or without replacement therapy, and regularly reviewed by an appropriate specialist.

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

5.1.3 The use of biguanides and/or alpha-glucosidase inhibitors may be acceptable, as they do not cause hypoglycaemia.

EMCR(ATC) 6: Haematology	EMCR(ATC) 6: Haematology
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6.1(a) An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any haematological disease which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

6.1(b) Blood testing shall form part of the examination for the initial issue of a medical certificate, on revalidation or renewal at four-yearly intervals until age forty, two-yearly thereafter and on clinical indication.

6.1.1 The specific analyses to be carried out may be determined by the AMS of each Member State.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 6: Haematology (cont.)	EMCR(ATC) 6: Haematology (cont.)

<p>6.1(c) An applicant with significant localised and generalised enlargement of the lymphatic glands and of diseases of the blood shall be assessed as unfit (see para 6.1.3).</p>	<p>6.1.2 Anaemias demonstrated by reduced haemoglobin level require investigation. Anaemia which is unamenable to treatment is disqualifying. Certification may be considered by the AMS in cases where the primary cause has been satisfactorily treated (e.g. iron deficiency or B12 deficiency) and haemoglobin has stabilised (recommended range 11 g/dl - 17 g/dl), or where minor thalassaemia or haemoglobinopathies are diagnosed without a history of crises and where full functional capability is demonstrated.</p>
<p>6.1(d) An applicant with acute leukaemia shall be assessed as unfit. Initial applicants with chronic leukaemias shall be assessed as unfit (for recertification see para 6.1.4).</p>	<p>6.1.3 Lymphatic enlargement requires investigation. Certification may be considered by the AMS in cases of acute infectious process which is fully recovered or Hodgkin's lymphoma which has been treated and is in full remission. Due to potential long-term side-effects of specific chemotherapeutic agents, the precise regime utilised must be taken into account.</p>
<p>6.1(e) An applicant with significant enlargement of the spleen shall be assessed as unfit (see para 6.1.5).</p>	<p>6.1.4 In cases of chronic leukaemia recertification may be considered by the AMS if diagnosed as lymphatic at stages O, I (and possibly II) without anaemia and minimal treatment, or 'hairy cell' leukaemia and are stable with normal haemoglobin and platelets. Regular follow-up is required.</p>
	<p>6.1.5 Splenomegaly requires investigation. The AMS may consider certification where the enlargement is minimal, stable and no associated pathology is demonstrable (e.g. treated chronic malaria), or if the enlargement is minimal and associated with another acceptable condition (e.g. Hodgkin's lymphoma in remission). Splenectomy may not preclude certification, but should be assessed on an individual basis.</p>

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 6: Haematology (cont.)	EMCR(ATC) 6: Haematology (cont.)
<p>6.1(f) An applicant with significant polycythaemia shall be assessed as unfit (see para 6.1.6). Certification may be considered by the AMS if the condition is fully controlled and good follow-up reports have been received.</p>	<p>6.1.6 Polycythaemia requires investigation. The AMS may consider certification if the condition is stable and no associated pathology has been demonstrated.</p>
<p>6.1(g) An applicant with a coagulation defect shall be assessed as unfit (see para 6.1.7 and 6.1.8), as are those undergoing oral anticoagulant therapy (para 2.5(e) refers).</p>	<p>6.1.7 Significant coagulation defects require investigation. The AMS may consider certification if there is no history of significant bleeding or clotting episodes and the haematological data indicates that it is safe to do so.</p>
	<p>6.1.8 Following anticoagulant therapy, review will be required by an appropriate specialist acceptable to the AMS. Subcutaneous heparin treatment may be acceptable subject to a satisfactory report.</p>

EMCR(ATC) 7: Urinary System	EMCR(ATC) 7: Urinary System
<p>7.1(a) An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any functional or structural disease of the urinary system or its adnexae which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.</p>	
<p>7.1(b) An applicant presenting any signs of organic disease of the kidney shall be assessed as unfit. Urinalysis shall form part of every medical examination. The urine shall contain no abnormal element considered to be of pathological significance. Particular attention shall be paid to disease affecting the urinary passages and the genital organs (see para 7.1.1).</p>	<p>7.1.1 Any abnormal finding upon urinalysis requires investigation. Investigation and analysis shall include proteinuria, haematuria and glycosuria.</p>
<p>7.1(c) An applicant presenting with urinary calculi shall be assessed as unfit (see para 7.1.2).</p>	<p>7.1.2 An asymptomatic calculus or a history of renal colic requires investigation. After treatment certification may be considered with appropriate follow-up, which is to be decided by a specialist acceptable to the AMS. Residual calculi should be disqualifying unless they are peripheral and parenchymal.</p>

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 7: Urinary System (cont.)	EMCR(ATC) 7: Urinary System (cont.)

7.1(d) An applicant with any sequela of disease or surgical procedures on the kidneys and the urinary tract likely to cause incapacitation shall be assessed as unfit. An applicant with compensated nephrectomy without hypertension or uraemia may be considered fit (see 7.1.3).

7.1.3 Major urological surgery is normally disqualifying. However, the AMS may consider certification if the applicant is completely asymptomatic and there is a minimal risk of secondary complication or recurrence.

7.1(e) An applicant who has undergone a major surgical operation in the urinary tract or the urinary apparatus involving a total or partial excision or a diversion of any of its organs shall be assessed as unfit until such time as the effects of the operation are no longer likely to cause incapacity (see para 7.1.3 and 7.1.4).

7.1.4 Renal transplantation or total cystectomy is disqualifying for initial certification. Recertification may be considered by the AMS in the case of:

7.1.4(a) renal transplant which is fully compensated and tolerated with minimal immuno-suppressive therapy after at least twelve months; and

7.1.4(b) total cystectomy which is functioning satisfactorily with no recurrence of primary pathology.

EMCR(ATC) 8: Sexually Transmitted Diseases and Other Infections	EMCR(ATC) 8: Sexually Transmitted Diseases and Other Infections
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8.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall have no established medical history or clinical diagnosis of any sexually transmitted disease or other infection which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

8.1.1 Particular attention should be paid to a history of or clinical signs indicating:

- (1) HIV positivity,
- (2) immune system impairment,
- (3) infectious hepatitis or
- (4) syphilis.

8.1(b) An applicant having HIV infection involving symptoms of active disease such as AIDS, AIDS Related Complex, or Central Nervous System involvement shall be assessed as unfit. However, recertification of asymptomatic HIV positive individuals may be considered in accordance with para 8.1.1 to 8.1.3.

8.1.2 There is no requirement for general testing of HIV status, but testing may be carried out on clinical indication. Once positivity has been confirmed, a process of rigorous assessment and follow-up should be introduced to enable individuals to continue working provided their ability to exercise their licensed privileges to the required level of safety is not impaired. Treatment must be assessed by a specialist acceptable to the AMS on an individual basis for its appropriateness and any side-effects. Guidance relating to testing regimes is at Item 2 of Annex 1 to this document.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 8: Sexually Transmitted Diseases and Other Infections (cont.)	EMCR(ATC) 8: Sexually Transmitted Diseases and Other Infections (cont.)

8.1.3 Since sudden incapacitation by seizure, or subtle incapacitation due to cognitive dysfunction, are known manifestations of HIV disease, thorough neurological examination should form part of the regular assessment of such individuals.

8.1(c) A diagnosis of syphilis is not disqualifying. However, symptoms and complications of the disease which impair the safe exercise of the privileges of the licence / certificate of competence are disqualifying (see para 8.1.4).

8.1.4 Certification may be considered by the AMS in the case of those fully treated and recovered from the primary and secondary stages.

EMCR(ATC) 9: Gynaecology and Obstetrics	EMCR(ATC) 9: Gynaecology and Obstetrics
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9.1(a) An applicant for or the holder of a European Class 3 Medical Certificate shall not possess any functional or structural obstetric or gynaecological condition which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

9.1(b) If obstetric evaluation indicates a normal pregnancy, the applicant may be assessed as fit until not later than the end of the 34th week of gestation.

9.1.1 The AMS, or the AME under the direction of the AMS where appropriate, should notify the candidate and the attending physician in writing of any potentially significant complications of pregnancy.

9.1.2 Licence privileges may be resumed upon satisfactory confirmation of full recovery following confinement or termination of pregnancy.

9.1(c) An applicant who has undergone a major gynaecological operation shall be assessed as unfit (however, see para 9.1.3).

9.1.3 Major gynaecological surgery is normally disqualifying. The AMS may consider recertification if the holder is completely asymptomatic, there is only a minimal risk of secondary complication or recurrence and the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the licence / certificate of competence.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 10: Musculoskeletal Requirements	EMCR(ATC) 10: Musculoskeletal Requirements

10.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall not possess any abnormality of the bones, joints, muscles and tendons, congenital or acquired which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence. Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders will be assessed on an individual basis.

10.1.1 Abnormal physique, including obesity, or muscular weakness may require medical assessment (including that in the working environment) as approved by the AMS.

10.1(b) A candidate suffering from severe obesity shall be assessed as unfit (see para 10.1.2).

10.1.2 The AME should take into account the applicant's age and body mass index in regard to this.

10.1(c) Osteo-arthritic or muscular tendon progressive conditions resulting in functional upset are disqualifying.

10.1.3 Osteo-arthritic or muscular tendon progressive conditions may be of congenital or acquired origin. Any functional upset should be evaluated against its impact on the individual's ability to operate satisfactorily in the working environment.

10.1.4 Recertification in cases of limb deficiency, with or without limb prosthesis, may be considered by the AMS following satisfactory assessment in the working environment.

EMCR(ATC) 11: Psychiatric and Psychological Requirements	EMCR(ATC) 11: Psychiatric and Psychological Requirements
11.1: Psychiatric requirements	11.1: Psychiatric requirements

11.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall have no established medical history or clinical diagnosis of any psychiatric disease or disability, condition or disorder, acute or chronic, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

11.1.1 The issues raised in this section are complex. Some guidance may be found in the chapter on Aviation Psychiatry of the JAR FCL 3 Manual.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 11: Psychiatric and Psychological Requirements	EMCR(ATC) 11: Psychiatric and Psychological Requirements
11.1: Psychiatric requirements (cont.)	11.1: Psychiatric requirements (cont.)

11.1(b) Particular attention shall be paid to the following (see para 11.1.1 to 11.1.6):

- (1) psychotic symptoms;
- (2) mood disorders;
- (3) personality disorders, especially if severe enough to have resulted in overt acts;
- (4) mental abnormality and neurosis;
- (5) use of psychoactive drugs or other substances, or abuse of alcohol, with or without dependency.

11.1(c) An established condition including psychotic symptoms is disqualifying.

11.1.2 Certification may only be considered if the AMS can be satisfied that the original diagnosis was inappropriate or inaccurate, or as a result of a single toxic episode.

11.1(d) An established neurosis is disqualifying.

11.1.3 The AMS may consider certification after review by a psychiatric specialist acceptable to the AMS and after psychotropic treatment has ceased for at least three months.

11.1(e) A single self-destructive action or repeated overt acts are disqualifying.

11.1.4 Certification may be considered by the AMS after full consideration of an individual case and will require psychological or psychiatric review.

11.1(f) Habitual abuse of alcohol and abuse of psychoactive drugs or substances with or without dependency is disqualifying (see para 11.1.5).

11.1.5 Certification may be considered by the AMS after a period of two years documented sobriety or freedom from drug use. Recertification at an earlier point may be considered by the AMS following:

- (a) a minimum of four weeks inpatient treatment;
- (b) review by a psychiatric specialist acceptable to the AMS; and
- (c) ongoing review including blood testing and peer reports for a period of three years.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 11: Psychiatric and Psychological Requirements	EMCR(ATC) 11: Psychiatric and Psychological Requirements
11.2: Psychological requirements	11.2: Psychological requirements

11.2(a) An applicant who exhibits inability to cope with stress or stress-related problems to an extent where the symptoms are likely to interfere with an individual's ability to exercise safely the privileges of the licence / certificate of competence shall be assessed as unfit (however, see para 11.2.2 and 11.2.3).

11.2.1 Within psychiatric management, psychological assessment may have a pivotal role in enabling the psychiatrist to make a holistic assessment.

11.2.2 If stress-related problems, which are likely to interfere with safe exercise of the privileges of the individual's licence / certificate of competence, are reported or indicated, a psychological evaluation by a specialist acceptable to be AMS may be required.

11.2(b) An applicant for or holder of a European Class 3 Medical Certificate shall have no established psychological deficiencies which are likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence (see para 11.2.2 to 11.2.4).

11.2.3 Coping with stress includes the following:

- (a) coping with high workload,
- (b) coping with boredom,
- (c) 'unwinding' after work,
- (d) controlling anxiety and anger,
- (e) managing critical incidents.

If there are indications of a lack of skills or of incidents relating to any of the above, the applicant should be referred to a specialist acceptable to the AMS.

11.2(c) When a psychological evaluation is indicated, it shall be carried out by a psychologist acceptable to the AMS. The evaluation shall be directed by a neurologist or psychiatrist, as appropriate.

11.2.4 A psychological evaluation may be required by the AMS as part of, or complementary to, a specialist psychiatric or neurological examination when the AME or the Authority receives verifiable information from an identifiable source which evokes doubts concerning the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or proficiency checks, delinquency or knowledge relevant to the safe exercise of the privileges of the applicable licences. In simple cases, and where acceptable to the AMS, the psychologist may report directly to the AME. Decisions on certification or recertification will require clinical judgement from the AME.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 11: Psychiatric and Psychological Requirements	EMCR(ATC) 11: Psychiatric and Psychological Requirements
11.2: Psychological requirements (cont.)	11.2: Psychological requirements (cont.)

11.2.5 The psychological evaluation should be broad-based and may include medical history, life-event history and aptitude testing, in addition to personality tests and psychological interview.

EMCR(ATC) 12: Neurological Requirements	EMCR(ATC) 12: Neurological Requirements
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12.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall have no established medical history or clinical diagnosis of any neurological condition which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

12.1.1 Any progressive disease of the nervous system is disqualifying, but minor functional loss associated with stable (non-progressive) disease may be acceptable after full evaluation by a specialist acceptable to the AMS.

12.1(b) The following conditions are disqualifying:

- (1) progressive disease of the nervous system;
 - (2) epilepsy;
 - (3) conditions with a high propensity for cerebral dysfunction.
- (See guidance in this section.)

12.1.2 A diagnosis of epilepsy is disqualifying. One or more convulsive episodes after the age of five is disqualifying. However, an episode shown after full neurological evaluation to have specific non-recurrent cause, such as trauma or toxin, may be acceptable.

12.1.3 An episode of benign Rolandic seizure may be acceptable, provided it has been clearly diagnosed, with a properly documented history and typical EEG result. The patient must have been free of symptoms for ten years.

12.1(c) The following may be acceptable subject to full investigation by a specialist acceptable to the AMS:

- (1) disturbance or loss of consciousness;
- (2) head injury.

12.1.4 Investigation by electro-encephalography is recommended, at initial or renewal examinations, when indicated by the applicant's history or on clinical grounds.

12.1.5 Paroxysmal EEG abnormalities are disqualifying. An EEG showing a single paroxysm may not be disqualifying if, after full evaluation by a neurological specialist, it is found not to be pathological.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 12: Neurological Requirements (cont.)	EMCR(ATC) 12: Neurological Requirements (cont.)

12.1.6 A history of one or more episodes of disturbed consciousness is disqualifying. Such episodes may be accepted by the AMS when satisfactorily explained by a non-recurrent cause and after full neurological evaluation.

12.1.7 Head injury involving loss of consciousness should be treated as in para 12.1.6 above. Head injury without loss of consciousness, but including skull fracture, meningeal rupture or cerebral injury, may be accepted by the AMS after complete recovery and full neurological evaluation which may include psychological assessment.

EMCR(ATC) 13: Ophthalmological Requirements	EMCR(ATC) 13: Ophthalmological Requirements
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13.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall not possess any abnormality of the function of the eyes or their adnexae or any active pathological condition, congenital or acquired, acute or chronic, or any sequela of eye surgery (see para 13.1.2) or trauma, which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

13.1(b) An applicant who has undergone refractive surgery shall be assessed as unfit (however, see para 13.1.2).

13.1.1 Ophthalmological specialists used by the AMS should have a basic understanding of the functionality required by air traffic controllers in the exercise of the privileges of their licences / certificates of competence.

13.1.2 Certification or re-certification may be considered by the AMS twelve months after the date of refractive surgery provided that:

- (a) pre-operative refraction (as defined in para 14.1(b)) was less than or equal to -5 dioptres;
- (b) satisfactory stability of refraction has been achieved (less than 0.75 dioptres variation diurnally); and
- (c) glare and contrast sensitivity is not increased. Measurement should be carried out by an objective test acceptable to the AMS;
- (d) the refractive surgery carried out did not involve radial keratotomy.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 13: Ophthalmological Requirements (cont.)	EMCR(ATC) 13: Ophthalmological Requirements (cont.)

13.1(c) A comprehensive ophthalmological examination is required at the initial examination (see para 13.1.3).

13.1.3 At the initial examination for a European Class 3 Medical Certificate a comprehensive ophthalmological examination shall be carried out by, or under the guidance and supervision of, a specialist in aviation ophthalmology acceptable to the AMS.

13.1(d) A routine eye examination shall form part of all revalidation or renewal examinations (see para 13.1.4).

13.1.4 At each aeromedical revalidation or renewal examination an assessment of the visual fitness of the licence holder shall be performed and the eyes shall be examined with regard to possible pathology. All abnormal and doubtful cases shall be referred to a specialist in aviation ophthalmology acceptable to the AMS.

13.1(e) A comprehensive ophthalmological examination is required in conjunction with revalidation or renewal examinations (extended examination – see para 13.1.4) at the following intervals:

- (1) once every four years until age forty,
- (2) once every two years thereafter.

13.1.5 Extended examination: at the frequency stipulated in para 13.1(d), the revalidation or renewal examination shall include a comprehensive ophthalmological examination carried out by, or under the guidance and supervision of, a specialist in aviation ophthalmology acceptable to the AMS.

EMCR(ATC) 14: Visual Requirements	EMCR(ATC) 14: Visual Requirements
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14.1(a) Distant visual acuity, after correction if necessary, shall be 7/10 (6/9) or better in each eye separately using Snellen charts (or equivalent) under appropriate illumination and binocular visual acuity shall be 10/10 (6/6) or better (see para 14.1(i) below).

14.1.1 Where clinical evidence suggests that Snellen may not be appropriate, Landolt 'C' may be used for assessment of visual acuity.

14.1(b) Refractive errors. Refractive error is defined as the deviation from emmetropia measured in dioptres. Refraction shall be measured by standard methods (see para 14.1.2). Applicants shall be considered fit with respect to refractive errors if they meet the requirements in the paras below.

14.1.2 Refraction of the eye shall be the index for assessment.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 14: Visual Requirements (cont.)	EMCR(ATC) 14: Visual Requirements (cont.)

14.1(c) At initial entry, refraction must not exceed +3.0/-5.0 dioptres (ESE).

14.1.3 For recertification, up to - 6 dioptres may be acceptable, provided that:

- (1) no significant pathology can be demonstrated;
- (2) optimal correction has been considered (contact lenses).

14.1(d) In an applicant with a refractive error with an astigmatic component, the astigmatism shall not exceed 3.0 dioptres.

14.1(e) The difference in refractive error between the two eyes (anisometropia) shall not exceed 2.0 dioptres.

14.1(f) The progress of presbyopia must be checked at every revalidation or renewal examination. The candidate must be capable of reading the Parinaud 2 chart, N5 (or equivalent) at 30-50 cm and the Parinaud 6 chart, N14 (or equivalent) at 100 cm distance, if necessary with the aid of correction (see para 14.1(i) below).

14.1(g) An initial applicant with functionally significant defects of binocular vision, as determined by an ophthalmologist with regard to the working environment, shall be assessed as unfit (see para 14.1.4).

14.1.4 Central vision in one eye below the limits stated in EMCR(ATC) 14 may be considered for European Class 3 recertification if binocular visual fields are normal and the underlying pathology is acceptable according to ophthalmic assessment by a specialist acceptable to the AMS.

14.1(h) An applicant with diplopia shall be assessed as unfit. However, there is no specific requirement for stereopsis (see para 14.1.5).

14.1.5 Phoria testing will identify significant abnormalities in the ocular muscle balance. TNO testing may be carried out if considered appropriate. However, an abnormal result will not necessarily be disqualifying. This is particularly important in the case of the rapid alternator, who, while not having full stereopsis, cannot develop diplopia.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 14: Visual Requirements (cont.)	EMCR(ATC) 14: Visual Requirements (cont.)

14.1(i) An applicant with convergence which is not normal shall be assessed as unfit (see para 14.1.6).

14.1.6 Convergence outside the normal range may be considered acceptable provided it does not interfere with near vision (30–50 cm) and intermediate vision (100 cm) with or without correction.

14.1(j) At the initial examination, any candidate having monocular vision must be declared unfit.
At revalidation or renewal, the candidate may be declared fit if the ophthalmological examination is satisfactory and the condition does not preclude the individual from safely exercising the privileges of his licence / certificate of competence (see para 14.1.7).

14.1.7 Testing for revalidation or renewal certification under these circumstances should include functional testing within the appropriate working environment.

14.1(k) An applicant with imbalance of the ocular muscles (heterophorias) exceeding (when measured with usual correction, if prescribed):

14.1.8 Where high myopic correction (greater than -5 dioptries) is needed, individuals should be required to use either contact lenses or spectacles with high-index lenses in order to minimise peripheral field distortion.

- 1.0 prism dioptre in hyperphoria at 6 metres,
- 6.0 prism dioptries in esophoria at 6 metres,
- 8.0 prism dioptries in exophoria at 6 metres, and
- 1.0 prism dioptries in hyperphoria at 33 cm,
- 6.0 prism dioptries in esophoria at 33 cm,
- 10.0 prism dioptries in exophoria at 33 cm

14.1.9 Above 10 prism dioptries in exophoria, applicants should be referred to an ophthalmologist for assessment into the fusional reserve. The whole visual capacity should be taken into account.

shall be assessed as unfit unless the fusional reserves are sufficient to prevent asthenopia and diplopia.

14.1(l) An applicant with visual fields which are not normal shall be assessed as unfit (however, see para 14.1(j)).

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 14: Visual Requirements (cont.)	EMCR(ATC) 14: Visual Requirements (cont.)

14.1(m) If a visual requirement is met only with the use of correction, the spectacles or contact lenses must provide optimal visual function and be suitable for air traffic control purposes.

Correcting lenses, when worn during the exercise of licensed privileges, shall permit the holder of the licence / certificate of competence to meet the visual requirements at all distances. No more than one pair of spectacles shall be used to meet the requirement (however, see para 14.1.10).

14.1.10 It is recommended that a spare set of similarly correcting spectacles is readily available when exercising the privileges of the licence / certificate of competence.

EMCR(ATC) 15: Colour Perception	EMCR(ATC) 15: Colour Perception
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15.1(a) Normal colour perception is defined as the ability to pass the Ishihara test or to pass Nagel's anomaloscope as a normal trichromate (see para 15.1.1).

15.1(b) An initial applicant with less than perfect colour vision shall be classed as unfit. At revalidation or renewal, a 'colour safe' assessment may be acceptable provided there is no interference with the exercise of the licensed privileges and no underlying pathology. Applicants who fail Ishihara's test shall be assessed as colour safe if they pass extensive testing with methods acceptable to the AMS (anomaloscopy or colour lanterns – see para 15.1.2).

15.1(c) An applicant who fails the acceptable colour perception tests is to be considered colour unsafe and shall be assessed as unfit.

15.1.1 The Ishihara test (24-plate version) is to be considered passed if fifteen consecutive plates, appropriately randomised, are identified correctly without uncertainty or hesitation (less than three seconds per plate). This must be carried out under standard lighting conditions. For lighting conditions see the JAA Manual of Civil Aviation Medicine.

15.1.2 Those failing the Ishihara test shall be examined either by:

(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, or, if this is not available, by

(b) Lantern testing. This test is acceptable for renewal assessments, but not for initial examination. It is considered passed if the applicant passes without error a test with lanterns such as Holmes Wright, Beyne or Spectrolux. Testing should be carried out to the appropriate standard protocol. If any doubts exist regarding an individual's colour perception, an assessment should be made in the working environment.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 16: Otorhinolaryngological System	EMCR(ATC) 16: Otorhinolaryngological System

16.1(a) An applicant for or holder of a European Class 3 Medical Certificate shall not possess any abnormality of the function of the ears, nose, sinuses or throat (including oral cavity, teeth and larynx), or any active pathological condition, congenital or acquired, acute or chronic, or any sequela of surgery and trauma which is likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence.

16.1(b) A comprehensive otorhinolaryngological (ORL) examination is required at the initial examination and subsequently once every four years until age forty and every two years thereafter (extended examination – see para 16.1.2 and 16.1.3).

16.1(c) A routine Ear-Nose-Throat (ENT) examination shall form part of all revalidation and renewal examinations (see guidance to this section).

16.1(d) An applicant with any of the following disorders shall be assessed as unfit:

- (1) Active pathological process, acute or chronic, of the internal or middle ear.
- (2) Unhealed perforation or dysfunction of the tympanic membranes (see para 16.1.4).

16.1.1 ENT specialists used by AMS should have a basic understanding of the functionality required by air traffic controllers in the exercise of their licensed functions.

16.1.2 At the initial examination a comprehensive ORL examination shall be carried out by or under the guidance and supervision of a specialist in aviation otorhinolaryngology acceptable to the AMS.

16.1.3(a) At revalidation or renewal examinations all abnormal and doubtful cases within the ENT region shall be referred to a specialist in aviation otorhinolaryngology acceptable to the AMS.

16.1.3(b) An ENT specialist, as referred to above, may be a suitably trained AME acceptable to the AMS.

16.1.3(c) At the intervals stated in para 16.1(b) the revalidation or renewal examination shall include a comprehensive ORL examination carried out by or under the guidance and supervision of a specialist in aviation otorhinolaryngology acceptable to the AMS.

16.1.4 A single dry perforation of non-infectious origin and which does not interfere with the normal function of the ear may be considered acceptable for certification.

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 16: Otorhinolaryngological System (cont.)	EMCR(ATC) 16: Otorhinolaryngological System (cont.)

(3) Disturbances of vestibular function (see para 16.1.5).

(4) Significant malformation or significant, acute or chronic infection of the oral cavity or upper respiratory tract.

(5) Significant disorder of speech or voice.

16.1(e) Particular attention shall be paid to significant restriction of the nasal air passage on either side, or of any dysfunction of the sinuses. These should not necessarily entail unfitness provided exercise of the licensed function is not impaired.

16.1(f) Any speech or voice disorder that reduces intelligibility shall be referred to a speech specialist.

16.1.5 The presence of spontaneous or positional nystagmus shall entail complete vestibular evaluation by a specialist acceptable to the AMS. In such cases no significant abnormal caloric or rotational vestibular responses can be accepted. At revalidation or renewal examinations abnormal vestibular responses shall be assessed in their clinical context by the AMS.

16.1.6 Where full assessment and a functional check is needed, due regard should be paid to the operating environment in which the licensed functions are undertaken.

EMCR(ATC) 17: Hearing Requirements	EMCR(ATC) 17: Hearing Requirements
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17.1(a) Hearing shall be tested at all examinations. The applicant shall understand correctly conversational speech when tested with each ear at a distance of two metres from and with his back turned towards the AME.

17.1(b) Hearing shall be tested with pure tone audiometry at the initial examination and at subsequent revalidation or renewal examinations every four years until age forty and every two years thereafter (see para 17.1.1).

17.1.1 The pure tone audiogram shall cover at least the frequencies from 250–8000 Hz. Frequency thresholds shall be determined as follows:

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 17: Hearing Requirements (cont.)	EMCR(ATC) 17: Hearing Requirements (cont.)

17.1.1

250 Hz	3,000 Hz
500 Hz	4,000 Hz
1,000 Hz	6,000 Hz
2,000 Hz	8,000 Hz

Testing at frequencies at or above 4000 Hz will aid the early diagnosis of Noise Induced Hearing loss (NIH).

17.1(c) At the initial examination for a European Class 3 Medical Certificate there shall be no hearing loss in either ear, when tested separately, of more than 20 dB(HL) at any of the frequencies 500, 1000 and 2000 Hz, or of more than 35 dB(HL) at 3000 Hz. An applicant whose hearing loss is within 5 dB(HL) of these limits in two or more of the frequencies tested, shall undergo pure tone audiometry at least annually.

17.1.2 If hearing loss of more than 55 decibels is noted in the frequencies 6,000 Hz and 8,000 Hz, the AME should pay particular attention to the voice and whisper test. In the event of any significant defect being found, the applicant should be referred to a specialist acceptable to the AMS for further evaluation, which may include speech audiometry.

17.1(d) At revalidation or renewal examinations, there shall be no hearing loss in either ear, when tested separately, of more than 35 dB(HL) at any of the frequencies 500, 1000, and 2000 Hz, or of more than 50 dB(HL) at 3000 Hz. An applicant whose hearing loss is within 5 dB(HL) of these limits in two or more of the frequencies tested, shall undergo pure tone audiometry at least annually.

17.1(e) At revalidation or renewal, applicants with hypoacusis may be assessed as fit by the AMS if a speech discrimination test demonstrates a satisfactory hearing ability (see para 17.1.3).

17.1.3 Cases of hypoacusis shall be referred to the AMS for further evaluation and assessment.

If satisfactory hearing in a noise field corresponding to normal working conditions can be demonstrated, recertification may be considered by the AMS.

17.1.4 In cases of hearing loss, if at the next annual test there is no indication of further deterioration, the normal frequency of medical examination may be resumed (see para 17.1(b)).

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 17: Hearing Requirements (cont.)	EMCR(ATC) 17: Hearing Requirements (cont.)

17.1(f) At initial application, the use of a hearing aid is disqualifying. For recertification, a controller needing hearing aids for both ears shall be assessed as unfit. However, the use of one hearing aid or an appropriate prosthetic aid (such as a special headset with individual earpiece volume controls) may be acceptable for revalidation or renewal certification when it can improve a controller's hearing to achieve a normal standard (see para 17.1.5)

17.1.5 Full functional and environmental assessments should be carried out with the chosen prosthetic equipment in use to ensure that the individual is able to perform the functions of his licence / certificate of competence and that the equipment is not adversely affected by interference from headsets or other factors. As failure of the equipment is possible, a spare set of the equipment and accessories, such as batteries, shall be available.

EMCR(ATC) 18: Dermatological Requirements	EMCR(ATC) 18: Dermatological Requirements
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18.1(a) An applicant for or holder of a European Class 3 Medical Certificate who suffers from any dermatological pathology likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence shall be assessed as unfit.

18.1.1 Particular attention should be paid to the following disorders (see guidance below).

- severe eczema (exogenous and endogenous),
- severe psoriasis,
- bacterial infections,
- eruptions induced by medication,
- bullous eruptions,
- malignant conditions of the skin,
- urticaria.

Referral to the AMS should be made if doubt exists about any condition. Further guidance is found at item 3 of Annex 1 to this document.

18.1(b) Malignant melanoma, squamous cell epithelioma, Bowens disease and Pagets disease are disqualifying (however, see para 18.1.2).

18.1.2 Certification may be considered by the AMS if, when necessary, lesions are totally excised and there is adequate follow-up.

18.1.3 Any skin treatment, radiant or pharmacological, may have systemic effects which must be considered before assessing the individual as fit or unfit.

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GLOSSARY

For the purposes of this document, the following definitions shall apply.

Alcohol abuse	The habitual use of alcohol in such a way that it interferes with physical, mental and/or social well-being.
Aeromedical Centre (AMC)	A centre staffed by doctors authorised by the Aeromedical Section to carry out medical examinations in accordance with medical standards and requirements established by the Aeromedical Section. It may be part of, or separate from, the Aeromedical Section.
Authorised Medical Examiner (AME)	A physician authorised by the Aeromedical Section to carry out medical examinations for the issue of medical certificates associated with licensed personnel in the aviation services.
Aeromedical Section (AMS)	The body responsible for implementation and application of national medical standards.
Date to date	A period from the date of issue (of a medical certificate) to the same date in the appropriate calendar year; for instance a medical certificate issued on 23 June 00 to an air traffic controller aged under forty will expire on 23 June 02.
Drug abuse	Improper utilisation of any substance which has not been appropriately prescribed for that individual.
Initial	Used in association with (medical) certificate or (medical) examination to indicate the very first occasion on which a medical certificate towards a licence is issued or the first examination leading to the issue of such a medical certificate is conducted.
Licence	The terms 'licence' or 'air traffic controller's licence' shall have the same meaning as 'certificate of competence and licence' or 'licence/certificate' as applied to air traffic controllers.

Recertification	The process of renewal or revalidation of a medical certificate.
Renewal	The process which takes place whereby a medical examination is carried out following expiry of the current medical certificate. The new medical certificate will be issued with a validity from the date of renewal for the appropriate period of one or two calendar years, date to date.
Revalidation	The process whereby a recertification medical examination is carried out within a 45-day period preceding the date of expiry of the current medical certificate, enabling the new certificate to be issued with a validity from the date of expiry for the appropriate period of one or two calendar years, date to date.

ABBREVIATIONS AND ACRONYMS

For the purposes of this document, the following abbreviations and acronyms shall apply.

ACE	Angiotensin Converting Enzyme
AMC	Acceptable Means of Compliance or Aeromedical Centre
AME	Authorised Medical Examiner
AMRSG	ATCO Medical Requirements Study Group (<i>EATCHIP/EATMP, HRT</i>)
AMS	Aeromedical Section
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATM	Air Traffic Management
ATS	Air Traffic Services
CAA SRG	Civil Aviation Authority Safety Regulation Group (<i>UK</i>)
dB(HL)	Decibels(Hearing Loss)
DFS	Deutsche Flugsicherung GmbH (<i>Germany</i>)
DGAC	Direction Générale de l'Aviation Civile (<i>France</i>)
DIS	Director(ate) Infrastructure, ATC Systems & Support (<i>EUROCONTROL Headquarters, EATMP</i>)
DIS/HUM	Human Factors and Manpower Unit (<i>EUROCONTROL Headquarters, EATMP, DIS; also abbreviated as 'HUM Unit'; formerly stood for 'ATM Human Resources Unit'</i>)
EATCHIP	European Air Traffic Control Harmonisation and Integration Programme (<i>now EATMP</i>)
EATMP	European Air Traffic Management Programme (<i>formerly EATCHIP</i>)

ECAC	European Civil Aviation Conference
ECG	Electrocardiogram
EEG	Electroencephalogram
EMCR(ATC)	Requirement for European Class 3 Medical Certification of Air Traffic Controllers
ENT	Ear-Nose-Throat
ESARR	EUROCONTROL Safety Regulatory Requirements (SRC)
ESARR 5	EUROCONTROL Safety Regulatory Requirement for ATM Services' Personnel (SRC)
ESE	Equivalent Spherical Error
ET	Executive Task (<i>EATCHIP</i>)
FEV1/FVC	Forced Expiratory Volume (in one second) / Forced Vital Capacity
g/dl	grammes per decilitre
HRT	Human Resources Team (<i>EATCHIP/EATMP</i>)
HUM	Human Resources (Domain) (<i>EATCHIP/EATMP</i>)
Hz	Hertz (<i>cycles per second</i>)
IAA	Irish Aviation Authority
ICAO	International Civil Aviation Organization
IFATCA	International Federation of Air Traffic Controllers' Associations
JAA	Joint Aviation Authorities
JAR-FCL	Joint Aviation Requirements – Flight Crew Licensing (<i>JAA</i>)
LVNL	Luchtverkeersleiding Nederland (<i>ATC The Netherlands</i>)
LWG	(The European ATC) Licensing Work Group (<i>EATCHIP/EATMP, HRT</i>)

mmHg	Millimetres of mercury (<i>a unit of pressure</i>)
MRI	Magnetic Resonance Imaging
NIH	Noise Induced Hearing loss
ORL	Otorhinolaryngological
REM	Rapid Eye Movement
SARPS	Standards And Recommended Practices (<i>ICAO</i>)
SDE	Senior Director, EATMP Principal Directorate, <i>or, in short</i> , Senior Director(ate) EATMP (<i>EUROCONTROL Headquarters</i>)
SRC	Safety Regulation Commission (<i>EUROCONTROL</i>)
ST	Specialist Task (<i>EATCHIP</i>)
STD	Standard (<i>EATCHIP/EATMP</i>)
TNO	<i>A stereovision test (trade name)</i>

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CONTRIBUTORS

NAME **ORGANISATION / STATE**

ATCO MEDICAL REQUIREMENTS STUDY GROUP (AMRSG) MEMBERSHIP

Chairman

Mr. Richard Taylor UK CAA SRG

Secretary

Mrs. Jo Quarcoopome UK CAA SRG

Operational Members

Mr. Gerry Clinton	EUROCONTROL Headquarters
Mr. Robin Baker	UK CAA SRG
Mr. Luc Staudt	IFATCA (<i>until December 1999</i>)
Mr. Eamonn O'Malley	IAA, Ireland (<i>until June 2002</i>)
Mr. Adrian Mahony	IAA, Ireland (<i>from July 2002</i>)
Mr. Peter Gassen	DFS, Germany
Mr. Jur van der Wees	LVNL, The Netherlands (<i>until June 2002</i>)
Mr. Ralf Hendriks	IVW, The Netherlands (<i>from July 2002</i>)

Medical Members

Dr. Roland Vermeiren	EUROCONTROL Headquarters
Dr. Jose Pinto Ferreira	UCS, Portugal (<i>until November 1999</i>)
Dr. Annetje Roodenburg	Aeromedical Institute, The Netherlands
Dr. Nicole Peluffe	DGAC, France
Dr. Raymond Johnston	UK CAA SRG

DOCUMENT CONFIGURATION

Mrs. Carine Hellinckx (<i>External contractor</i>)	EUROCONTROL Headquarters
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ANNEX 1: ADDITIONAL GUIDANCE MATERIAL

1. Sleep Apnoea Syndrome (see paragraphs 3.2(i) and 3.2.5)

Sleep apnoea syndrome may be primary (central) or obstructive, the latter most commonly affecting overweight males, especially between the ages of forty and sixty. The syndrome results from frequent periods of apnoea during sleep, associated with loud snoring. Sleep recordings reveal apnoeic episodes in Rapid Eye Movement (REM) and non-REM sleep. There may be an absence of respiratory effort with cessation of diaphragmatic movement. The upper airway can remain open even without airflow (central apnoea) or there may be excessive respiratory effort due to airways obstruction. Chronically disturbed nocturnal sleep and hypoxaemia causes excessive daytime sleepiness. This leads to inappropriate and unrefreshing naps, an obvious safety hazard in an ATCO whose sleep may already be disturbed by shift working. Sleep apnoea syndrome evolves gradually and may not be fully described by the individual affected. It should be considered with any presentation of sleepiness which is not improved by a period of undisturbed sleep. Investigation should include respiratory studies and sleep recordings. It can be treated, but a diagnosis will require the ATCO to be assessed as temporarily unfit until all aspects of treatment and recovery can be assessed by a specialist acceptable to the AMS.

2. Testing regimes for asymptomatic HIV positive individuals (see paragraphs at 8.1)

In general, a testing regime would entail appropriate basic testing at three-monthly intervals and more extensive testing at six-monthly intervals. The recommended scope of these tests is outlined below.

The initial examination should include a complete evaluation of the immunological status. Attention should also be paid to transient difficulties (including psychological upset and the use of psychoactive substances) which may follow notification of HIV seropositivity.

The three-monthly examination should include determination of the CD-4 and T-cell status. A CD-4 count of less than 200 per microlitre is considered to be a sensitive indicator of cognitive changes.

The six-monthly examination should include a complete neurological examination, looking particularly for extra pyramidal signs and any ocular disfunction. Since seizures may occur without any premonitory symptoms, an EEG is an essential element of the assessment.

Cognitive function tests should be performed as a baseline when HIV seropositivity is first identified, and then regularly at three monthly follow-up intervals.

3. Dermatological conditions (see paragraphs at Section 18)

Any skin condition causing pain, discomfort, irritation or itching can distract air traffic controllers from their tasks and thus affect safety.

Basal cell epithelioma or rodent ulcer, keratoacanthoma and actinic keratoses will require treatment and/or excision in order to maintain certification. Simple, non-progressive dermatological conditions may be left to the discretion of the AME, but more serious conditions, and those of malignant nature, should be assessed by the AMS.

Other skin conditions, including acute or widespread chronic eczema, skin reticulosis, dermatological aspects of a generalised condition and similar conditions, require consideration of treatment and any underlying condition before assessment by the AMS.

ANNEX 2: DECLARATION OF NATIONAL VARIATIONS TO REQUIREMENTS

It is appreciated that legal or other circumstances within a particular State may prevent that State from complying with a particular medical requirement. These circumstances shall be evaluated by the designated State Authority, after which the State must file a difference to the nominated body responsible for management of this document (currently under the temporary custodianship of the AMRSG pending further deliberation within EUROCONTROL). It is intended that these differences will be noted in this Annex.

The correspondence address for notification of differences is:

Head of DIS/HUM Unit
EUROCONTROL Headquarters
Rue de la Fusée, 96
B-1130 BRUXELLES

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