United Kingdom

Civil Aviation Authority

Official Record Series 9

CAA Decision to amend AMC and GM to UK Reg (EU) No 1178/2011 Annex IV (Part-MED) pursuant to Article 76(3) of UK Reg (EU) No 2018/1139

DECISION No. 27

Publication date: 4 August 2023

Decision amending Acceptable Means of Compliance (AMC) and Guidance Material (GM) for UK Reg (EU) No 1178/2011 Annex IV (Part MED)

Background

1. CAA UK-EU Transition Decision No. 1 dated 22 December 2020 adopted a form of Acceptable Means of Compliance ("**AMC**") as a means by which the requirements in UK Reg (EU) No 1178/2011 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 ("**UK Reg (EU) No. 1178/2011**") could be met. That decision also adopted Guidance Material ("**GM**") as non-binding, explanatory and interpretation material on how to achieve the requirements in that Regulation.

2. GM1 Article 2 is updated to identify the correct retained EU legislation reference and to correct a minor typo with the word 'Hertz'. GM1 MED.A.025 requires deletion as the UK uses online specialist systems to gather requisite information (e.g., CELLMA).

3. There are several pieces of guidance material that are amended or added to provide a hyperlink to the CAA medical web pages, which contain more detailed information on medical conditions and medication on the CAA website. This covers:

    a. GM1 MED.A.020;
    b. GM1 MED.B.010; GM1 MED.B.015; GM1 MED.B.020; GM1 MED.B.025; GM1 MED.B.030; GM1 MED.B.035; GM1 MED.B.040; GM1 MED.B.045; GM1 MED.B.050; GM1 MED.B.055; GM1 MED.B.065; GM1 MED.B.070; GM1 MED.B.075; GM1 MED.B.080; GM1 MED.B.085; GM1 MED.B.090; GM1 MED.B.095.
    c. GM1 MED.C.005; GM1 MED.C.025

    Other additional GM (GM2, GM3 etc.) associated with the above references are deleted.

4. The AMC and GM has been updated to incorporate Alternative Means of Compliance that was proposed and accepted by the UK prior to 31 December 2020. These means continue from 1 January 2021 to be means by which the requirements in the applicable EU retained legislation, now UK law, can be met. This covers:

    a. AMC1 MED.B.040(d)(1);
    b. AMC2 MED.B.040(b)(1);

c. AMC1 MED.B.075 and AMC2 MED.B.075;
d. AMC14 MED.B.095;
e. AMC1 MED.C.005;
f. AMC1 MED.C.025, AMC2 MED.C.025, AMC3 MED.C.025, AMC4 MED.C.025, AMC5 MED.C.025, AMC6 MED.C.025, AMC7 MED.C.025, AMC8 MED.C.025, AMC9 MED.C.025, AMC10 MED.C.025, AMC11 MED.C.025, AMC12 MED.C.025, AMC13 MED.C.025, AMC14 MED.C.025, AMC15 MED.C.025, AMC16 MED.C.025, AMC17 MED.C.025, AMC18 MED.C.025 and AMC1 MED.C.030

5. For Subpart B, Class 1 and Class 2 annotations to the AMC banners have been added to reflect the differentiation of medical standards, which are not always the same. This covers:

a. AMC1 MED.B.010 and AMC2 MED.B.010;
b. AMC1 MED.B.015 and AMC2 MED.B.015;
c. AMC1 MED.B.020 and AMC2 MED.B.020;
d. AMC1 MED.B.025 and AMC2 MED.B.025;
e. AMC1 MED.B.030 and AMC2 MED.B.030;
f. AMC1 MED.B.035 and AMC2 MED.B.035;
g. AMC1 MED.B.040 and AMC2 MED.B.040;
h. AMC1 MED.B.045 and AMC2 MED.B.045;
i. AMC1 MED.B.050 and AMC2 MED.B.050;
j. AMC1 MED.B.055 and AMC2 MED.B.055;
k. AMC1 MED.B.065 and AMC2 MED.B.065;
l. AMC1 MED.B.070 and AMC2 MED.B.070;
m. AMC1 MED.B.075 (covers both Class 1 and 2);
n. AMC1 MED.B.080 and AMC2 MED.B.080;
o. AMC1 MED.B.085 and AMC2 MED.B.085;
p. AMC1 MED.B.090 and AMC2 MED.B.090;

6. Updates are made to AMC that brings them up to date with the latest medical guidance or to improve the terminology used in the text. This covers:

a. AMC1 MED.B.045;
b. AMC1 MED.C.035.

7. The following pieces of guidance material are deleted as more comprehensive material is available on the CAA website:

a. GM1 MED.C.030(b);
b. GM1 MED.D.020; GM2 MED.D.020; GM3 MED.D.020
c. GM1 MED.D.030; GM2 MED.D.030.

Decision

8. The CAA, under Article 76(3) of Regulation (EU) 2018/1139, as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018, has decided to adopt the AMC and GM for UK Reg (EU) No 1178/2011 Annex IV (Part-MED) attached at Schedule 1.

9. The AMC and GM attached at Schedule 1 is a restatement of the position as existed in the UK from 1 January 2021 thereby already being in force as at the date of this published Decision.

10. This Decision will remain in force unless revoked or amended by the CAA.

Definitions

All references to UK Reg (EU) 2018/1139 and to UK Reg (EU) No. 1178/2011 are to those Regulations as retained and amended in UK domestic law pursuant to the European Union (Withdrawal) Act 2018.

Rob Bishton
For the UK Civil Aviation Authority

Date of Decision: 4 August 2023

Schedule 1

Includes the Acceptable Means of Compliance (AMC) and Guidance Material (GM) documents referenced below.

The text of the amendment is arranged to show deleted text, new or amended text as shown below:
(a) ~~Text to be deleted is shown struck through~~;
(b) New text is highlighted in grey;
(c) ~~Text to be deleted is shown struck through~~ followed by the replacement text which is highlighted in grey.

GM1 Article 2 Definitions

Following is a list of acronyms that are used throughout the AMC/GM to UK Regulation (EU) No 1178/2011:

[…]

Hz ~~Herz~~ Hertz

[…]

GM1 MED.A.020 Decrease in medical fitness

MEDICATION – GUIDANCE FOR PILOTS AND CABIN CREW MEMBERS

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~(a) Any medication can cause side effects, some of which may impair the safe performance of flying duties. Equally, symptoms of colds, sore throats, diarrhoea and other abdominal upsets may cause little or no problem whilst on the ground but may distract the pilot or cabin crew member and degrade their performance whilst on duty. The in-flight environment may also increase the severity of symptoms which may only be minor whilst on the ground. Therefore, one issue with medication and flying 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 pilots and cabin crew in deciding whether expert aero-medical advice by an AME, AeMC, GMP, OHMP or medical assessor is needed.~~

~~(b) Before taking any medication and acting as a pilot or cabin crew member, the following three basic questions should be satisfactorily answered:~~

~~(1) Do I feel fit to fly?~~
~~(2) Do I really need to take medication at all?~~
~~(3) Have I given this particular medication a personal trial on the ground to ensure that it will not have any adverse effects on my ability to fly?~~

(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 flying duties:

(1) Antibiotics. Antibiotics may have short-term or delayed side effects which can affect pilot or cabin crew performance. More significantly, however, their use usually indicates that an infection is present and, thus, the effects of this infection may mean that a pilot or cabin crew member is not fit to fly 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 pilot or cabin crew member 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 flying duties. 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 flying duties.

(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 flying, 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 pseudo- ephedrine which are not compatible with flying duties. However, mucolytic agents (e.g. carbocysteine) are well-tolerated and are compatible with flying duties.

(5) Decongestants. Nasal decongestants with no effect on alertness may be compatible with flying duties. However, as the underlying condition requiring the use of decongestants may be incompatible with flying duties, expert aero-medical advice should be sought. For example, oedema of the mucosal membranes causes difficulties in equalising the pressure in the ears or sinuses.

(6) Nasal corticosteroids are commonly used to treat hay fever, and they are compatible with flying duties.

(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 flying duties. However, the pilot or cabin crew member should give affirmative answers to the three basic questions listed in (b) before using the medication and carrying out flying duties.

(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 flying duties.

(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 flying. However, the diarrhoea itself often makes the pilot and cabin crew member unfit for flying duties.~~
~~(10) Hormonal contraceptives and hormone replacement therapy usually have no adverse effects and are compatible with flying duties.~~
~~(11) Erectile dysfunction medication. This medication may cause disturbances in colour vision and dizziness. There should be at least 6 hours between taking sildenafil and flying duty; and 36 hours between taking vardenafil or tadalafil and flying duty.~~
~~(12) Smoking cessation. Nicotine replacement therapy may be acceptable. However, other medication affecting the central nervous system (buproprion, varenicline) is not acceptable for pilots.~~
~~(13) High blood pressure medication. Most anti-hypertensive drugs are compatible with flying duties However, if the level of blood pressure is such that drug therapy is required, the pilot or cabin crew member should be monitored for any side effects before carrying out flying duties. Therefore, consultation with the AME, AeMC, GMP, OHMP or medical assessor as applicable, is needed.~~
~~(14) Asthma medication. Asthma has to be clinically stable before a pilot or cabin crew member can return to flying duties. The use of respiratory aerosols or powders, such as corticosteroids, beta-2-agonists or chromoglycic acid may be compatible with flying duties. However, the use of oral steroids or theophylline derivatives is incompatible with flying duty. Pilots or cabin crew members using medication for asthma should consult the AME, AeMC, GMP, OHMP or medical assessor, as applicable.~~
~~(15) Tranquillisers and sedatives. The inability to react, due to the use of this group of medicines, has been a contributory cause to fatal aircraft accidents. In addition, the underlying condition for which these medications have been prescribed will almost certainly mean that the mental state of a pilot or cabin crew member is not compatible with flying duties.~~
~~(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. Expert aero-medical advice should be obtained before using sleeping tablets.~~
~~(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. Expert aero-medical advice should be obtained.~~
~~(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 flying. The period will vary considerably from individual to individual, but a pilot or cabin crew member should not fly for at least 12 hours after a local anaesthetic, and for at least 48 hours after a general, spinal or epidural anaesthetic (see MED.A.020).

(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 pilot or the cabin crew member on the ground prior to flying. It should be noted that medication which would not normally affect pilot or cabin crew performance may do so in individuals who are 'oversensitive' to a particular preparation. Individuals are, therefore, advised not to take any medicines before or during flight unless they are completely familiar with their effects on their own bodies. In cases of doubt, pilots and cabin crew members should consult an AME, AeMC, GMP, OHMP 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, GMP, OHMP or medical assessor, as applicable, for assessing fitness.

GM1 MED.A.025 Obligations of the AeMC, AME, GMP and OHMP

GUIDELINES FOR THE AeMC, AME OR GMP CONDUCTING THE MEDICAL EXAMINATIONS AND ASSESSMENTS FOR MEDICAL CERTIFICATION OF PILOTS

(a) Before performing the medical examination, the AeMC, AME or GMP 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 flight crew licence from the applicant's licensing authority if they do not have their licence with them;
(3) except for initial applicants, obtain details of the applicant's most recent medical certificate from the medical assessor of the applicant's licensing authority if they do not have their certificate with them;
(4) in the case of a specific medical examination(s) (SIC) limitation on the existing medical certificate, obtain details of the specific medical condition and any associated instructions from the medical assessor of 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 electrocardiography (ECG);
(6) provide the applicant with the application form for a medical certificate and the instructions for 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;~~
~~(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, inform the applicant that it may not be possible to issue a medical certificate regardless of the outcome of the clinical examination and assessment.~~

~~(b) Once all the items in (a) have been addressed, the AeMC, AME or GMP should:~~
~~(1) perform the medical examination of the applicant in accordance with the applicable rules;~~
~~(2) arrange for additional specialist medical examinations, such as otorhinolaryngology (ENT) or ophthalmology, to be conducted as applicable and obtain the associated report forms or reports;~~
~~(3) complete the medical examination report form in accordance with the associated instructions for completion;~~
~~(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, AME or GMP should review the report forms and:~~
~~(1) if satisfied that the applicant meets the applicable medical requirements as set out in Part-MED, issue a medical certificate for the appropriate class, with limitations if necessary. The applicant should sign the certificate once signed by the AeMC, AME or GMP; or~~
~~(2) if the applicant does not meet the applicable medical requirements, or if the fitness of the applicant for the class of medical certificate applied for is in doubt:~~
~~(i) refer the decision on medical fitness to, or consult the decision on medical fitness with, the medical assessor of the licensing authority or AME in compliance with 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, AME or GMP should send the documents as required by MED.A.025(b) to the medical assessor of the applicant's licensing authority within 5 days from the date of the medical examination. If a medical certificate has been denied or the decision has been referred, the documents should be sent to the medical assessor of the licensing authority on the same day that the denial or referral decision is reached.~~

AMC1 MED.B.010 Cardiovascular system (Class 1)

(a) Examination

[…]

AMC2 MED.B.010 Cardiovascular system (Class 2)

(a) Examination

[…]

GM1 MED.B.010 Cardiovascular system

~~**MITRAL VALVE DISEASE**~~

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~(a) Minor regurgitation should have evidence of no thickened leaflets or flail chordae and left atrialinternal 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 reversalin the pulmonary veins may be helpful in assessing severity of regurgitation.~~

~~GM2 MED.B.010 Cardiovascular system~~

~~**VENTRICULAR PRE-EXCITATION**~~

~~Asymptomatic applicants with pre-excitation may be assessed as fit if they meet the following criteria,which may also indicate a satisfactory electrophysiological evaluation:~~

~~(a) refractory period > 300 ms;~~
~~(b) no induced atrial fibrillation.~~

~~GM3 MED.B.010 Cardiovascular system~~

~~**ANTICOAGULATION**~~

~~Applicants taking anticoagulant medication which requires monitoring with INR testing, should measure their INR on a 'near patient' testing system within 12 hours prior to flight and the privileges of the applicable licence(s) should only be exercised if the INR is within the target range. The INR resultshould be recorded and the results should be reviewed at each aero-medical assessment.~~

~~GM4 MED.B.010 Cardiovascular system~~

~~**MITRAL VALVE DISEASE**~~

~~(a) Minor regurgitation should have evidence of no thickened leaflets or flail chordae and left atrialinternal 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 reversalin the pulmonary veins may be helpful in assessing severity of regurgitation.~~

~~GM5 MED.B.010 Cardiovascular system~~

~~**VENTRICULAR PRE-EXCITATION**~~

~~Asymptomatic applicants with pre-excitation may be assessed as fit if they meet the following criteria:~~

~~(a) no inducible re-entry tachycardia;~~

~~(b) refractory period > 300 ms;~~

~~(c) no induced atrial fibrillation;~~

~~(d) no evidence of multiple accessory pathways.~~

AMC1 MED.B.015 Respiratory system (Class 1)

(a) Examination

[…]

AMC2 MED.B.015 Respiratory system (Class 2)

(a) Examination

[…]

GM1 MED.B.015 Respiratory system

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.020 Digestive system (Class 1)

(a) Oesophageal varices

[…]

AMC2 MED.B.020 Digestive system (Class 2)

(a) Oesophageal varices

[…]

GM1 MED.B.020 Digestive system

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.025 Metabolic and Endocrine system (Class 1)

(a) Metabolic, nutritional or endocrine dysfunction

[…]

AMC2 MED. B.025 Metabolic and Endocrine system (Class 2)

(a) Metabolic, nutritional or endocrine dysfunction

[…]

GM1 MED.B.025 Metabolic and Endocrine systems

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.030 Haematology (Class 1)

(a) Abnormal haemoglobin

[…]

AMC2 MED.B.030 Haematology (Class 2)

(a) Abnormal haemoglobin

[…]

GM1 MED.B.030 Haematology

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.030 Genitourinary system (Class 1)

(a) Abnormal urinalysis

[…]

AMC2 MED.B.030 Genitourinary system (Class 2)

(a) Abnormal urinalysis

[…]

GM1 MED.B.035 Genitourinary system

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.040 Infectious disease (Class 1)

(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 ~~with an OML~~ 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 evaluation may also be required, depending on the medication. An OML should be applied as appropriate.

(2) Applicants with signs or symptoms of an AIDS-defining condition should be assessed as unfit.

(e) Infectious hepatitis

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

AMC1 MED.B.040 Infectious disease (Class 2)

(a) Infectious disease general

[…]

GM1 MED.B.040 Infectious disease

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.045 Obstetrics and Gynaecology (Class 1)

(a) Gynaecological surgery

Applicants who have undergone a major gynaecological operation 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.

(b) Pregnancy
[…]

AMC2 MED.B.045 Obstetrics and Gynaecology (Class 2)

(a) Gynaecological surgery

[…]

GM1 MED.B.045 Obstetrics and Gynaecology

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.050 Musculoskeletal system (Class 1)

(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.

[…]

AMC2 MED.B.050 Musculoskeletal system (Class 2)

(a) Applicants with any significant sequelae from disease, injury or congenital abnormality affecting the bones, joints, muscles or tendons with or without surgery should require full evaluation prior to a fit assessment.

[…]

GM1 MED.B.050 Musculoskeletal system

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.055 Mental Health (Class 1)

(a) Mental health assessment as part of the initial class 1 aero-medical examination

[…]

AMC2 MED. B.055 Mental Health (Class 2)

(a) Mental health assessment as part of class 2 aero-medical examination

[…]

GM1 MED.B.055 Mental Health

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~(a) Symptoms of concern may include but are not limited to:~~

~~(1) use of alcohol or other psychoactive substances;~~

~~(2) loss of interest/energy;~~

~~(3) eating and weight changes;~~

~~(4) sleeping problems;~~

~~(5) low mood and, if present, any suicidal thoughts;~~

~~(6) family history of psychiatric disorders, particularly suicide;~~

~~(7) anger, agitation or high mood; and~~

~~(8) depersonalisation or loss of control.~~

~~(b) The following aspects should be taken into consideration when conducting the mental health examination:~~

~~(1) Appearance;~~

~~(2) Attitude;~~

~~(3) Behaviour;~~

~~(4) Mood;~~

~~(5) Speech;~~

~~(6) Thoughts process and content;~~

~~(7) Perception;~~

~~(8) Cognition;~~

~~(9) Insight; and~~

~~(10) Judgement.~~

~~GM2 MED.B.055 Mental Health~~

~~(a) Drugs and alcohol screening tests used should:~~

~~(1) provide information regarding medium-term consumption;~~

~~(2) be accepted on national level by the competent authority based on the availability and suitability for the scope mentioned in point(a)(1) above.~~

~~(b) Statistical data of the screening campaign mentioned in **AMC1 MED.B.055(d)(1)** should be made available to the Agency on a yearly basis.~~

~~GM3 MED.B.055 Mental Health~~

~~(a) The mental health assessment for class 2 applicants should include assessment and documentation of:~~

~~(1) general attitudes to mental health, including understanding possible indications of reduced mental health in themselves and others;~~

~~(2) coping strategies under periods of psychological stress or pressure in the past, including seeking advice from others;~~

~~(3) childhood behavioural problems;~~

~~(4) interpersonal and relationship issues, including difficulties with relatives, friends, and work colleagues;~~

~~(5) current work and life stressors, including difficulties with aviation operational environment; and~~

~~(6) overt personality disorders.~~

~~(b) In regard to symptoms of concern and aspects to be taken into consideration when conducting mental health examination for class 2 applicants, guidance presented in **GM1 MED.B.055** should be used.~~

~~GM4 MED.B.055 Mental Health~~

~~Drugs and alcohol screening tests used should:~~

~~(a) provide information regarding medium-term consumption;~~
~~(b) be accepted on national level by the competent authority based on the availability and suitability with the scope mentioned in **GM2 MED.B.055(a)** above.~~

AMC1 MED.B.065 Neurology (Class 1)

(a) Epilepsy

[…]

AMC2 MED.B.065 Neurology (Class 2)

(a) Epilepsy

[…]

GM1 MED.B.065 Neurology system

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.070 Visual system (Class 1)

(a) Eye examination

[…]

AMC2 MED.B.070 Visual system (Class 2)

(a) Eye examination

[…]

GM1 MED.B.070 Visual system

Adopted UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~**COMPARISON OF DIFFERENT READING CHARTS (APPROXIMATE FIGURES)**~~

~~(a) Test distance: 40 cm~~

~~Decimal~~	~~Niedern~~	~~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	Niedern	Jäger	Snellen	N	Parinaud
1,2	4	5	3	5	4
1,0	5	5		6	5
0,8	7	9	4	8	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

GM2 MED.B.070 Visual system

EYE SPECIALIST

The term 'eye specialist' refers to an ophthalmologist or a vision care specialist qualified in optometry and trained to recognise pathological conditions.

AMC1 MED.B.075 Colour vision (Class 1 and 2)

(a) At revalidation and renewal examinations, colour vision should be tested on clinical indication.

(b) The Ishihara test (24 plate version) is considered passed if the first 15 plates, presented in a random order, are identified without error.

(c) Those failing the Ishihara test should be examined either by:

(1) anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match shows normal trichromacy, i.e. a matching midpoint of 38-42 scale units is trichromatic and the matching range is 4 scale units or less, or if the anomalous quotient is acceptable; or by

(2) Colour Assessment and Diagnosis (CAD) Test. This is considered passed if the threshold is less than 6 SU for deutan deficiency, or less than 12 SU for protan deficiency. A threshold greater than 2SU for tritan deficiency indicates an acquired cause which should be investigated lantern testing with a Spectrolux, Beynes or Holmes-Wright lantern. This test is considered passed if the applicant passes without error a test with accepted lanterns.

(3) Colour Assessment and Diagnosis (CAD) test. This test is considered passed if the threshold is less than 6 standard normal (SN) units for deutan deficiency, or less than 12 SN units for protan deficiency. A threshold greater than 2 SN units for tritan deficiency indicates an acquired cause which should be investigated.

AMC2 MED.B.075 Colour vision

(a) Colour vision should be tested on clinical indication at revalidation and renewal examinations.

~~(b) The Ishihara test (24 plate version) is considered passed if the first 15 plates, presented in a random order, are identified without error.~~

~~(c) Those failing the Ishihara test should be examined either by:~~

~~(1) anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match is trichromatic and the matching range is 4 scale units or less, or if the anomalous quotient is acceptable; or by~~

~~(2) lantern testing with a Spectrolux, Beynes or Holmes-Wright lantern. This test is considered passed if the applicant passes without error a test with accepted lanterns.~~

~~(3) Colour Assessment and Diagnosis (CAD) test. This test is considered passed if the threshold is less than 6 standard normal (SN) units for deutan deficiency, or less than 12 SN units for protan deficiency. A threshold greater than 2 SN units for tritan deficiency indicates an acquired cause which should be investigated.~~

GM1 MED.B.075 Colour vision

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.080 Otorhinolaryngology (ENT) (Class 1)

(a) Hearing

[…]

AMC2 MED.B.080 Otorhinolaryngology (ENT) (Class 2)

(a) Hearing

[…]

GM1 MED.B.080 Otorhinolaryngology (ENT)

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~**PURE TONE AUDIOGRAM**~~

~~The pure tone audiogram may also cover the 4 000 Hz frequency for early detection of decrease in hearing.~~

GM2 MED.B.080 Otorhinolaryngology (ENT)

~~**PURE TONE AUDIOGRAM**~~

~~The pure tone audiogram may also cover the 4 000 Hz frequency for early detection of decrease in hearing.~~

AMC1 MED.B.085 Dermatology (Class 1)

(a) If doubt exists about the fitness of applicants with eczema (exogenous and endogenous), severe psoriasis, bacterial infections, drug induced or bullous eruptions or urticaria, the AME should refer the case to the medical assessor of the licensing authority.

[…]

AMC2 MED.B.085 Dermatology (Class 2)

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.

GM1 MED.B.085 Dermatology

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.B.090 Oncology (Class 1)

(a) Applicants who have been diagnosed with a malignant disease may be assessed as fit provided that:

[…]

AMC2 MED.B.090 Oncology (Class 2)

(a) Applicants who have been diagnosed with a malignant disease may be considered for a fit assessment provided that:

[…]

GM1 MED.B.090 Oncology

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC14 MED.B.095 Medical examination and assessment of applicants for LAPL medical certificates

COLOUR VISION

(a) Applicants for a night rating should correctly identify the first 15 plates of the Ishihara test (24 plate version), presented in a random order, are identified without error, or be colour safe.

(b) Those failing the Ishihara test should be examined ~~either~~ by:

(1) Anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match shows normal trichromacy i.e. a matching midpoint of 36-40 scale units and the matching range is 4 scale units or less; or by

(2) Colour Assessment and Diagnosis (CAD) Test. This is considered passed if the threshold is less than 6 SU for deutan deficiency, or less than 12 SU for protan deficiency. A threshold greater than 2SU for tritan deficiency indicates an acquired cause which should be investigated.

GM1 MED.B.095 Medical assessment and assessment of applicants for LAPL medical assessments

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~**DIABETES MELLITUS TYPE 2 TREATED WITH INSULIN – GENERAL**~~

~~(a) Pilots and their treating physician should be aware that if the HbA1c target level was set to normal (non-diabetic) levels, this will significantly increase the chance of hypoglycaemia. For safety reasons the target level of HbA1c is therefore set to 7,5–8,5 % even though there is evidence that lower HbA1c levels are correlated with fewer diabetic complications.~~

~~(b) The safety pilot should be briefed pre-flight on the potential condition of the pilot. The results of blood sugar testing before and during flight should be shared with the safety pilot for the acceptability of the values obtained.~~

~~GM2 MED.B.095 Medical assessment and assessment of applicants for LAPL medical assessments~~

~~**DIABETES MELLITUS TYPE 2 TREATED WITH INSULIN – CONVERSION TABLE FOR HbA1c IN % ANDMMOL/MOL**~~

~~HbA1c in %~~	~~HbA1c in mmol/mol~~
~~4.7~~	~~28~~
~~5.0~~	~~31~~
~~5.3~~	~~34~~
~~5.6~~	~~38~~
~~5.9~~	~~41~~

~~6.2~~	~~44~~
~~6.5~~	~~48~~
~~6.8~~	~~51~~
~~7.4~~	~~57~~
~~8.0~~	~~64~~
~~8.6~~	~~70~~
~~9.2~~	~~77~~
~~9.8~~	~~84~~
~~10.4~~	~~90~~
~~11.6~~	~~103~~

~~GM3 MED.B.095 Medical assessment and assessment of applicants for LAPL medical assessments~~

~~**MOOD DISORDER**~~

~~After full recovery from a mood disorder and after full consideration of the individual case, a fit assessment may be considered, depending on the characteristics and gravity of the mood disorder. If stability on maintenance psychoactive medication is confirmed, a fit assessment may be considered. If the dosage or type of medication is changed, a further evaluation may be required until stability is confirmed~~

AMC1 MED.C.005 Aero-medical assessments

(a) When conducting ~~aero-medical examinations~~ aeromedical examination and / or assessments of cabin crew ~~members~~, as applicable, their medical fitness should be assessed with particular regard to their physical and mental ability to:

(1) undergo the training required for cabin crew to acquire and maintain competence, e.g. actual fire-fighting, slide descending, using Protective Breathing Equipment (PBE) in a simulated smoke-filled environment, providing first aid;

(2) manipulate the aircraft systems and emergency equipment to be used by cabin crew, e.g. cabin management systems, doors/exits, escape devices, fire extinguishers, taking also into account the class and type of aircraft operated, e.g. narrow-bodied or wide-bodied, single/multi-deck, single/multi-cabin crew operation;

(3) continuously ~~tolerate~~ sustain the aircraft environment whilst performing duties, e.g. altitude, pressure, re-circulated air, noise; and the type of operations such as short/medium/long/ultra long haul; and

(4) perform the required duties and responsibilities efficiently during normal and abnormal operations, and in emergency situations and psychologically demanding circumstances, e.g. assistance to crew members and passengers in case of decompression; stress management, decision-making, crowd control and effective crew coordination, management of disruptive passengers and of security threats. When relevant, operating as single cabin crew should also be taken into account when assessing the medical fitness of cabin crew.

~~(b) Intervals~~

~~(1) The interval between aero-medical assessments should be determined by the competent authority. The intervals established by the competent authority apply to cabin crew members who:~~

~~(i) undergo aero-medical assessments by an AME, AeMC or OHMP under the oversight of that competent authority; or~~

~~(ii) are employed by an operator under the oversight of that competent authority.~~

~~(2) The interval between aero-medical assessments may be reduced by the AME, AeMC or OHMP for medical reasons and in accordance with MED.C.035.~~

~~(3) Aero-medical assessments for the revalidation of a cabin crew medical report may be undertaken up to 45 days prior to the expiry date of the previous medical report. The validity period of the aero-medical assessment should be calculated from the expiry date of the previous aero-medical assessment.~~

GM1 MED.C.005 Aero-medical assessments

Adopted UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

AMC1 MED.C.025 Content of aero-medical assessments

~~Aero-medical~~ Aeromedical examinations and / or assessments of cabin crew~~ members~~ should be conducted in accordance with AMC2 to AMC18 MED.C.025.

(a) An applicant should not have any established medical history or clinical diagnosis of any disease or disability, condition or disorder, acute or chronic, congenital or acquired, that would entail a degree of functional incapacity likely to lead to incapacitation or an inability to discharge their safety duties and responsibilities.

AMC2 MED.C.025 Content of aero-medical assessments

(a) Examination

(1) A standard 12-lead resting electrocardiogram (ECG) and report should be completed on clinical indication~~, at the first examination after the age of 40 and then at least every five years after the age of 50. If cardiovascular risk factors such as smoking, abnormal cholesterol levels or obesity are present, the intervals of resting ECGs should be reduced to two years~~.

(2) Extended cardiovascular assessment should be required when clinically indicated.

(b) Cardiovascular system - general

(1) Cabin crew ~~members~~ with any of the following conditions:

(i) aneurysm of the thoracic or supra-renal abdominal aorta, before surgery;

(ii) significant functional abnormality of any of the heart valves; or

(iii) heart or heart/lung transplantation

should be assessed as unfit. A fit assessment may be considered following satisfactory treatment and recovery.

(2) Cabin crew members with an established diagnosis of one of the following conditions:

(i) peripheral arterial disease before or after surgery;

(ii) aneurysm of the abdominal aorta, before or after surgery;

(iii) minor cardiac valvular abnormalities;

(iv) after cardiac valve surgery;

(v) abnormality of the pericardium, myocardium or endocardium;

(vi) congenital abnormality of the heart, before or after corrective surgery;

(vii) a cardiovascular condition requiring systemic anticoagulation;

(viii) recurrent vasovagal syncope ~~of uncertain cause~~;

(ix) arterial or venous thrombosis; or

(x) pulmonary embolism

should be evaluated by a cardiologist before a fit assessment may be considered.

~~(c) Thromboembolic disorders~~

~~Whilst anticoagulation therapy is initiated, cabin crew members should be assessed as unfit. After a period of stable anticoagulation, a fit assessment may be considered with limitation(s), as appropriate. Anticoagulation should be considered stable if, within the last 6 months, at least 5 INR values are documented, of which at least 4 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 a stabilisation period of 3 months. Cabin crew members with pulmonary embolism should also be evaluated by a cardiologist. Following cessation of anticoagulant therapy, for any indication, cabin crew members should undergo a re-assessment.~~

~~(d) Syncope~~

~~(1) In the case of a single episode of vasovagal syncope which can be satisfactorily explained, a fit assessment may be considered.~~

~~(2) Cabin crew members with a history of recurrent vasovagal syncope should be assessed as unfit. A fit assessment may be considered after a 6-month~~

~~period without recurrence, provided cardiological evaluation is satisfactory. Neurological review may be indicated~~.

(c) Blood pressure
Blood pressure should be recorded at ~~each~~ the initial examination.

(1) The blood pressure should ~~be~~ within normal limits ~~and should not consistently exceed 160 mmHg systolic and/or 95 mmHg diastolic, with or without treatment, taking into account other risk factors~~.

~~(2) Cabin crew members initiating medication for the control of blood pressure should be assessed as unfit until the absence of any significant side effects has been established and verification that the treatment is compatible with the safe exercise of cabin crew duties has been achieved~~

(2) The initiation of medication for the control of blood pressure should require a period of temporary suspension of fitness to establish the absence of any significant side effects.

(d) Coronary artery disease

(1) Cabin crew members with:

(i) cardiac ischaemia;

(ii) symptomatic coronary artery disease; ~~or~~

(iii) ~~symptoms of coronary artery disease controlled by medication~~

should be assessed as unfit. A fit assessment may be considered following satisfactory treatment and recovery

(2) Cabin crew members who are asymptomatic after myocardial infarction or surgery for coronary artery disease should have fully recovered before a fit assessment may be considered. ~~The affected cabin crew members should be on appropriate secondary prevention treatment.~~

(e) Rhythm/conduction disturbances

(1) Cabin crew members with any significant disturbance of cardiac conduction or rhythm should undergo cardiological evaluation before a fit assessment can ~~may~~ be considered.

(2) Cabin crew members with a history of:

(i) ablation therapy; or

(ii) pacemaker implantation

should undergo satisfactory cardiovascular evaluation before a fit assessment can ~~may~~ be made.

(3) Cabin crew members with:

(i) symptomatic sinoatrial disease;

(ii) ~~symptomatic hypertrophic cardiomyopathy~~

(iii) complete atrioventricular block;

(iv) symptomatic QT prolongation;

(v) an automatic implantable defibrillating system; or

(vi) a ventricular anti-tachycardia pacemaker

should be assessed as unfit

AMC3 MED.C.025 Content of aero-medical assessments

(a) Cabin crew members with significant impairment of pulmonary function should be assessed as unfit. A fit assessment may be considered once pulmonary function has recovered and is satisfactory.

(b) Cabin crew members should be required to undergo pulmonary ~~morphological or~~ functional ~~al~~ tests on clinical indication ~~when clinically indicated~~.

(c) Cabin crew members with a history or established diagnosis of:

(1) asthma;

(2) active inflammatory disease of the respiratory system;

(3) active sarcoidosis;

(4) pneumothorax;

(5) sleep apnoea syndrome/sleep disorder; or

(6) major thoracic surgery

should undergo respiratory evaluation with a satisfactory result before a fit assessment may be considered.

~~(d) Cabin crew members who have undergone a pneumonectomy should be assessed as unfit.~~

AMC4 MED.C.025 Content of aero-medical assessments

DIGESTIVE SYSTEM

(a) Cabin crew members with any sequelae of disease or surgical intervention in any part of the digestive tract or its adnexa likely to cause incapacitation in flight, in particular any obstruction due to stricture or compression, should be assessed as unfit. A fit assessment may be considered following satisfactory treatment and recovery. ~~Gallstones Applicants with symptomatic gallstones should be assessed as unfit. A fit assessment may be considered following gallstone removal.~~

(b) Cabin crew members should be free from herniae that might give rise to incapacitating symptoms. ~~Applicants with an established diagnosis or history of chronic inflammatory bowel disease may be assessed as fit provided that the disease is stable and not likely to interfere with the safe exercise of the privileges of the licence.~~

(c) Cabin crew members with disorders of the gastro-intestinal system, including:

(1) recurrent dyspeptic disorder requiring medication;

(2) pancreatitis;

(3) symptomatic gallstones;

(4) an established diagnosis or history of chronic inflammatory bowel disease; or

(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

may be assessed as fit subject to satisfactory evaluation after successful treatment and full recovery after surgery.

~~Peptic ulceration~~

~~Applicants with peptic ulceration may be assessed as fit subject to satisfactory gastroenterological evaluation~~.

~~(d) Digestive tract and abdominal surgery~~

~~Applicants who have undergone a surgical operation:~~

~~(1) for herniae; or~~

~~(2) on the digestive tract or its adnexa, including a total or partial excision or diversion of anyof these organs,~~

~~should be assessed as unfit. A fit assessment may be considered if recovery is complete, the applicant is asymptomatic, and there is only a minimal risk of secondary complication or recurrence.~~

~~(e) Pancreatitis~~

~~Applicants with pancreatitis may be assessed as fit after satisfactory recovery.~~

~~(f) Liver disease~~

~~Applicants with morphological or functional liver disease or after surgery, including liver transplantation, may be assessed as fit subject to satisfactory gastroenterological evaluation.~~

AMC5 MED.C.025 Content of aero-medical assessments

METABOLIC AND ENDOCRINE SYSTEMS

(a) Cabin crew members should not possess any functional or structural metabolic, nutritional or endocrine disorder which is likely to interfere with the safe exercise of their duties and responsibilities.

(b) Cabin crew members with metabolic, nutritional or endocrine dysfunction may be assessed as fit, subject to demonstrated stability of the condition and satisfactory aero-medical evaluation.

(c) Diabetes mellitus

(1) Cabin crew members with diabetes mellitus requiring insulin may be assessed as fit if it can be demonstrated that adequate blood sugar control has been achieved and hypoglycaemia awareness is established and maintained. Limitations should be imposed as appropriate.

(2) Cabin crew members with diabetes mellitus not requiring insulin may be

assessed as fit if it can be demonstrated that adequate blood sugar control has been achieved and hypoglycaemia awareness, if applicable considering the medication, is achieved.

~~Metabolic, nutritional or endocrine dysfunction~~

~~Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit subject to demonstrated stability of the condition and satisfactory aero-medical evaluation.~~

~~(1) Obesity~~

~~Obese applicants may be assessed as fit if the excess weight is not likely to interfere with the safe exercise of the licence.~~

~~(2) Thyroid dysfunction~~

~~Applicants with thyroid disease may be assessed as fit once a stable euthyroid state is attained.~~

~~(1) Applicants using antidiabetic medications that are not likely to cause hypoglycaemia maybe assessed as fit.~~

~~(2) Applicants with diabetes mellitus Type 1 should be assessed as unfit.~~

~~(3) Applicants with diabetes mellitus Type 2 treated with insulin may be assessed as fit withlimitations for revalidation if blood sugar control has been achieved and the process under (e) and (f) is followed. An ORL is required. A TML for 12 months may be needed toensure compliance with the follow-up requirements below. Licence privileges should not include rotary aircraft flying.~~

~~(3) Aero-medical assessment by, or under the guidance of, the medical assessor of the licensingauthority:~~

~~(1) A diabetology review at yearly intervals, including:~~

~~(i) symptom review;~~

~~(ii) review of data logging of blood sugar;~~

~~(iii) cardiovascular status. Exercise ECG at age 40, at 5-yearly intervals thereafter andon clinical indication, including an accumulation of risk factors;~~

~~(iv) nephropathy status.~~

~~(2) Ophthalmological review at yearly intervals, including:~~

~~(i) visual fields — Humphrey perimeter;~~

~~(ii) retinae — full dilatation slit lamp examination;~~

~~(iii) cataract — clinical screening.~~

~~The development of retinopathy requires a full ophthalmological review.~~

~~(3) Blood testing at 6-monthly intervals:~~

~~(i) HbA1c;~~

~~(ii) renal profile;~~

(iii) liver profile;

(iv) lipid profile.

(4) Applicants should be assessed as temporarily unfit after:

(i) changes of medication/insulin leading to a change to the testing regime until stable blood sugar control can be demonstrated;

(ii) a single unexplained episode of severe hypoglycaemia until stable blood sugar control can be demonstrated.

(5) Applicants should be assessed as unfit in the following cases:

(i) loss of hypoglycaemic awareness;

(ii) development of retinopathy with any visual field loss;

(iii) significant nephropathy;

(iv) any other complication of the disease where flight safety may be jeopardised.

(4) Pilot responsibility

Blood sugar testing is carried out during non-operational and operational periods. A whole blood glucose measuring device with memory should be carried and used. Equipment for continuous glucose monitoring (CGMS) should not be used. Pilots should prove to the AME or AeMC or medical assessor of the licensing authority that testing has been performed as indicated below and with which results.

(1) Testing during non-operational periods: normally 3–4 times/day or as recommended by the treating physician, and on any awareness of hypoglycaemia.

(2) Testing frequency during operational periods:

(i) 120 minutes before departure;

(ii) <30 minutes before departure;

(iii) 60 minutes during flight;

(iv) 30 minutes before landing.

(3) Actions following glucose testing:

(i) 120 minutes before departure: if the test result is >15 mmol/l, piloting should not be commenced.

(ii) 10–15g of carbohydrate should be ingested and a re-test performed within 30 minutes if:

(A) any test result is <4,5 mmol/l;

(B) the pre-landing test measurement is missed or a subsequent go-around/diversion is performed.

AMC6 MED.C.025 Content of aero-medical assessments

HAEMATOLOGY

Cabin crew members with a haematological condition, such as:

(a) abnormal haemoglobin including, but not limited to, anaemia, polycythaemia ~~erythrocytosis~~ or haemoglobinopathy;

(b) coagulation, haemorrhagic or thrombotic disorder;

(c) significant lymphatic enlargement;

(d) acute or chronic leukaemia; or

(e) enlargement of the spleen ~~splenomegaly~~

may be assessed as fit subject to satisfactory aero-medical evaluation. ~~If anticoagulation is being used as treatment, refer to **AMC2 MED.C.025(c)**.~~

AMC7 MED.C.025 Content of aero-medical assessments

GENITOURINARY SYSTEM

(a) Urine analysis should form part of every aero-medical examination ~~and assessment~~. The urine should not contain any abnormal element(s) considered to be of pathological significance.

(b) Cabin crew members with any sequelae of disease or ~~sequelae of~~ surgical procedures on the kidneys or the urinary tract, in particular any obstruction due to stricture or compression likely to cause incapacitation should be assessed as unfit. A fit assessment may be considered following satisfactory treatment and recovery.

(c) Cabin crew members with a genitourinary disorder, such as:

(1) renal disease; or

(2) a history of renal colic due to one or more urinary calculi

may be assessed as fit subject to satisfactory renal/urological evaluation.

(d) Cabin crew members who have undergone a major surgical operation in the ~~genito~~urinary apparatus involving a total or partial excision or a diversion of its organs should be assessed as unfit and be re-assessed after full recovery before a fit assessment can ~~may~~ be made.

~~(e) Cabin crew members 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. A requirement to undergo specific medical examinations (SIC) and a restriction to operate only in multi-cabin crew operations (MCL) should be considered.~~

~~(f) Cabin crew members requiring dialysis should be assessed as unfit.~~

AMC8 MED.C.025 Content of aero-medical assessments

INFECTIOUS DISEASE

Cabin crew members who are HIV positive may be assessed as fit if investigation provides no evidence of clinical disease and subject to satisfactory aero-medical evaluation.

AMC9 MED.C.025 Content of aero-medical assessments

OBSTETRICS AND GYNAECOLOGY

(a) Cabin crew members who have undergone a major gynaecological operation should be assessed as unfit until ~~after~~ full recovery.

(b) Pregnancy

~~(1)~~ A pregnant cabin crew member ~~may~~ should be assessed as unfit when they are no longer able to safely carry out their duties. ~~only during the first 16 weeks of gestation following review of the obstetric evaluation by the AME or OHMP.~~

~~(2) A limitation not to perform duties as single cabin crew member should be considered.~~

~~(3) The AME or OHMP should provide written advice to the cabin crew member and supervising physician regarding potentially significant complications of pregnancy resulting from flying duties.~~

AMC10 MED.C.025 Content of aero-medical assessments

MUSCULOSKELETAL SYSTEM

(a) A ~~C~~cabin crew member~~s~~ should have sufficient standing height, arm and leg length and muscular strength for the safe exercise of their duties and responsibilities.

~~(b)~~ A ~~C~~cabin crew member~~s~~ should have satisfactory functional use of the musculoskeletal system. ~~Particular attention should be paid to emergency procedures and evacuation, and related training.~~

~~(c) Cabin crew members 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.~~

(d) ~~Cabin crew members with inflammatory, infiltrative, traumatic or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission or is stable and the affected cabin crew member is not taking any medication that may lead to unfitness.~~

AMC11 MED.C.025 Content of aero-medical assessments

~~MENTAL HEALTH~~ PSYCHIATRY

(a) Cabin crew members with a mental or behavioural disorder due to ~~use or misuse of~~ alcohol or other ~~psychoactive~~ problematic substance~~s~~ use should be assessed as unfit pending recovery and freedom from ~~psychoactive~~ problematic substance use ~~or misuse~~ and subject to satisfactory psychiatric evaluation ~~after successful treatment~~.

(b) Cabin crew members with an established history or clinical diagnosis of schizophrenia, schizotypal or delusional disorder should be assessed as unfit.

(c) Cabin crew members with a psychiatric condition such as:

(1) mood disorder;

(2) neurotic disorder;

(3) personality disorder; or

(4) mental or behavioural disorder

should undergo satisfactory aero-medical ~~psychiatric~~ evaluation before a fit assessment can be made. ~~may be considered.~~

(d) Cabin crew members with a history of a single or repeated acts of deliberate self-harm should be assessed as unfit. Cabin crew members should undergo satisfactory aero-medical ~~psychiatric~~ evaluation, including reports from their treating clinician(s), before a fit assessment can be made. ~~may be considered.~~

~~(e) Where there is established evidence that a cabin crew member has a psychological disorder, he/she should be referred for psychological opinion and advice.~~

~~(f) The psychological evaluation may include a collection of biographical data, the review of aptitudes, and personality tests and psychological interview.~~

~~(g) The psychologist should submit a report to the AME or OHMP, detailing the results and recommendation~~

AMC12 MED.C.025 Content of aero-medical assessments

PSYCHOLOGY

Cabin crew members with an established diagnosis of a psychological disorder may be assessed as fit subject to satisfactory aero-medical evaluation.

~~AMC12~~ AMC13 MED.C.025 Content of aero-medical assessments

NEUROLOGY

(a) Cabin crew members with an established history or clinical diagnosis of:

(1) epilepsy; or

(2) recurring episodes of disturbance of consciousness of uncertain cause

should be assessed as unfit. A fit assessment may be considered following satisfactory evaluation.

(b) Cabin crew members with an established history or clinical diagnosis of~~:~~ epileptiform EEG abnormalities and focal slow waves may be assessed as fit subject to satisfactory aero-medical evaluation.

(c) Cabin crew members with an established history or clinical diagnosis of:

(1) ~~epilepsy without recurrence after 5 years of age and without treatment for more than 10 years;~~
~~(2) epileptiform EEG abnormalities and focal slow waves;~~
(3) progressive or non-progressive disease of the nervous system;
(4) ~~inflammatory disease of the central or peripheral nervous system;~~
~~(5) migraine;~~
(6) a single episode of disturbance of consciousness of uncertain cause;
(7) loss of consciousness after head injury;
(8) penetrating brain injury; or
(9) spinal or peripheral nerve injury
should undergo further evaluation before a fit assessment can ~~may~~ be considered.

~~AMC13~~ AMC14 MED.C.025 Content of aero-medical assessments

VISUAL SYSTEM

(a) Examination

(1) a routine eye examination should form part of the initial ~~and all further~~ examination~~s~~ ~~and~~ ~~assessments~~; and

(2) an extended eye examination should be undertaken ~~by an eye specialist~~ when clinically indicated.~~(Refer to **GM2 MED.B.070**)~~

(b) Distant visual acuity with both eyes, with or without correction, should be ~~with both eyes~~ 6/9 ~~(0,7)~~ or better.

(c) Cabin crew members should be able to read an N5 chart (or equivalent) at 30–50 cm, with or without correction. ~~with correction if prescribed (Refer to **GM1 MED.B.070**)~~.

(d) Cabin crew member should have normal fields of vision. ~~The binocular visual field or, in the case of monocularity, the monocular visual field should be acceptable.~~

(e) Cabin crew members who have undergone refractive surgery may be assessed as fit subject to satisfactory ophthalmic evaluation.

(f) Cabin crew members with diplopia should be assessed as unfit.

(g) Spectacles and contact lenses:

If satisfactory visual function is achieved only with the use of correction:

(1) in the case of myopia or hypermetropia or both, spectacles or contact lenses should be worn whilst on duty;

(2) in the case of presbyopia, spectacles should be readily available for immediate use whilst on duty;

(3) the correction should provide optimal visual function and be well tolerated - ~~tolerated~~;

(4) orthokeratologic lenses should not be used. ~~a spare set of similarly correcting spectacles should be readily available for immediate use whilst on duty;~~

~~(5) orthokeratologic lenses should not be used.~~

~~AMC14~~ AMC15 MED.C.025 Content of aero-medical assessments

Cabin crew members should be able to correctly identify 9 of the first 15 plates of the 24-plate edition of Ishihara pseudoisochromatic plates. Alternatively, cabin crew members should demonstrate they are colour safe. ~~the ability to readily perceive those colours of which the perception is required for the safe performance of their duties~~

~~AMC15~~ AMC16 MED.C.025 Content of aero-medical assessments

OTORHINOLARYNGOLOGY (ENT)

(a) Hearing should be satisfactory for the safe exercise of cabin crew duties and responsibilities

(b) Examination

(1) An ear, nose and throat (ENT) examination should form part of the initial ~~all~~ examinations ~~and assessments. A tympanometry or equivalent should be performed at the initial examination and when clinically indicated~~.

(2) Hearing: ~~should be tested at all examinations and assessments:~~

(i) the cabin crew member should understand correctly conversational speech when tested with each ear at a distance of 2 metres from and with the cabin crew member's back turned towards the examiner. Cabin crew with hypoacusis should be investigated and the aeromedical assessment should include demonstration of satisfactory functional hearing abilities.;

~~(ii) notwithstanding (b)(2)(i), hearing should be tested with pure tone audiometry at the initial examination and when clinically indicated;~~

~~(iii) at initial examination the cabin crew member should not have a hearing loss of more than 35 dB at any of the frequencies 500 Hz, 1 000 Hz or 2 000 Hz, or more than 50 dB at 3 000 Hz, in either ear separately.~~

~~(3) If the hearing requirements can be met only with the use of hearing aid(s), the hearing aid(s) should provide optimal hearing function, be well-tolerated, and suitable for aviation purposes.~~

(c) Cabin crew members with:
(1) an active pathological process, acute or chronic, of the internal or middle ear;
(2) unhealed perforation or dysfunction of the tympanic membrane(s);
(3) disturbance of vestibular function;

(4) significant restriction of the nasal passages;
(5) sinus dysfunction;
(6) significant malformation or significant, acute or chronic infection of the oral cavity or upper respiratory tract;
(7) significant disorder of speech or voice

should undergo further medical examination and assessment to establish that the condition does not interfere with the safe exercise of their duties and responsibilities.

~~AMC16~~ AMC17 MED.C.025 Content of aero-medical assessments

DERMATOLOGY

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 made.

~~AMC17~~ AMC18 MED.C.025 Content of aero-medical assessments

ONCOLOGY

(a) After treatment for malignant disease, cabin crew members should undergo satisfactory oncological and aero-medical evaluation before a fit assessment may be considered.

(b) Cabin crew members with an established history or clinical diagnosis of intra-cerebral malignant tumour should be assessed as unfit. Considering the histology of the tumour, a fit assessment may be considered after successful treatment and full recovery.

GM1 MED.C.025 Content of aero-medical assessments

UK CAA GM can be found using the following link to the CAA web site:
Medical requirements for certification | Civil Aviation Authority (caa.co.uk)

~~(a) When conducting aero-medical examinations and assessments, typical cabin crew duties as listed in (b) and (c), particularly those to be performed during abnormal operations and emergency situations, and cabin crew responsibilities to the travelling public should be considered in order to identify:~~

~~(1) any physical and/or mental conditions that could be detrimental to the performance of the duties required from cabin crew; and~~

~~(2) which examination(s), test(s) or investigation(s) should be undergone to complete an appropriate aero-medical assessment.~~

~~(b) Main cabin crew duties and responsibilities during day-to-day normal operations~~

~~(1) During pre/post-flight ground operations with/without passengers on board:~~

~~(i) monitoring of situation inside the aircraft cabin and awareness of conditions outside the aircraft including observation of visible aircraft surfaces and information to flight crew of any surface contamination~~

such as ice or snow;

(ii) assistance to special categories of passengers (SCPs) such as infants and children (accompanied or unaccompanied), persons with disabilities or reduced mobility, medical cases with or without medical escort, and inadmissible persons, deportees and passengers in custody;

(iii) observation of passengers (any suspicious behaviour, passengers under the influence of alcohol and/or drugs, mentally disturbed), observation of potential able-bodied persons, crowd control during boarding and disembarkation;

(iv) safe stowage of cabin luggage, safety demonstrations and cabin secured checks, management of passengers and ground services during re-fuelling, observation ofuse of portable electronic devices;

(v) preparedness to carry out safety and emergency duties at any time, and security alertness.

(2) During flight:

(i) operation and monitoring of aircraft systems, surveillance of the cabin, lavatories, galleys, crew areas and flight crew compartment;

(ii) coordination with flight crew on situation in the cabin and turbulence events/effects;

(iii) management and observation of passengers (consumption of alcohol, behaviour, potential medical issues), observation of use of portable electronic devices;

(iv) safety and security awareness and preparedness to carry out safety and emergencyduties at any time, and cabin secured checks prior to landing.

(c) Main cabin crew duties and responsibilities during abnormal and emergency operations

(1) In case of planned or unplanned emergency evacuation: briefing and/or commands to passengers including SCPs and selection and briefing to able-bodied persons; crowd control monitoring and evacuation conduct including in the absence of command from the flight crew; post-evacuation duties including assistance, first aid and management of survivors and survival in particular environments; activation of applicable communication means towards search and rescue services.

(2) In case of decompression: checking of crew members, passengers, cabin, lavatories, galleys, crew rest areas and flight crew compartment, and administering oxygen to crewmembers and passengers as necessary.

(3) In case of pilot incapacitation: secure pilot in his/her seat or remove from flight crew compartment; administer first aid and assist operating pilot as required.

(4) In case of fire or smoke: identify source/cause/type of fire/smoke to perform

the necessary required actions; coordinate with other cabin crew members and flight crew; select appropriate extinguisher/agent and fight the fire using portable breathing equipment (PBE), gloves, and protective clothing as required; management of necessary passengers' movement if possible; instructions to passengers to prevent smoke inhalation/suffocation; give first aid as necessary; monitor the affected area until landing; preparation for possible emergency landing.

(5) In case of first aid and medical emergencies: assistance to crew members and/or passengers; correct assessment and correct use of therapeutic oxygen, defibrillator, first- aid kits/emergency medical kit contents as required; management of events, of incapacitated person(s) and of other passengers; coordination and effective communication with other crew members, in particular when medical advice is transmitted by frequency to flight crew or by a telecommunication connection.

(6) In case of disruptive passenger behaviour: passenger management as appropriate including use of restraint technique as considered required.

(7) In case of security threats (bomb threat on ground or in-flight and/or hijack): control of cabin areas and passengers' management as required by the type of threat, management of suspicious device, protection of flight crew compartment door.

(8) In case of handling of dangerous goods: observing safety procedures when handling the affected device, in particular when handling chemical substances that are leaking; protection and management of self and passengers and effective coordination and communication with other crew members.

GM2 MED.C.025 Content of aero-medical assessments

DIABETES MELLITUS TREATED WITH INSULIN

When considering a fit assessment for cabin crew with diabetes mellitus requiring insulin, account should be taken of the IATA Guidelines on Insulin-Treated Diabetes (Cabin Crew), as last amended

GM3 MED.C.025 Content of aero-medical assessments

COLOUR VISION – GENERAL

Examples of colours of which the perception is required for the safe performance of cabin crew members' duties are: cabin crew indication panels, pressure gauges of emergency equipment (e.g. fire extinguishers) and cabin door status

GM4 MED.C.025 Content of aero-medical assessments

OTORHINOLARYNGOLOGY (ENT) – PURE TONE AUDIOGRAM

~~The pure tone audiogram may also cover the 4 000 Hz frequency for early detection of decrease in hearing~~

AMC1 MED.C.030 Cabin crew medical report

The medical report, to be provided in writing to the applicants for, and holders of, a cabin crew attestation after completion of each aeromedical examination and/or assessment, should be issued:

(a) in the national language(s) and/or in English; and

(b) according to the format below, or another format if all, and only the elements specified below are provided:

CABIN CREW MEDICAL REPORT FOR CABIN CREW ATTESTATION (CCA) APPLICANT OR HOLDER		
(1)	State where the aero-medical assessment of the CCA applicant/holder was conducted:	
(2)	Last and first name of the CCA applicant/holder (IV);	
(3)	Nationality of CCA applicant/holder:	
(4)	Date of birth of the CCA applicant/holder (*dd/mm/yyyy*) (XIV);	
(5)	Expiry date of the previous aero-medical assessment: (*dd/mm/yyyy*)	
(6)	Date of the aero-medical assessment: (*dd/mm/yyyy*)	
(7)	Aero-medical assessment: (*fit or unfit*)	
(8)	Limitation(s) if applicable:	
(9)	Expiry date of medical report (dd/mm/yyyy) (IX);	
(10)	Date of issue and signature of the AME, or OHMP, who issued the cabin crew medical report:	
(11)	Seal or stamp:	
(12)	Signature of CCA applicant/holder:	

~~The cabin crew medical report to be provided in writing to the applicants for, and holders of, a cabin crew attestation:~~

~~(a) should be issued in the national language(s) and/or in English; and~~

~~(b) should include the following elements:~~

(1) The State where the aero-medical assessment of the Cabin Crew Attestation (CCA) applicant/holder was conducted (I);

(2) Last and first name of the CCA applicant/holder (IV);

(3) Date of birth of the CCA applicant/holder (*dd/mm/yyyy*) (XIV);

(4) Nationality of the CCA applicant/holder (VI);

(5) Signature of the CCA applicant/holder (VII);

(6) Aero-medical assessment result (fit or unfit) (II);

(7) Expiry date of the previous cabin crew medical report (*dd/mm/yyyy*);

(8) Date of issue (*dd/mm/yyyy*) and signature of the AeMC, AME, or OHMP (X);

(9) Date of the aero-medical assessment (*dd/mm/yyyy*);

(10) Seal or stamp of the AeMC, AME or OHMP (XI);

(11) Limitation(s), if applicable (XII);

(12) Expiry date of medical report (*dd/mm/yyyy*) (IX).

GM1 MED.C.030(b) Cabin crew medical report

GENERAL

The format of the cabin crew medical report may be as shown in the example below, with the size of each sheet being 1/8 of A4.

~~State of issue~~ ~~CABIN CREW MEDICAL REPORT~~ ~~FOR CABIN CREW ATTESTATION (CCA)~~ ~~APPLICANT OR HOLDER~~		
~~I The State where the aero-medical assessment is conducted:~~ ~~III Cabin crew attestation reference number:~~ ~~IV Last and first name:~~ ~~XIV Date of birth (dd/mm/yyyy):~~ ~~VI Nationality:~~ ~~VII Signature of CCA applicant/holder:~~	~~II Aero-medical assessment result (fit/unfit):~~ ~~Expiry date of the previous cabin crew medical report (dd/mm/yyyy):~~ ~~Date of aero-medical assessment (dd/mm/yyyy):~~ ~~X Date of issue* (dd/mm/yyyy):~~ ~~X Signature of the AeMC, AME or OHMP:~~ ~~XI Seal or stamp of the AeMC, AME or OHMP:~~	

~~2~~	~~3~~

~~* Date of issue is the date the Cabin Crew Medical Report is issued and signed~~.

~~XII Limitation(s), if applicable:~~ ~~Code:~~ ~~Description:~~ ~~Code:~~ ~~Description:~~ ~~Code:~~ ~~Description:~~	~~IX Expiry date of this medical report (dd/mm/yyyy):~~
~~4~~	~~5~~

AMC1 MED.C.035 Limitations

When assessing whether the holder of a cabin crew attestation may be able to perform cabin crew duties safely if complying with one or more limitations, the following possible limitations should be considered:

(a) a restriction to operate only in multi-cabin crew operations (MCL);

(b) a restriction to specified aircraft type(s) (OAL) or to a specified type of operation (OOL);

(c) a requirement to undergo the next aero-medical examination and / or assessment at an earlier date than required by **MED.C.005 (b)** (TML);

(d) a requirement to undergo specific regular medical examination(s) or assessments (SIC);

(e) a requirement for visual correction (CVL), ~~or~~ by means of ~~contact~~ corrective lenses ~~that correct for defective vision~~ only (CCL);

(f) a requirement to use hearing aids (HAL); and

(g) special restriction as specified (SSL).

~~GM1 MED.D.020 Training courses in aviation medicine~~

~~BASIC TRAINING COURSE~~

~~(a) Basic training course in aviation medicine 60 hours~~

~~(1) Introduction to aviation medicine 2 hours~~

~~(i) History of aviation medicine~~

~~(ii) Specific aspects of civil aviation medicine~~

~~(iii) Different types of recreational flying~~

~~(iv) AME and pilots relationship~~

~~(v) Responsibility of the AME in aviation safety~~

~~(vi) Communication and interview techniques~~

~~(2) Basic aeronautical knowledge 2 hours~~

~~(i) Flight mechanisms~~

~~(ii) Man-machine interface, informational processing~~

~~(iii) Propulsion~~

~~(iv) Conventional instruments, 'glass cockpit'~~

~~(v) Recreational flying~~

~~(vi) Simulator/aircraft experience~~

~~(3) Aviation physiology 9 hours~~

~~(i) Atmosphere~~

~~(A) Functional limits for humans in flight~~

~~(B) Divisions of the atmosphere~~

~~(C) Gas laws — physiological significance~~

~~(D) Physiological effects of decompression~~

~~(ii) Respiration~~

~~(A) Blood gas exchange~~

~~(B) Oxygen saturation~~

~~(iii) Hypoxia signs and symptoms~~

~~(A) Average time of useful consciousness (TUC)~~

~~(B) Hyperventilation signs and symptoms~~

~~(C) Barotrauma~~

~~(D) Decompression sickness~~

~~(iv) Acceleration~~

~~(A) G-Vector orientation~~

(B) Effects and limits of G-load

(C) Methods to increase Gz-tolerance

(D) Positive/negative acceleration

(E) Acceleration and the vestibular system

(v) Visual disorientation

(A) Sloping cloud deck

(B) Ground lights and stars confusion

(C) Visual autokinesis

(vi) Vestibular disorientation

(A) Anatomy of the inner ear

(B) Function of the semicircular canals

(C) Function of the otolith organs

(D) The oculogyral and coriolis illusion

(E) 'Leans'

(F) Forward acceleration illusion of 'nose up'

(G) Deceleration illusion of 'nose down'

(H) Motion sickness — causes and management

(vii) Noise and vibration

(A) Preventive measures

(4) Cardiovascular system 3 hours

(i) Relation to aviation; risk of incapacitation

(ii) Examination procedures: ECG, laboratory testing and other special examinations

(iii) Cardiovascular diseases:

(A) Hypertension, treatment and assessment

(B) Ischaemic heart disease

(C) ECG findings

(D) Assessment of satisfactory recovery from myocardial infarction, interventional procedures and surgery

(E) Cardiomyopathies; pericarditis; rheumatic heart disease; valvular diseases

(F) Rhythm and conduction disturbances, treatment and assessment

(G) Congenital heart disease: surgical treatment, assessment

(H) Cardiovascular syncope: single and repeated episodes

Topics (5) to (11) inclusive, and (17) 10 hours

(5) Respiratory system

(i) Relation to aviation, risk of incapacitation

(ii) Examination procedures: spirometry, peak flow, x-ray, other examinations

(iii) Pulmonary diseases: asthma, chronic obstructive pulmonary diseases

(iv) Infections, tuberculosis

(v) Bullae, pneumothorax

(vi) Obstructive sleep apnoea

(vii) Treatment and assessment

(6) Digestive system

(i) Relation to aviation, risk of incapacitation

(ii) Examination of the system

(iii) Gastro-intestinal disorders: gastritis, ulcer disease

(iv) Biliary tract disorders

(v) Hepatitis and pancreatitis

(vi) Inflammatory bowel disease, irritable colon/irritable bowel disease

(vii) Herniae

(viii) Treatment and assessment including post-abdominal surgery

(7) Metabolic and endocrine systems

(i) Relation to aviation, risk of incapacitation

(ii) Endocrine disorders

(iii) Diabetes mellitus Type 1 & 2

(A) Diagnostic tests and criteria

(B) Anti-diabetic therapy

(C) Operational aspects in aviation

(D) Satisfactory control criteria for aviation

(iv) Hyper/hypothyroidism

(v) Pituitary and adrenal glands disorders

(vi) Treatment and assessment

(8) Haematology

(i) Relation to aviation, risk of incapacitation

(ii) Blood donation aspects

(iii) Erythrocytosis; anaemia; leukaemia; lymphoma

(iv) Sickle cell disorders

(v) Platelet disorders

(vi) Haemoglobinopathies; geographical distribution; classification

(vii) Treatment and assessment

(9) Genitourinary system

(i) Relation to aviation, risk of incapacitation

(ii) Action to be taken after discovery of abnormalities in routine dipstick urinalysis,
e.g. haematuria; albuminuria

(iii) Urinary system disorders:

(A) Nephritis; pyelonephritis; obstructive uropathies

(B) Tuberculosis

(C) Lithiasis: single episode; recurrence

(D) Nephrectomy, transplantation, other treatment and assessment

(10) Obstetrics and gynaecology

(i) Relation to aviation, risk of incapacitation

(ii) Pregnancy and aviation

(iii) Disorders, treatment and assessment

(11) Musculoskeletal system

(i) Vertebral column diseases

(ii) Arthropathies and arthroprosthesis

(iii) Pilots with a physical impairment

(iv) Treatment of musculoskeletal system, assessment for flying

(12) Psychiatry 2 hours

(i) Relation to aviation, risk of incapacitation

(ii) Psychiatric examination

(iii) Psychiatric disorders: neurosis; personality disorders; psychosis; organic mentalillness

(iv) Alcohol and other psychoactive substance(s) use

(v) Treatment, rehabilitation and assessment

(13) Psychology 2 hours

(i) Introduction to psychology in aviation as a supplement to psychiatric assessment

(ii) Methods of psychological examination

(iii) Behaviour and personality

(iv) Workload management and situational awareness

(v) Flight motivation and suitability

(vi) Group social factors

(vii) Psychological stress, stress coping, fatigue

(viii) Psychomotor functions and age

(ix) Mental fitness and training

(14) Neurology 3 hours

(i) Relation to aviation, risk of incapacitation

(ii) Examination procedures

(iii) Neurological disorders

(A) Seizures — assessment of single episode

(B) Epilepsy

(C) Multiple sclerosis

(D) Head trauma

(E) Post-traumatic states

(F) Vascular diseases

(G) Tumours

(H) Disturbance of consciousness — assessment of single and repeated episodes

(iv) Degenerative diseases

(v) Sleep disorders

(vi) Treatment and assessment

(15) Visual system and colour vision 4 hours

(i) Anatomy of the eye

(ii) Relation to aviation duties

(iii) Examination techniques

(A) Visual acuity assessment

(B) Visual aids

(C) Visual fields — acceptable limits for certification

(D) Ocular muscle balance

(E) Assessment of pathological eye conditions

(F) Glaucoma

(iv) Monocularity and medical flight tests

(v) Colour vision

(vi) Methods of testing: pseudoisochromatic plates, lantern tests, anomaloscopy

(vii) Importance of standardisation of tests and of test protocols

(viii) Assessment after eye surgery

(16) Otorhinolaryngology 3 hours

(i) Anatomy of the systems

(ii) Clinical examination in ORL

(iii) Functional hearing tests

(iv) Vestibular system; vertigo, examination techniques

(v) Assessment after ENT surgery

(vi) Barotrauma ears and sinuses

(vii) Aeronautical ENT pathology

(viii) ENT requirements

(17) Oncology

(i) Relation to aviation, risk of metastasis and incapacitation

(ii) Risk management

(iii) Different methods of treatment and assessment

(18) Incidents and accidents, escape and survival 1 hour

(i) Accident statistics

(ii) Injuries

(iii) Aviation pathology, post-mortem examination, identification

(iv) Aircraft evacuation

(A) Fire

(B) Ditching

(C) By parachute

(19) Medication and flying 2 hours

(i) Hazards of medications

(ii) Common side effects; prescription medications; over-the-counter medications; herbal medications; 'alternative' therapies

(iii) Medication for sleep disturbance

(20) Legislation, rules and regulations 4 hours

(i) ICAO Standards and Recommended Practices, European provisions (e.g. Implementing Rules, AMC and GM)

(ii) Incapacitation: acceptable aero-medical risk of incapacitation; types of incapacitation; operational aspects

(iii) Basic principles in assessment of fitness for aviation

(iv) Operational and environmental conditions

(v) Use of medical literature in assessing medical fitness; differences between scientific study populations and licensed populations

(vi) Flexibility

(vii) Annex 1 to the Chicago Convention, paragraph 1.2.4.9

(viii) Accredited Medical Conclusion; consideration of knowledge, skill and experience

(ix) Trained versus untrained crews; incapacitation training

(x) Medical flight tests

(21) Cabin crew working environment 1 hour

(i) Cabin environment, workload, duty and rest time, fatigue risk management

(ii) Cabin crew safety duties and associated training

(iii) Types of aircraft and types of operations

(iv) Single-cabin crew and multi-cabin crew operations

(22) In-flight environment 1 hour

(i) Hygiene aboard aircraft: water supply, oxygen supply, disposal of waste, cleaning, disinfection and disinsection

(ii) Catering

(iii) Crew nutrition

(iv) Aircraft and transmission of diseases

(23) Space medicine 1 hour

(i) Microgravity and metabolism, life sciences

(24) Practical demonstrations of basic aeronautical knowledge 8 hours

(25) Concluding items 2 hours

(i) Final examination

(ii) De-briefing and critique

GM2 MED.D.020 Training courses in aviation medicine

ADVANCED TRAINING COURSE

(a) Advanced training course in aviation medicine 66 hours

(1) Pilot working environment 6 hours

(i) Commercial aircraft flight crew compartment

(ii) Business jets, commuter flights, cargo flights

(iii) Professional airline operations

(iv) Fixed wing and helicopter, specialised operations including aerial work

(v) Air traffic control

(vi) Single-pilot/multi-pilot

(vii) Exposure to radiation and other harmful agents

(2) Aerospace physiology 4 hours

(i) Brief review of basics in physiology (hypoxia, rapid/slow decompression, hyperventilation, acceleration, ejection, spatial disorientation)

(ii) Simulator sickness

(3) Clinical medicine 5 hours

(i) Complete physical examination

(ii) Review of basics with relationship to commercial flight operations

(iii) Class 1 requirements

(iv) Clinical cases

(v) Communication and interview techniques

(4) Cardiovascular system 4 hours

(i) Cardiovascular examination and review of basics

(ii) Class 1 requirements

(iii) Diagnostic steps in cardiovascular system

(iv) Clinical cases

(5) Neurology 3 hours

(i) Brief review of basics (neurological and psychiatric examination)

(ii) Alcohol and other psychoactive substance(s) use

(iii) Class 1 requirements

(iv) Clinical cases

(6) Psychiatry/psychology 5 hours

(i) Brief review of basics (psychiatric/psychological evaluation techniques)

(ii) Alcohol and other psychoactive substance(s) use

(iii) Class 1 requirements

(iv) Clinical cases

(7) Visual system and colour vision 5 hours

(i) Brief review of basics (visual acuity, refraction, colour vision, visual fields, nightvision, stereopsis, monocularity)

(ii) Class 1 visual requirements

(iii) Implications of refractive and other eye surgery

(iv) Clinical cases

(8) Otorhinolaryngology 4 hours

(i) Brief review of basics (barotrauma — ears and sinuses, functional hearing tests)

(ii) Noise and its prevention

(iii) Vibration, kinetosis

(iv) Class 1 hearing requirements

(v) Clinical cases

(9) Dentistry 2 hours

(i) Oral examination including dental formula

(ii) Oral cavity, dental disorders and treatment, including implants, fillings, prosthesis, etc.

(iii) Barodontalgia

(iv) Clinical cases

(10) Human factors in aviation, including 8 hours demonstration and practical experience 22 hours

(i) Long-haul flight operations

(A) Flight time limitations

(B) Sleep disturbance

(C) Extended/expanded crew

(D) Jet lag/time zones

(ii) Human information processing and system design

(A) Flight Management System (FMS), Primary Flight Display (PFD), datalink, flyby wire

(B) Adaptation to the glass cockpit

(C) Crew Coordination Concept (CCC), Crew Resource Management (CRM), Line Oriented Flight Training (LOFT) etc.

(D) Practical simulator training

(E) Ergonomics

(iii) Crew commonality

(A) Flying under the same type rating, e.g. A-318, A-319, A-320, A-321

(iv) Human factors in aircraft incidents and accidents

(v) Flight safety strategies in commercial aviation

(vi) Fear and refusal of flying

(vii) Psychological selection criteria

(viii) Operational requirements (flight time limitation, fatigue risk management, etc.)

(11) Incidents and accidents, escape and survival 2 hours

(i) Accident statistics

(ii) Types of injuries

(iii) Aviation pathology, post-mortem examination related to aircraft accidents, identification

(iv) Rescue and emergency evacuation

(12) Tropical medicine 2 hours

(i) Endemicity of tropical disease

(ii) Infectious diseases (communicable diseases, sexually transmitted diseases, HIV etc.)

(iii) Vaccination of flight crew and passengers

(iv) Diseases transmitted by vectors

(v) Food and water-borne diseases

(vi) Parasitic diseases

(vii) International health regulations

(viii) Personal hygiene of aviation personnel

(13) Concluding items 2 hours

(i) Final examination

(ii) De-briefing and critique

GM3 MED.D.020 Training courses in aviation medicine

GENERAL

(a) Principles of training:

To acquire knowledge and skills for the aero-medical examination and assessment, the training should be:

(1) based on regulations;

(2) based on general clinical skills and knowledge necessary to conduct relevant examinations for the different medical certificates;

(3) based on knowledge of the different risk assessments required for various types of medical certification;

(4) based on an understanding of the limits of the decision-making competences of an AME in assessing safety-critical medical conditions for when to defer and when to deny;

(5) based on knowledge of the aviation environment; and

(6) exemplified by clinical cases and practical demonstrations.

(b) Training outcomes:

The trainee should demonstrate a thorough understanding of:

(1) the aero-medical examination and assessment process:

(i) principles, requirements and methods;

(ii) ability to investigate all clinical aspects that present aero-medical risks, the reasonable use of additional investigations;

(iii) the role in the assessment of the ability of the pilot or cabin crew member to safely perform their duties in special cases, such as the medical flight test;

(iv) aero-medical decision-making based on risk management;

(v) medical confidentiality; and

(vi) correct use of appropriate forms, and the reporting and storing of information;

(2) the conditions under which the pilots and cabin crew carry out their duties; and

(3) principles of preventive medicine, including aero-medical advice in order to help prevent future limitations.

The principles and training outcomes stated at (a) and (b) should also be taken into consideration for refresher training programmes.

GM1 MED.D.030 Validity of AME certificates

REFRESHER TRAINING

(a) The curricula for the refresher training hours that should be provided by, or conducted under the direct supervision of, the competent authority or the medical assessor may include but are not limited to subjects such as:

(1) Psychiatry

(i) Relation to aviation, risk of incapacitation;

(ii) Psychiatric examination;

(iii) Psychiatric disorders: neurosis, personality disorders, psychosis, organic mental illness;

(iv) Alcohol and other psychoactive substance(s) use; and

(v) Treatment, rehabilitation and assessment.

(2) Psychology

(i) Introduction to psychology in aviation as a supplement to psychiatric assessment;

(ii) Methods of psychological examination;

(iii) Behaviour and personality;

(iv) Workload management and situational awareness;

(v) Flight motivation and suitability;

(vi) Group social factors;

(vii) Psychological stress, stress coping, fatigue;

(viii) Psychomotor functions and age; and

(ix) Mental fitness and training.

(3) Communication and interview techniques

(b) Scientific meetings, congresses or flight deck experience that may be credited by the competent authority:

International Academy of Aviation and Space Medicine Annual Congresses (ICASM) — 10 hours credit

European Conference of Aerospace Medicine (ECAM) — 10 hours credit

Aerospace Medical Association Annual Scientific Meetings (AsMA) 10 hours credit

Other scientific meetings (A minimum of 6 hours to be under the direct supervision of the medical assessor of the competent authority) — 10 hours credit

Flight crew compartment experience (a maximum of 5 hours credit per 3 years):

(i) Jump seat — 5 sectors — 1 hour credit

(ii) Simulator — 4 hours — 1 hour credit

(iii) Aircraft piloting — 4 hours — 1 hour credit

(c) An AME exercising class 1 revalidation/renewal privileges should attend international aviation medicine scientific meetings or congresses at regular intervals.

Aero-medical examinations of military pilots may be considered as equivalent in accordance with **MED.D.030(a)(3)**, subject to approval by the medical assessor of the competent authority.

GM2 MED.D.030 Validity of AME certificates

AME PEER SUPPORT GROUPS

(a) The competent authority should promote better performance of AMEs by supporting the establishment of AME peer support groups that could provide both professional support and educational enhancement.

(b) Attendance to AME peer support group meetings may be credited by the competent authority as refresher training. The competent authority should determine a maximum of hours that can be credited as refresher training during the period of authorisation.

(c) AME peer support groups may be established as part of, or complementary to, national associations of aerospace medicine.