

AME 2016/02

ECG Loading and Reporting Classes 1, 2 and 3

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1 Introduction

From 12th August 2016, no ECG over-reading will be undertaken by the AMS.. This procedure is operational from 1st August 2016 and describes the standard format for ECG reporting and loading for all AMEs and AeMCs.

2 Scope

- 2.1 This procedure applies to all AMEs and covers ECGs loading and reporting for classes 1,2,3 and LAPL.

3 Responsibilities

- 3.1 All AMEs should follow the detailed procedures described in Section 4 below.
- 3.2 The Authority Medical Section will periodically audit ECG reading and over-reading performed by AMEs and their external cardiologists to ensure that procedures are being followed and standards are being met consistently.
- 3.3 All transmission of partial medical records to a third party Cardiologist (e.g. previous ECG tracings and/or reports) should be handled according to the AME's local data protection procedures. There is a consent form (Appendix 1) that may be used to supplement these procedures if required.
- 3.4 The table of Investigations required for abnormal ECG observations is provided (Appendix 2). The AME should provide this information to their local Cardiologist (ideally printed on the reverse of the reporting form for quick reference).
- 3.5 It is important to maintain consistency in the reporting of ECGs. The AME should ensure that their local reporting cardiologist uses the Med108 form (Appendix 3) as a minimum requirement. Additional investigation reports may also be sent, but may not replace the Med 108.
- 3.6 All Cardiology guidance material to guide decision making is available at <http://www.caa.co.uk/Aeromedical-Examiners/Connecting-with-the-CAA/Documents-for-download/>, see "Flowcharts and additional guidance by system". Click Class 1 and 2.

4 Procedure

- 4.1 For Acceptable Machine Read Statements (AMR), the current process should be followed. This is as follows:
 - 4.1.1 Load on AOL as '**Acceptable Machine Read**' using Load Test
 - 4.1.2 Annotate Trace as 'AMR', with applicants name and CAA Ref No.
 - 4.1.3 **Class 1/3** > send Trace to AMS for scanning.
 - 4.1.4 **Class 2/LAPL** > Trace stays in applicant's file with AME.

UNACCEPTABLE MACHINE READ STATEMENTS

- 4.2 If any unacceptable Statement(s) are present (even if previously reported by Cardiologist as acceptable) then:
- 4.3 **All Classes**

Load on AOL as '**Requires Over Reading**'. Unless there is doubt arising from the history, medical examination or ECG statements, the AME may issue the certificate whilst awaiting result of Cardiologist over reading. If the ECG indicates a new diagnosis of a disqualifying condition (unfit) then the medical certificate should not be issued and the applicant made unfit.

The screenshot shows a software window titled "Med Exam (AMS Issue) : EASA Class 1 Revalidation AMS - Mr Sib Aoltest12 - 446400A". It contains several input fields for patient information: DOB (01/01/1965), Age (51), Account Balance (£0.00), Nationality (British), Verified (checked), and Person:Details. Below these are fields for Status, Fit Status (Fit), Fit Class (EASA Class 1), and two 'To' dates (20/11/2013 and 20/05/2014). On the left, there are three buttons: "Record Results" (yellow), "Check Req'ments" (red), and "Issue Final Doc" (red). The main area is titled "Rest ECG (Reporting)" and includes fields for "Event Date" (19/05/2014), "Result" (Requires over reading), and "Examiner" (50007 Mitchell, Stuart). There is a "Comment" field below. A section titled "Rest ECG Observation" contains an empty "Item" list. At the bottom, there are buttons for "New", "Update", "Delete", "Letter", "Validity", "Daybook", "Add'l Tests", "Print", "Page 1 of 1", "< Back", "Next >", "Submit", and "Close".

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4. 4 Send ECG Trace with ECG reporting form (Med 108) to your local Cardiologist for over reading. The Med 108 form is available as a PDF which should be filled by hand, signed and stamped. When the Cardiologist report is received back there are four possible outcomes which are available for the Cardiologist in the 'Assessment' section on the MED 108 form:-

- Findings Normal/Acceptable/No Change
- Findings Require Investigation within 2/12
- Unacceptable: Technically Inadequate
- Unacceptable: New finding of disqualifying condition – make applicant unfit

CAA Ref No Applicant Name..... ECG Recording Date..... Date of ECG Report.....

ECG FINDINGS (Tick (✓) if present)

HEART RATE		QRS	
Tachycardia > 100bpm	<input type="checkbox"/>	Q/QS Waves - Inferior	<input type="checkbox"/>
Bradycardia < 50 (40 bpm)	<input type="checkbox"/>	Q/QS Waves - Anterior-Septal	<input type="checkbox"/>
HEART RHYTHM		Q/QS Waves - Anterior-Lateral	<input type="checkbox"/>
Atrial ectopics	<input type="checkbox"/>	Poor R Wave Progression	<input type="checkbox"/>
Ventricular ectopics	<input type="checkbox"/>	Max R Plus Max S > 50mm	<input type="checkbox"/>
Ventricular ectopics with VT	<input type="checkbox"/>	Pre Excitation - Short PR, Normal QRS	<input type="checkbox"/>
Junctional	<input type="checkbox"/>	Pre Excitation - Short PR, Delta Wave	<input type="checkbox"/>
Idioventricular	<input type="checkbox"/>	Pre Excitation - Normal PR, Delta Wave	<input type="checkbox"/>
Normal PR, Left Axis P Wave	<input type="checkbox"/>	Long QTc (>470ms)	<input type="checkbox"/>
Atrial Fibrillation	<input type="checkbox"/>	ST SEGMENT	
Atrial Flutter	<input type="checkbox"/>	Depression - J Point	<input type="checkbox"/>
CONDUCTION		Depression - Planar	<input type="checkbox"/>
SA Block	<input type="checkbox"/>	Depression - Downslowing	<input type="checkbox"/>
AV Block - 1st degree (PR>240ms)	<input type="checkbox"/>	Elevation	<input type="checkbox"/>
AV Block - 2nd Degree Type I	<input type="checkbox"/>	Leads - Anterior	<input type="checkbox"/>
AV Block - 2nd Degree Type II	<input type="checkbox"/>	Leads - Inferior	<input type="checkbox"/>
AV Block - Complete	<input type="checkbox"/>	Leads - Diffuse	<input type="checkbox"/>
RBBB - Complete	<input type="checkbox"/>	Brugada	<input type="checkbox"/>
RBBB - Incomplete (RSR 1)	<input type="checkbox"/>	ST Sag	<input type="checkbox"/>
LBBB - Complete	<input type="checkbox"/>	T WAVE	
LBBB - Incomplete	<input type="checkbox"/>	Peaked	<input type="checkbox"/>
Non-specific Intraventricular Conduction Delay	<input type="checkbox"/>	Flat	<input type="checkbox"/>
AXIS		Notched	<input type="checkbox"/>
Leftward axis (>-30)	<input type="checkbox"/>	Inverted	<input type="checkbox"/>
Left Axis Deviation (>-45)	<input type="checkbox"/>	Leads - Anterior - Septal	<input type="checkbox"/>
Right Axis Deviation	<input type="checkbox"/>	Lead - Anterior - Lateral	<input type="checkbox"/>
Indeterminate	<input type="checkbox"/>	Leads - Inferior	<input type="checkbox"/>
		Leads - Diffuse	<input type="checkbox"/>
		Non-specific T-wave change	<input type="checkbox"/>
		U WAVES	
		Prominent	<input type="checkbox"/>

CARDIOLOGIST'S REPORT

Additional Information provided (Tick if provided)	
Trace / Report of Previous ECG(s)	<input type="checkbox"/> See UK CAA Guidance material at www.caa.co.uk/medical
Previous cardiology report(s)	<input type="checkbox"/>
ASSESSMENT (Tick (✓) as appropriate)	
Findings Normal / Acceptable / No Change	<input type="checkbox"/>
Findings Require Investigation within 2/12	<input type="checkbox"/>
Technically inadequate (e.g. Lead missing/switch, AC interference)	<input type="checkbox"/> Unacceptable
Unacceptable finding of disqualifying condition - make applicant unfit	<input type="checkbox"/> New
COMMENTS	RECOMMENDATIONS <small>see also ECG investigation triggers</small>
	Cardiology Review <input type="checkbox"/>
	Exercise ECG <input type="checkbox"/>
	24-hour ECG <input type="checkbox"/>
	Echocardiogram <input type="checkbox"/>
Other (Specify).....	
REPORTING CARDIOLOGIST:	
Signature	
Name	
GMC Number	

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4.4 Over read result is 'Normal/Acceptable/No Change'

4.4.1 Result of Cardiologist over reading will be loaded by **AME** as a separate test 'ECG Over Read' through 'Load test', event date will be date of the local Cardiologist report. AME enters result as 'Acceptable after Cardiologist over read'. Enter any ECG observations indicated by the Cardiologist on the MED 108 form

The screenshot shows a software window titled "Medical Tests and Reports - Mr Sid Aoltest12 - 446400A - 01/01/1965". The main content area is titled "ECG over read" and contains the following fields:

- Event Date: 23/05/2014
- Result: Acceptable after cardiologist over read (dropdown menu)
- Examiner: 50007 (dropdown menu) with a button to view details, showing "Mitchell, Stuart"
- Comment: A large empty text area.

Below the "ECG over read" section is a section titled "Rest ECG Observation" with a table header "Item" and a large empty area for text entry.

At the bottom of the window, there are several buttons: "New", "Update", and "Delete". Below these are navigation and action buttons: "Letter", "Validity", "Daybook", "Add'l Tests", "Print", "Page 1 of 1", "< Back", "Next >", "Submit", and "Close".

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4.4.2 The over read result will then be visible on the Applicant's summary screen via the 'Test and Report History' tab

446400A - Mr Sid Aoltest12

Person Details | **Contact** | GP Details | Employment | Scanning z | Admin

CAA Reference: 446400A | Nationality: British | Date of Birth: 01/01/1965
 Title: Mr | Surname: Aoltest12 | Forenames: Sid
 Additional Tests Pending: No | Middle Names: | Town of Birth: London
 Forthcoming Appointments: No | Age: 51 Years 6 Months | Country of Birth: United Kingdom
 Active Casework/Exams: None

Medical Status | Limitations | **Exam History** | Licences | PMH and Prescriptions k | Denial Reasons | AMC Appointments

Additional and Tests b | **Test and Report History** | Requests

Test/Report	Event Date	Result	Status	Examiner Name	Comment
ECG over read	23 May 2014	Acceptable after ca	Performed	50007, Mitchell, Stu	
Rest ECG (Reporting)	19 May 2014	Requires over readi	Performed	50007, Mitchell, Stu	
Routine Medical Examination	19 May 2014	1 Fit Class 1	Performed	50007, Mitchell, Stu	
Audiogram and Report	20 May 2013	1 a Normal / Accep	Performed	50007, Mitchell, Stu	
Rest ECG (Reporting)	20 May 2013	00 - Normal / Accep	Performed	50007, Mitchell, Stu	
Routine Medical Examination	20 May 2013	1 Fit Class 1	Performed	50007, Mitchell, Stu	
Casework	01 May 2013	Fit Class 1	Performed	40007, Burgess, An	
Ophthalmology	01 Nov 2007	1 a Normal / Accep	Performed	10008, Hunter, Rob	
Audiogram and Report	01 Nov 2007	1 a Normal / Accep	Performed	10008, Hunter, Rob	
Rest ECG (Reporting)	01 Nov 2007	Acceptable machin	Performed	10008, Hunter, Rob	
Routine Medical Examination	01 Nov 2007	1 Fit Class 1	Performed	10008, Hunter, Rob	

Test/Report Details

Print Certificate | Casework | App. Form | Update | Perform Exam | Close

4.4.3 Class 2/LAPL only

If the medical was referred, and ECG over read as acceptable, the **AME** will perform 'casework' to make 'Fit' and issue certificate. The ECG and Cardiologist report (MED 108) should be retained in the applicant's records by the AME.

4.4.4 Class 1/3 only

If the medical was referred, and ECG over read as acceptable, the **AME** will contact the AMS to perform 'casework', make 'Fit' and issue certificate. The ECG and Cardiologist report (MED 108) should be sent to the AMS for scanning onto the applicant's records.

! Please make an entry on Contact Management for all actions

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4.5 Over read result is Requires investigation within 2/12

4.5.1 Result of Cardiologist over reading will be loaded by **AME** as a separate test 'ECG Over Read' through 'Load test', event date will be date of the local Cardiologist report. AME enters result as 'Acceptable after Cardiologist over read' in comments box type 'requires review within 2/12'

Enter any ECG observations indicated by the Cardiologist on the MED 108 form

Medical Tests and Reports - Mr Sid Aoltest12 - 446400A - 01/01/1965

ECG over read

Event Date: 23/05/2014 Result: Acceptable after cardiologist over read

Examiner: 50007 Mitchell, Stuart

Comment: Requires review within 2/12

Rest ECG Observation

Item

New Update Delete

Letter Validity Daybook Add'l Tests Print Page 1 of 1 < Back Next > Submit Close

4.5.2 **AME** advises applicant as per CAA Guidance material and flow charts, refers for Cardiological investigations as appropriate. A template letter is available at Appendix 4. All guidance is available at the following link: <http://www.caa.co.uk/Aeromedical-Examiners/Connecting-with-the-CAA/Documents-for-download/> See "Flowcharts and additional guidance by system". Click Class 1 and 2.

4.5.3 AME makes entry on Contact Management that Applicant requires Cardiologist review within 2/12, indicating what tests are required.

4.5.4 Class 1/3 only

If the medical was referred for ECG ROR, and ECG was over read as acceptable, the AME decides if certificate can be issued. The **AME** will contact the AMS to perform 'casework' make 'Fit' and issue certificate. The ECG and Cardiologist report (MED 108) should be sent to the AMS for scanning onto the applicants records.

4.5.5 Class 2/LAPL only

If the medical was referred for ECG ROR, and ECG was over read as acceptable, the AME decides if certificate can be issued. The **AME** will perform 'casework' to make 'Fit' and issue certificate. The ECG and Cardiologist report (MED 108) should be retained in the applicant's records by the AME.

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4.5.6 Class1/3

AME collates investigation reports and forwards *in a single mailing* to AMS for review. The AME will need to monitor these applicants to ensure the required tests are carried out within the time frame. If they are not, the AME will need to complete casework to make the applicant 'Unfit' and issue and 'Unfit' letter.

4.5.7 Class 2/LAPL

The AME will need to monitor these applicants to ensure the required tests are carried out within the time frame. If they are not, the AME will need to complete casework to make the applicant 'Unfit' and issue and 'Unfit' letter.

! Please make an entry on Contact Management for all actions taken and investigations required

4.6 Over read result is 'Unacceptable' Technically Inadequate

4.6.1 ALL classes

Result of Cardiologist over reading will be loaded by AME as a separate test 'ECG Over Read' through 'Load test', event date will be date of the local Cardiologist report. AME enters result as 'Unacceptable' in comments box type 'technically inadequate repeat ECG to be performed'

Enter any ECG observations indicated by the Cardiologist on the MED 108 form

4.6.2 AME contacts applicant to arrange to perform a repeat ECG. This must be completed within 2/12. A template letter is available at Appendix 5.

4.6.3 The repeat ECG result will be loaded by AME as a 'Rest ECG Reporting' through 'Load test', event date will be date of the repeat ECG. The result will either be 'AMR' or 'ROR' follow the procedures for these as above.

4.7 Over read result is 'Unacceptable'

4.7.1 Result of Cardiologist over reading will be loaded by **AME** as a separate test 'ECG Over Read' through 'Load test', event date will be date of the local Cardiologist report. AME enters result as 'Unacceptable' in comments box type 'unfit letter to be issued'

Enter any ECG observations indicated by the Cardiologist on the MED 108 form

! Please make an entry on Contact Management for all actions taken and investigations required

Medical Tests and Reports - Mr Sid Aoltest12 - 446400A - 01/01/1965

ECG over read

Event Date: 23/05/2014 Result: Unacceptable

Examiner: 50007 Mitchell, Stuart

Comment: unfit letter to be issued

Rest ECG Observation

Item

Buttons: New, Update, Delete, Letter, Validity, Daybook, Add'l Tests, Print, Page 1 of 1, < Back, Next >, Submit, Close

4.7.2 Class 1/3 only

AME performs casework to make applicant 'Unfit', sends 'Unfit' letter and advises applicant as per CAA Guidance material and flow charts of investigations required. The ECG and Cardiologist report (MED 108) should be sent to the AMS for scanning onto the applicants records.

4.7.3 Class 2/LAPL only

AME performs casework to make applicant 'Unfit', sends 'Unfit' letter and advises applicant as per CAA Guidance material and flow charts of investigations required. The ECG and Cardiologist report (MED 108) should be retained in the applicant's records by the AME.

4.7.4 Class 1/3

AME collates investigation reports and forwards *in a single mailing* to AMS for review.

4.6.5 Class2/LAPL

AME collates reports and performs casework to make applicant 'Fit' if appropriate.

! Please make an entry on Contact Management for all actions taken and investigations required

5 Quick Reference

5.1 Acceptable Machine Read – AMR.

- 5.1.1 All classes > Load test > select Acceptable Machine read.
- 5.1.2 Annotate trace as AMR with applicant's name and CAA number
- 5.1.3 Class 1/3 > send trace to AMS for scanning
- 5.1.4 Class 2/LAPL > stays in Pilot file with AME.

5.2 Unacceptable Machine read statements

- 5.2.1 All classes > Load test > select "Requires over Reading
- 5.2.2 AME decides whether to issue certificate
- 5.2.3 Send trace with Med 108 and "Investigations required for abnormal ECG observation information to local cardiologist

5.3 Over read result Normal / Acceptable / No Change

- 5.3.1 All classes > Load test > select Acceptable after Cardiologist over read > enter any ECG observations indicated by the Cardiologist on the MED 108 form in the comments box.

5.4 Over read result Requires investigation within 2/12

- 5.4.1 All classes > Load test > select Acceptable after Cardiologist over read > type in "requires investigation within 2/12" in the comments box and include any observations indicated by the Cardiologist on the Med 108.
- 5.4.2 Advise applicant per CAA guidance material and flow charts using template letter
- 5.4.3 Class 1/3 > send ECG and Cardiologist Med 108 to AMS for scanning. Class 2/LAPL, retain in local pilot records
- 5.4.4 Class 1/3 > Collate further investigation reports and forward in a single mailing to AMS for review.
- 5.4.5 If further investigations are not carried out in a timely manner complete casework to make unfit and issue unfit letter

5.5 Over read result is "Unacceptable Technically Inadequate

- 5.5.1 All classes > Load test > select Unacceptable after Cardiologist over read > type in the comments box 'technically inadequate repeat ECG to be performed'.
- 5.5.2 Contact applicant to arrange repeat ECG within 2 months using template letter

5.6 Over read result is "Unacceptable

- 5.6.1 All classes > Load test > select Unacceptable after Cardiologist over read > type in the comments box 'unfit letter to be issued' and include any ECG observations indicated by the cardiologist on the Med 108 form.

! Please make an entry on Contact Management for all actions taken and investigations required