Certification Assessments for Class 1/2/3/LAPL applicants with diabetes

Type of Diabetes & Treatment	Available Limitations	Blood Test Regimen
Potentially Hypoglycaemic treatment		
All Insulins*	Class 1,2,3: refer to AMS Class 1: OML SSL ILA MON Class 2: OSL** SSL ILA MON Class 3: SSL APC MON LAPL: OSL** or OPL** SSL MON	Schedule A
Sulphonylureas Glinides (and any combination therapy that includes suphonylureas or glinides)	Class 1 and 3 refer to AMS Class 1: OML SSL MON Class 2: OSL** SSL MON Class 3: SSL MON LAPL: OSL** or OPL** SSL MON	Schedule B
Non-Hypoglycaemic treatment		
Glitazones Gliptins Incretin mimetics (GLP-1 analogues) Biguanides Alphaglucosidase inhibitors	Class 1: OML (unless monotherapy) Unrestricted class 2 and 3	Schedule C
Diet only	Unrestricted class 1/2/3/LAPL	None

*Pilots who use insulin pump delivery systems should check tubing for bubbles prior to ascent to altitude, and carry alternative means of insulin delivery in case their pump fails.
**unrestricted certification may be possible where a medical flight test with a CFI or CAA FI(E) demonstrates that testing does not interfere with safe operations.

OML Operational Multi-pilot Limitation
OSL Operational Safety Pilot Limitation
OPL Operational Passenger Limitation
APC ATCO Proximity Endorsement

SSL **Special Restrictions as specified**
- **DEV** Issued as a deviation in accordance with JAR-FCL3.015 (for JAR medical certification)
- **ILA** Issued by the Licensing Authority in accordance with MED.B.001 (for EASA medical certification)
- **MON** Monitoring of blood sugar required whilst exercising licence privileges

UK NPPL
For carrying passengers, UK pilots with a National Private Pilots' licence shall meet the DVLA group 2 assessment requirements, follow the above testing schedule according to medication used and demonstrate safe testing in flight. For flying solo or with another qualified pilot (DVLA group 1 standard), the above testing schedule should be followed.

Diabetic Blood Testing Protocols

Medication includes	Minimum Frequency of Testing relating to flight/controlling	Actions
Schedule A: All Insulins	• At least 1 hour before reporting for flight/duty period or at least 2 hours before commencing flight/controlling • <30 minutes before flight/controlling • At least every hour (2 hours ATCO) whilst flying/controlling* • Within 30 minutes of anticipated landing time • If diabetic symptoms are experienced	➢ If >15 mmol/l should not commence flight/controlling and/or cease carbohydrate ingestion until blood sugar reduces ➢ If level is less than 5 mmol/l then 10-15g of carbohydrate (e.g. glucose tablets) should be ingested and a retest performed within 30 minutes ➢ If a measurement is missed **for operational reasons (e.g. high workload)**, 10-15g of carbohydrate should be ingested and a retest performed within 30 minutes
Schedule B: Sulphonylureas Glinides	• At least 1 hour before reporting for flight/duty period or at least 2 hours before flight/controlling • <30 minutes before flight/controlling • At least every 2 hours (4 hours ATCO) whilst flying/controlling* • Within 30 minutes of anticipated landing time • If diabetic symptoms are experienced	
Schedules C: Glitazones Gliptins GLP-1 analogues Biguanides Alphaglucosidase inhibitors	• At least 1 hour before reporting for flight/duty period or at least 2 hours before commencing flight/controlling: Mandatory classes 1 and 3, Recommended class 2 and LAPL	➢ If >15 mmol/l then should not commence flight/controlling and/or cease carbohydrate ingestion until blood sugar reduces ➢ If level is less than 5 mmol/l then 10-15g of carbohydrate (e.g. glucose tablets) should be ingested and a retest performed within 30 minutes

***** Pilots/ATCOs who are taking formal rest and not seated at the controls/controlling position may suspend testing, but should restart testing prior to resuming flying/controlling.

- Pilots may wish to annotate the results of testing in their log book for easy reference.
- Pilots who have to take action for a high or low reading should always make an entry in their log book.
- The test meter memory will be periodically reviewed by an AME or the CAA against the flying/controlling log to ensure protocol compliance. Failure to demonstrate compliance with the schedule of testing is likely to result in suspension of the medical certificate.

Assessment & Surveillance Requirements

	Class 1 and 3		Class 2	LAPL		
	Diet Only or Non-hypoglycaemic treatment	**Potentially hypoglycaemic treatment**	**Diet Only or Non-hypoglycaemic treatment**	**Potentially hypoglycaemic treatment**	**Diet Only or Non-hypoglycaemic treatment**	**Potentially hypoglycaemic treatment**
Review of clinical reports, data logging of operational blood sugars and review of flying/duty log	**Annual AME**	**6-monthly AeMC/AMS**	**Annual AME**	**Annual AeMC/AMS**	**Annual AME or GMP**	**Annual AME**
Reporting/review of symptoms	Mandatory					
HbA_1c	6/12	3/12	Annual	6/12	Annual	6/12
Renal & Liver Profiles Lipids	Annual					
Diabetology review including Symptom review Cardiovascular status/risk Nephropathy status (min urine microalbumin) Neuropathy status Ophthalmic screening (clinical exam) • Fields/retinas/cataract	Specialist Annual	Specialist 6/12	GP or Specialist Annual			
Exercise test	On diagnosis Annual over 40		If 10yr cardiovascular risk >20% in 10 yrs, then annual if 10yr risk remains >20%		On clinical indication	

UK NPPL

UK pilots with a National Private Pilots' licence should follow the LAPL surveillance schedule.

Target ranges for clinical variables

Variable	Target	Review Treatment	Unfit
HbA_1c	7.5-8.5% (58-69 mmol/l)	8.5-10% (69-86 mmol/l)	>10.0% (>86 mmol/l)
Systolic BP	<140 mmHg	140-160 mmHg	>160 mmHg
Diastolic BP	<80 mmHg	80-95 mmHg	>95 mmHg
Cholesterol	4.0-4.5 mmol/l	>4.5 mmol/l	n/a
Triglycerides	<2.5 mmol/l	>2.5 mmol/l	n/a

Fitness/unfitness status

- Medication type or regime change (which necessitates a change to the testing regime) = unfit 2 months. Medical report of stability/symptoms required before return to flying.
- Change of non-hypoglycaemic medication type or dose: 2 weeks unfit. Stability should be reviewed/confirmed by GP or AME.
- **Episodes of severe hypoglycaemia must be reported and shall entail unfitness**. Specialist review will be required before consideration of any resumption of flying/duties.
- Development of any retinopathy requires full ophthalmological assessment and is likely to result in further restriction or unfitness if there is any field loss or reduction in visual acuity.
- Presence of significant nephropathy significantly increases cardiovascular risk and is likely to entail unfitness.
- Non-declaration of symptoms, medical history or provision of incomplete testing records/flying logbook is likely to entail unfitness

UNITED KINGDOM CIVIL AVIATION AUTHORITY

OPERATIONAL/MEDICAL FLIGHT TEST REPORT

DIABETES TREATED WITH POTENTIALLY HYPOGLYCAEMIC MEDICATION

1) **Candidate's Personal Details:**

Name (in full): . . . . . .

CAA Ref No: . . . . . .

Date of Birth: . . . . . / . . . . . / . . . . .

Current Address: . . . . . .

. . . . . .

. . . . . .

Telephone Number - Home: . . . . . .

Work: . . . . . .

Mobile: . . . . . .

2) **Purpose of test:**

To determine that the applicant demonstrates knowledge of the aeromedical issues relevant to diabetes and demonstrates safe management of their health condition whilst exercising licence privileges

3) **Declaration**

Declaration: ***I understand the purpose of the medical flight test***

Signature of candidate. . . . . Date . . . . . / . . . . . / . . . . .

4) **Medical Flight Test Report** (To be completed by Company TRE for Class 1, CFI or FIE for Class 2 or LAPL, and watch manager for Class 3)

Aircraft Type & Registration: . . . . . .

Flight/Sectors assessed: . . . . . .

Date & Place Of Test: . . . . . / . . . . . / . . . . . - . . . . . .

Examiner's Name (please print): . . . . . .

Examiner's CAA Licence No: . . . . . .

Blood Testing Machine Used: . . . . . .

Acceptable

Appropriate briefing on diabetes conducted using UK CAA briefing sheet ..... Yes/No

Evidence of compliance with blood testing in accordance with relevant protocol..... Yes/No

Check Log book and glucose memory meter congruity for previous flight(s)..... Yes/No/N/A

Tests conducted in safe manner without interference with safe operations..... Yes/No

Tests conducted at correct times in accordance with schedule..... Yes/No

Time	Flight phase	Result & Comments		Time	Flight phase	Result & Comments

Appropriate stowage of equipment/resources ..... Yes/No

Availability of carbohydrate – state what ..... Yes/No

Comments

Recommendations (e.g. any type/class-specific issues)

Signed . . . . . Date . . . . . / . . . . . / . . . . .

Print Name . . . . . .

Company TRE/CFI/FIE/Watch Manager
(*delete as appropriate*)

Non-CAA Examiners
(please provide contact details)

Return to:
CAA Medical Department
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

5) **CAA Medical Department Assessment:**

Signed . . . . . Date . . . . . / . . . . . / . . . . .

Name . . . . . **(MEDICAL ASSESSOR)**