





"Mental Health: AESA Approach"

ECAM: Aeromedical Examiners Refresher Course

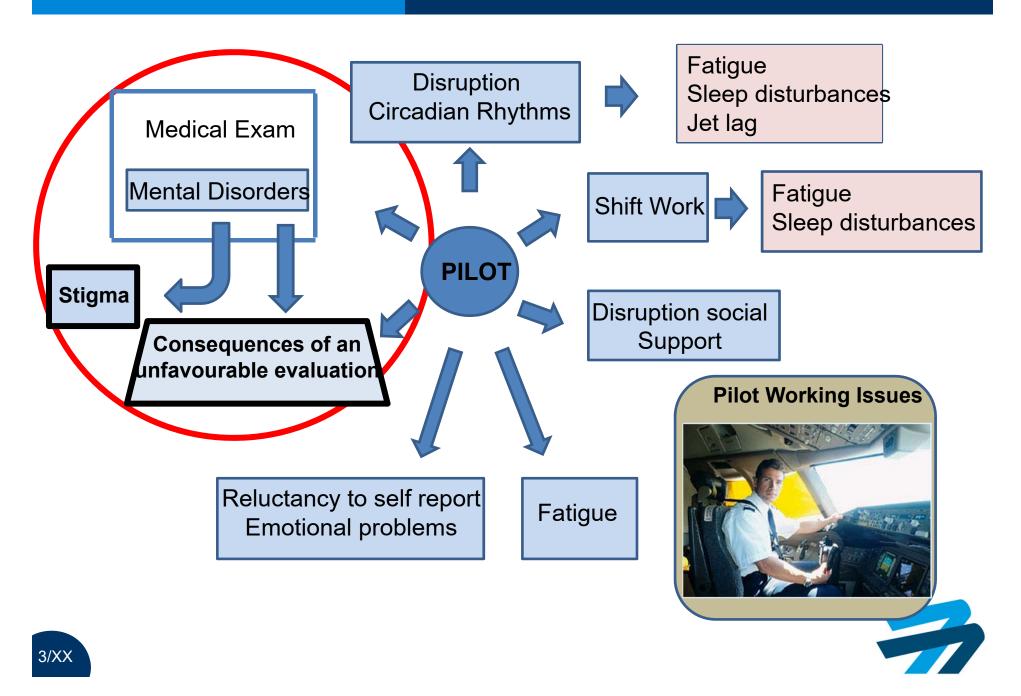
Francisco Rios Tejada Jefe División Medicina ECAM, Prague, 21/09/2018

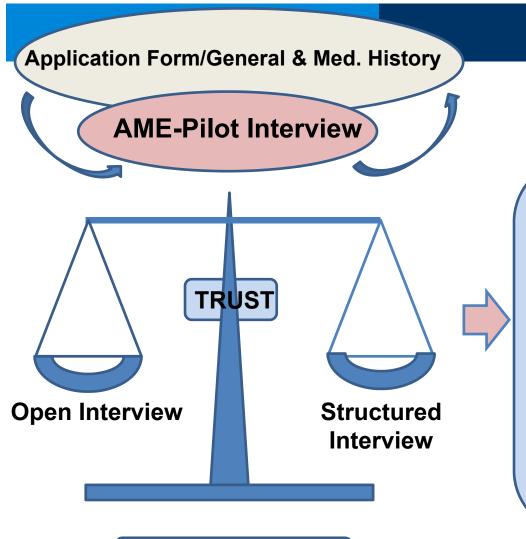
# **Facts**

- Psychological distress and mental health issues can cause a significant impairment to pilot performance and therefore flight safety.
- Since GW, pilot mental health has become a more prominent concern among aviation regulators, and also in the mind of the general public.



# Situation





**Balance/Compromise** 

## **Rule out**

- Noticeable impairment in cognitive function.
- Mood disturbance.
- ➤ Significant PSYCHO/PSYCHIC SX.
- > Psycho risk factors.
- Allow to refer to specialist in Mental Health.



# **Background**

## EASA Recomendation num 2:

«The Psychological part of the initial and recurrent aeromedical assessment and the related training for aeromedical examiners should be strenghened».



# **Issues Identified**

- Candidate interview/questionaire very little impact in mental health.
- > AME: Lack of adequate training in mental health problems.
- Need of «Comprehensive and up to date Syllabus of training especifically designed for AME's».
- ➤ Lack of normalization in the Psychological approach and assessment of candidates: Psychometric testing.



## **AESA Experience AESA (2016-17)**

Applicant	Class	Date	Application Request	Problem	
FPG	2	17-08-16	Negative	Personality Dis.	Revocation
EMS	2	01-06-16	Negative	Bipolar Dis.	Denial
SSP	2	06-06-16	Negative?	Personality Dis.	Denial
DMR	LAPL	30-01-17	Negative	Bipolar Dis.	Revocation
RAC	1	28-01-16	Negative	Bipolar Dis.	Revocation
AD	1	09-02-17	Negative	Drugs	Follow Up
DVC	1	15-09-16	Negative	E-OH	Follow Up
RDA	1	31-03-16	Negative	Psychosis	Revocation
IH	CC/2	30-01-17	Negative	Suicide Attempt	Susp/Revoc

Total: 9 cases

«Application Request without findings vs emergent Mental Disorders»



# **WG** Composition

- Representative of the Spanish Aviat. Med. Society (SEMA) and AME. (MED)
- Staff Psychiatrist of AeMC. (MED)
- Psychologist appointed by one AeMC. (PSY)
- Psychologist appointed by the General Council of College of Psychology. (PSY)
- Psychologist appointed by University CUD-AGA. (PSY)
- Psychologist appointed by the Spanish Association of Aviation Psychology. (PSY)
- Medical assesor of AESA. (MED)
- > CMO of AESA. (MED). Coordinator



# **Objectives**

- To define a mini-questionaire in order to help AME in the mental health evaluation of the applicant.
- To provide guidelines related to Mental Health Issues, to take into account by the AME.
- ➤ To produce a comprehensive Syllabus of Training designed for AME in the area of Mental Health.
- ➤ To standarized the psychological approach and psychometric testing for the evaluation of candidates.



## **Part 1: Mini-Questionaire**

#### Answer the following questions related to the last year or last valid time of medical certificate:

1. Sleep pattern has change	12345
2. I have got significant stress time	12345
3. I feell motivated in my job	12345
4. My family expectations are fully accomplished	12345
5. Sometimes I felt guilty due to alcohol	12345
6. I feel much more snappy	12345
7. My finances are acceptable	12345
8. I fall down sleeping all the night long	12345
9. I rather like to relax after work, having a drink	12345
10. It is hard to me to control my mood	12345
11. Many colleagues are good friends	12345
12. My familly status is kept stable	12345
13. My weight doest not significantly change	12345
14. There are a good work atmosphere	12345
15. Sometimes it is hard to keep myself confident enough	12345
16. Sometimes I use medications or substances to keep me better	12345
17. I am thinking in moving to a new job	12345
18. It is very easy for me to disconnect of my current work	12345
19. It is hard to catch up my sleep patern after a few days of work	12345
20. I really think that certain substances comsumption does affect the current labour activity	12345

## **Scoring System**

- 1: Complete Disagreement/Never
- 2: Disagreement/ Almost Never
- 3. Balance/Sometimes
- 4. Agree/Often
- 5: Complete Agreement/ Always



# **Part 2: Open Questions**

- 1. Have you ever got any Psychiatric or Psychological Treatment?
- 2. Have you got any significat or relevant event?
- 3. Did you get any accident or incident?
- 4. Does your professional situation has changed, (position, mates, salary, boss)?
- 5. How is your family status?
- 6. Are you aware how relevant it is the Mental Health in Aviation?.



#### **AESA Tools to Provide: Aeromedical Computer Application**



#### Medicina Aeronáutica Agencia Estatal de Seguridad Aerea

Informe de solicitud

Parte 4 de 5

Cerrar ventana

Nota: La puntuacione	s se corresponden con	el siguiente significado:
----------------------	-----------------------	---------------------------

- Totalmente en desacuerdo / Nunca
   En desacuerdo/Casi nunca
- Ni de acuerdo ni en desacuerdo / A veces
   De acuerdo / Con frecuencia
   Totalmente de acuerdo / Siempre

	00000
Han cambiado mis patrones de sueño. ▼	
He tenido periodos de estrés significativo. *	8'8'8'8'8'
. Me siento motivado en el trabajo, * . Mis expectativas familiares se han cumplido, *	XXXXXX
i. Alguna vez me he sentido culpable por lo que he bebldo. **	
. Me he vuelto más irritable. *	8. H. H. H. H.
. MI situación económica es aceptable. *	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Duermo toda la noche del tirón. *	
. Ne gusta relajarme después del trabajo tomándome una copa. *	XXXXXX
Me cuesta controlar mi genio. *	B B B B B
Muchos de mis compañeros son buenos amigos. *	
2. Mi situación familiar se mantiene estable. *	
3. MI peso se mantiene estable sin variaciones significativas. *	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
4. Hay buen ambiente en mi trabajo. *	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Algunas veces me cuesta mantener la conflanza en mí mismo. *	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Ocasionalmente tomo medicamentos o productos para encontrarme mejor. *	
7. He pensado en cambiar de trabajo. *	0, 0, 0, 0, 0,
8. Consigo desconectar del trabajo fácilmente. *	
9. Me cuesta recuperar el ciclo del sueño tras días de trabajo. *	
Creo que el consumo de algunas sustancias no afecta a mi actividad laboral. *	
reguntas Ablertas	
reguntas Abiertas ¿Ha recibido algún tratamiento psicológico y/o psiquiátrico?	
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¿Ha vivido acontecimientos significativos o relevantes?	
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¿Ha tenido algún incidente/accidente?	
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¿Ha cambiado su situación laboral (cargo, compañeros, sueldo, jefes)?	100
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¿Cómo es su núcleo familiar?	
	_
- ¿Es consciente de la importancia de la salud mental en la Aviación?	
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esultado	

Sigulente





#### MINI CUESTIONARIO RELATIVO A LA SALUD MENTAL DEL TRIPULANTE

<u>Declaración:</u> Declaro que las anotaciones efectuadas, a mi mejor entender, son correctas y completas y que no he omitido ninguna declaración importante o efectuado anotación erónea. Acepto que si hice alguna anotación falsa o errónea relacionada con esta solicitud, o no proporcione la información médica necesaria, la autoridad puede denegarme el certificado médico o cancelar el certificado médico emitido, sin perjuicio de cualquier otra acción aplicable según las leyes nacionales.

Consentimiento para transferir información médica: Autorizo a la transferencia de toda la información contenida en este informe y cualquier otra al AME y, siempre que sa actionar involvada de la autoridad de licencias, comprendiendo que estos documentos o los datos guardados electrónicamente son para completa el avaluación medica y que serán ya se tendrán bajo la propiedad del autoridad de licencias, comprendiendo que estos documentos o los datos guardados electrónicamente son para completa el avaluación medica y que serán ya se tendrán bajo la propiedad del autoridad de licencias, seriendo en cuenta que, bien yo o mil medico, podemos acceder a ella acorde a la normal nacional. La confidencialidad médica será siempre respetada en todo momento. (Debe ser cumplimentado por el tripulante / ATCO, con la supervisión del AME)

Lea con detenimiento las preguntas y rodee con un círculo la que estime adecuada con arreglo a las instrucciones siguientes.

NOTA: las puntuaciones se corresponden con el siguiente significado:

- 1. Totalmente en desacuerdo/Nunca
- 2. En desacuerdo/Casi nunca
- 3. Ni de acuerdo ni en desacuerdo/A veces
- 4. De acuerdo/Con frecuencia
- 5. Totalmente de acuerdo/Siempre

Responda a las siguientes preguntas referidas al último año o periodo de vigencia de su certificado:

		1	2	3	4	5
1.	Han cambiado mis patrones de sueño	Χ	П	П		
2.	He tenido periodos de estrés significativo	П	Х	П	$\neg$	
3.	Me siento motivado en el trabajo	П	П	Х	$\neg$	Т
4.	Mis expectativas familiares se han cumplido	Г	Х	П	T	Г
5.	Alguna vez me he sentido culpable por lo que he bebido		П	Х	ヿ	Г
6.	Me he vuelto más irritable	П	П	П	Х	Т
7.	Mi situación económica es aceptable	Г	П	Х	T	Г
8.	Duermo toda la noche del tirón	П	Χ	П	$\neg$	Г
9.	Me gusta relajarme después del trabajo tomándome una copa	Х	П	П		Т
10.	Me cuesta controlar mi genio	Г	Х	П	T	Г
11.	Muchos de mis compañeros son buenos amigos	П	П	Χ	T	Г
12.	Mi situación familiar se mantiene estable	П	Х	П		Т
13.	Mi peso se mantiene estable sin variaciones significativas	П	Х	П	$\exists$	Г
14.	Hay buen ambiente en mi trabajo	П	Χ	П	$\neg$	Г
15.	Algunas veces me cuesta mantener la confianza en mí mismo	П	П	Х		Т
16.	Ocasionalmente tomo medicamentos o productos para encontrarme mejor	П	П	Х	$\neg$	Г
17.	He pensado en cambiar de trabajo	П	П	Χ	$\neg$	Г
18.	Consigo desconectar del trabajo fácilmente	П	П	П	Х	Т
19.	Me cuesta recuperar el ciclo de sueño tras días de trabajo		П	П	$\neg$	Х
20.	Creo que el consumo de algunas sustancias no afecta a mi actividad laboral	П	П	П	Х	Г

Nombre, Apellidos y Firma del Candidato/a

Firma, fecha y sello del AME

28020 MADRID

Eiemplar para el interesado

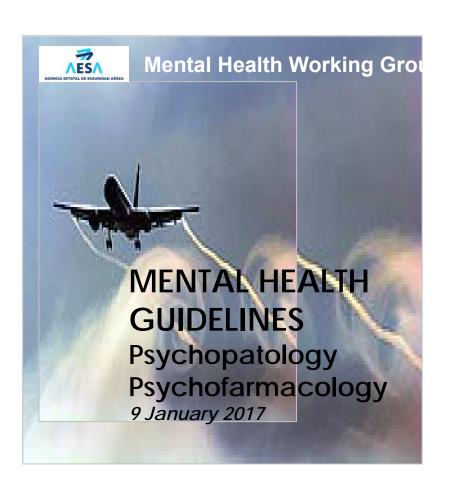
www.seguridadaerea.gob.es





#### **Mental Health Guidelines**

- 1. Instructions and guidelines to complete Mini-Questionaire (MQ) & Open Questions (
- 2. General Guidelines in the area of Mental Health: «MENTAL HEALTH GUIDELINES».
- 3. Restricted access by AME through Aeromedical Application: MQ & OQ
- 4. Open acces by AME and professionals through web site «MENTAL HEALTH GUIDELII



#### **INDEX**

- I. Ansiety
  - a. Diagram
  - b. Diagnostic criteria
- II. Depression
  - a. Diagram
  - b. Diagnostic criteria
- III. Suicide risk assessment
- IV. Bipolar disorders
- V. Sleep
  - a. Sleep Hygine
- **VI. Adictions** 
  - a. Sustances and false positive results
  - b. Test: Audit y Cage
- VII. Psychosis
- VIII. Organic disorders
- IX. Psychopharmacology



#### **INTRODUCTION (15 min.)**

- Relevance of Mental Health in Aviation.
- EASA Recomendations.
- Rationale: Incidents & Accidents (Germawings & others))
- Flight Safety.
- EASA Reg's & AMC's
- Learning objectives.

#### 1.- AVIATION PSYCHOLOGY & HHFF (60 min.)

- Relevance of Psychology in Mental Health.
- HHFF & Errors in Aviation: Reason Model & HFACS
- Information processing: Cognitive impairment & psychomotor functions
- Brief HX of Aviation Psychology
- HHFF & Aircraft Accidents
- Learning Objectives.

#### 2.- AME-PILOT RELATIONSHIP (15 min.)

- Responsability of AME: Raise awareness among AME's.
- Referals.
- Interface with authority. Confidentiality.
- Learning Objectives.



#### 3.- INTERVIEW, TECHNICAL APPROACH (120 min.)

- · Basic skills to consider during interview
- Estructural and Semistructural Interview
- · Approved Questionaire by EASA.
- Non verbal comunication
- AME Active Listening
- Learning Objectives

#### 4.- PSYCHOLOGICAL TECHNICAL EVALUATION (90 min)

- · Psychologicak Exam: methodology.
- Description & Evaluation
- · Personality and Conductual Profile
- Learning Objectives

#### 5.- PSYCHOPATHOLOGICAL DISORDERS (120 min)

- · Anxiety. Panic disorders and generalized anxiety disturbances.
- · Phobia: fear to fly
- Obsesive Disorders
- Disociative and Somatomorphic disorders
- · Stress Reaction: acute and chronic
- Adaptation disturbances
- · Pathological mourning
- Psychotic disorders
- Mood and affective disturbances: depression, bipolar disturbances
- · Suicidal behaviour & risk assessment
- · Personality disorders
- · Organic disorders
- Drugs, Alcohol & Psychoactive subtances: use and abuse (Chapter 6)
- Problems related to Eating habits/behaviour.
- · Other disorders
- Learning Objectives



#### 6.- USE & ABUSE OF SUBSTANCES: FLIGHT INCOMPATIBILITY (45 min)

- Alcohol.
- Legal & Non Legal Drugs
- Legal stimulants comsumption.
- Parapharmacy, natural/herbal remedies and selfmedication
- Psychactive substances guidelines
- Learning objectives

#### 7.- STRESS & FATIGUE IN FLIGHT (45 min)

- Life events associated to stress
- Flight Fatigue
- Circadian rythms & sleep disorders
- Rest-Activity: guidelines and standards
- "Fatigue Resource Management System" (FRMS): Programme
- Learning Objectives

#### 8.- PREVENTIVE ISSUES in MENTAL HEALTH (30 min)

- Sleep Hygiene
- Physical training
- Psychological training
- Eating and nutritional facts
- Learning objectives



#### 9.- REQUIREMENTS & AEROMEDICAL DISPOSITION (30 min)

- · Recomendations to resume medical certificate
- How to keep medical certificate after.
- What to do if airmen does not feels well or a mental health problem is raised.
- Psychopathological follow up
- Learning Objectives

# 10.- PRACTICAL CASES: MORE FREQUENT PSYCHOPATHOLOGIES IN AVIAT MEDICINE

- Cases study
- Simulations: Role-playing.
- Learning Objectives



#### **PSYCHOMETRIC TESTING (1)**

#### Note:

- Mark the Test performed.
- Complete at least 1 Personality and Inteligence Test for Class 1 Medical Certificate.
- Complete at least 1 Personality and Inteligence Test + 1 Stress Management Test for Class 3 Medical Certificate.
- Complete the corresponding Class 1 or 3 included in Viena Test.
- In case of new medical exam after denial because of Psychological reasons the new Exam will include accepted psychometric testing but different from the applied in the previous exam. besides it will be acceptable after the Psychological assessment to apply the same test already performed plus alt least another from the same group or of the including in the group "Other Testing".

#### PERSONALITY (Class 1 and 3) 1.

□ **DAT 5** (Differential Abilities Test 5)

Cut-Off Point:  $\geq$  40%.

☐ **EFAI-4** (Intellectual Aptitudes Factorial Evaluation -4)

Comments/Remarks:

□ PAI (Personality Assessment Inventory)

□ CTC (TEA Clinical Questionaire)	
□ <b>16-Pf-5</b> (Personality Factorial Questionaire)	
□ MMPI-2 (Minnesota Multiphasic Personality Inventory - 2)	
□ MMPI-2-RF (Minnesota Multiphasic Personality Inventory – 2-RF)	
Cut-Off Point: It will be considered as abnormal 2 typical deviations above or under the mean in at least two dimenssions.	In this cases it will be necessary to extend the evaluation.
Result: Direct scoring and percentile of every scale.	
2. INTELLIGENCE (Class 1 and 3)	
□ <b>BAT-7</b> (TEA Aptitude Battery High Level)	
□ <b>PMA</b> (Primary Mental Aptitude Test)	

Result:



Aeromedical interview apply to all



#### **PSYCHOMETRIC TESTING (2)**

#### 3. STRESS MANAGEMENT (Class 3) □ **CRI-A** (CREST Registered Intrusion Analysis) Cut-Off Point: 2 Typical deviations under or above of mean average. Comments/Remarks: Result: 4. OTHER TESTING Cut-Off Point: According to normal value established by scales. ☐ **TIG 2** (General Intelligence Test) Aeromedical interview apply to all □ **D2** (D2 Test of Attention) □ **PAS** (Personallity Assessment Screener) □ VIENA TEST: **Transport and Commercial Pilots:** - PST (spatial aptitude for pilots, navigation skills). Cut-Off Point= 7 (direct scoring). - WAFG: - UNI (reaction time, mental and organic disorders). Cut-Off Point=550 (direct scoring). - CROSS (divided attention, state of alert). Cut-Off Point=646 ("). - DT/S1 (stress reactive tolerance and associated capacities, stress conductual reactions). - Helicopter Pilots: - A3DW/S1 (spatial aptitude perception) - DT/S2 - Air Traffic Controllers (ATCO): - SIMKAP/S2 (simultaneous capacity: final performance under simultaneous either routine or demanding cognitive task. Stress tolerance. - WAFG Comments/Remarks/Recomendations: Result: Global Profile:



**Final Result:** 

	PSYCHOLOGICAL EXAMINATION REPORT	
23632823R - 0001		
Applicant details	MEDICAL IN C	CONFIDENC
State of license issue	Class of medical certificate 1 ☑ 2 ☐ 3 ☐ AFIS ☐ CC ☐ LAPL ☐ MEC [	
Surname	Application Category ☑ Initial ☐ Renewall ☑ Renewall ☐ Special refer	ral
Name	Date of birth Sex Male ☐ Female ☒	
Consent to release of medical in	formation:	
I hereby authorise the release of all informatio	contained in this report and any or all attachaments to the Aeromedical Examiner, the Authority and where necessary the Aeromedic	al Section
or another state, recognising that these documents the Authority, provincing that I or my physician	tents or any other electronically stored data are to be used for completion of a medical assessment and will become and remain the pi may have access to them according to national law. Medical Confidentiality will be respected at all times.	roperty or
Date:	Signature of the applicant Signature of Psychologist examiner (witness)	
Family history		
Personal history		
Laboral history		
Medical history	Yes No Yes No	Yes N
Accident	X Psicol. psiq. Therapy X Epilepsy, convulsions	
Injury to head	X Tobacco use X Stress, fatigue	)
Unconsciousness	X Drugs use X Suicide Attempt	)
Having a hard time sleeping	χ Alcohol use X Medicine use	)
Headache Depression, anxiety	X Injuries X Sleepwalking X Dizziness, night-headedness X	)
	A Dizziness, rigin- neadeuness A	
Types of used drugs		
Diseases		
Hobbies		
Medical history details		
,		
Examiner's declaration	oried the project country or the profest country for most and that the pro-	
I hereby certify that Many AME group have personally ex Place and Date:	nitred the applicant named on these medical examination report and that this report with any attributent embodies my findings completely and correctly.  Psychologist examiner's name and address:  Psychologist or specialist stam	in with No
	r sychologist of specialist stam	p with NO.
Authorized Psychologist examiner's signature	5 3	
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		PSYCHOLO	GICAL	EXAMINATION	REPORT		
	23632823R - 0001						
	Personal Profile						MEDICAL IN CONFIDENCE
	Personality	Da	te Resu				
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## **Conclusions**

- ➤ EASA recomendation in relation to assessment of Mental Health Status by AME can be fully accomplished by following directions and procedures of AESA WG.
- > Information collected more reliable and standarized.
- > Procedure to refer to specialist in Mental Health the doubtfull or borderline cases.
- > Syllabus of AME Mental Health Course established and Course provided to all Authorized AME's in Spain.
- > Mental Health Guidelines provided and available throughout website.
- Psychometric testing: Standarization substantiated.

**NOTE:** Implemented in June 2018, well supported, not referals yet.



## **AESA Aeromedical Division**



Thanks for your attention

www.seguridadaerea.gob.es farios@seguridadaderea.es

