Medical reasons for definitive unfitness of ATCO’s at EUROCONTROL

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Applicable legal rules from may 2008 on

- European Directive 2006/23/EC, Article 12:

- “The issuing of medical certificates shall be consistent with the provisions of Annex I to the Chicago Convention on International Civil Aviation and the Requirements for European Class 3 Medical Certification of Air Traffic Controllers laid down by Eurocontrol.”
Applicable harmonisation rules from 2006 on

- **EUROCONTROL**: The Human Resources Team of the Member States released these European Class 3 Medical requirements for ATC in 2006 as a “European Air Traffic Management deliverable”.

- For immediate use by all Member States as an “acceptable means of compliance” in the context of the EUROCONTROL Safety Regulatory Requirements (ESARR’s) for ATM Services’ Personnel.

- Will be replaced by a reviewed EUROCONTROL « specification », as part of an European Regulation in 2011.

- **EASA class 3 implementing rules** should be ready for 2013.
A lot of new rules…
Aviation medical services and medical certificates

- Medical examinations by *authorised* doctors (AMS/AMC/AMEs) and *appeal* procedure

- Requirements and guidance for *specific training of AMEs*: advanced certificate in aviation medicine + class 3 assessment qualification training, including examination and refreshers

- Art 15.1 of the EU Directive: “… each Member State *shall recognise* licenses … of another Member State … as well as the accompanying medical certificates”
AME Class 3 training

- **Advanced certificate in aviation medicine**, training in aviation rules and regulations, medical subjects and psychology

- **ATC-related topics**:  
  - organisation and structure of ATC and international organisations  
  - familiarisation with ATC working positions and tasks  
  - aviation psychology relevant to ATC  
  - human factors in ATC, including TRM  
  - current and future systems in ATC

- **Practical work** - experience in ATC simulation

- Followed by an **examination**

- Authorisation for a **specific period** of time
Team resource management
AME cl 3 Refresher Training

- On a regular basis
- Lectures on advances in aviation medicine
- Changes in the ATC working environment
- Practical exercises (simulation)
- Examination may follow
The area controlled by EUROCONTROL MUAC

- **Delta-Coastal sectors**: part of the North sea, The Netherlands, Northern Germany
- **Brussels sectors**: Belgium, Luxemburg, part of Northern France until Nancy
- **Hannover sectors**: Mid – Western Germany

- Above 24,500 feet, (7.5 km)

- Approximately 1.5 million controlled flights per year, 5000/day
controlled zone
History of Rules regarding Medical fitness at Eurocontrol

- Internal “Rule 26” applicable, according to ICAO standards
- Adapted: no colour-deficiency allowed!
- Non compliants went on pension or put in corridor-functions
- Later: development of European class 3 rules by EUROCONTROL
- “Translated” into New internal EUROCONTROL Rule 26 in 2002
- Thus no EEG anymore, colour-deficiency problem was already solved
extra Eurocontrol examinations

- **Drugscreening** at initial aeromedical examination

- extensive **bloodtesting** at each revalidation (on demand of ATC’s representatives)

- **By security team**: random testing for alcohol- and drugs (with blow-pipe and saliva-smear, positive results to be confirmed by breath analyser or blood-tests); started after social dialogue

- Extensive **questionary** regarding **ophthalmological condition** (to be filled in by ophthalmologist) before invitation for initial aeromedical examination
Certificate of visual performance

- To be completed by a medical dr, *specialised in ophthalmology*

- Abnormalities of the function, active pathological condition (acute or chronic), eye surgery or eye trauma?
- Visual acuity R, L, binocular: distant, intermediate and near
- Refraction
- Convergence
- Accomodation
- Binocular vision, stereopsis
- Muscular balance (heterophoria’s)
- Fusional reserve
- Fields of vision
- Colour vision
- Biomicroscopy
- Optic fundi
- Tonometry
Check for eye lesions
INVALIDITIES for AIR TRAFFIC CONTROL functions

FROM 1989 TO 2010, population +/- 300 ATC: 22 cases / 21 years

- from 1989 until 1999: 17 cases
- from 2000 until 2010: 5 cases (last in 2005)

- 6 cases over 55 years old
- 8 cases over 50 years old
- 4 cases over 45 years old
- 1 case over 40 years old
- 2 cases under 40 years old
- (1 unknown age)
1989: 2 cases

• 1  a) age: unknown
   b) years of service: 20
   c) diagnosis: post-accidental: orthopaedic (back)

• 2  a) age: 57
   b) years of service: 25
   c) Diagnosis: multifactorial:
      - Pulmo: asthma, CARA, emphysema, allergy
      - Endocrino: diabetes II not insulino-dependent, obesity
      - Urogenital: kidney stones
      - Cardial: arrhythmia (ventr + supraventr), ES
      - Psychological: burn out, stress intolerance, palpitations, depressive reactions
1991: 1 case

a) age: 57

b) years of service: 31

c) diagnosis: psychological:
   depression + abuse of alcohol and medication
1993: 1 case

a) age: 22

b) ATCO student for 1 year

c) diagnosis: psychological: anorexia nervosa
1995: 4 cases

a) age: 49
b) years of service: 22
c) diagnosis: neurological:
   spondylodiscitis with epidural abscess leading to transversal lesion with spasms, paraplegia

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a) age: 48
b) years of service: 16
c) diagnosis: multifactorial:
   - endocrino: non insuline-dependent diabetes
   - psychiatric: aggressive/manic psychosis
   - alcohol abuse with cirrhosis and oesophageal varices
1995 (continued)

a) age: 52
b) years of service: 26
c) diagnosis: **cardial**: coronaryopathy with angina pectoris

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a) age: 56
b) years of service: 26 (flight data supervisor)
c) diagnosis: **psychological**: vital depression + intolerance to shifts + alcohol abuse
1996: 1 case

a) age: 52

b) years of service: 24

c) diagnosis: cardial:
   coronaropathy / infarction / angina pectoris
Risk factors in the job....
1997: 2 cases

a) age: 49
b) years of service: 23
c) diagnosis: cardiac:
   coronaryopathy - hypertension

a) age: 52
b) years of service: 25
c) diagnosis: psychological:
   sleep disorders and intolerance to shiftwork
1998: 3 cases

a) age: 54
b) years of service: 26 (assistant ATC)
c) diagnosis: psychological:
   burn out / depression / alcohol abuse

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a) age: 54
b) years of service: 28
c) diagnosis: ENT:
   larynx carcinoma with transplant

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a) age: 43
b) years of service: 5 (air traffic flow manager)
c) diagnosis: ophthalmology:
   • chorioretinitis serosa
   • metamorphopsia
   • in 1 eye atrophic scars on macula from laser therapy
1999: 3 cases

a) age: 56
b) years of service (flight data assistant): 28
c) diagnosis: cardial: pathological hypertension

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a) age: 53
b) years of service: 28
c) diagnosis: multifactorial
   • -ENT: hearing loss
   • -psychological: recurrent depressions

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a) age: 53
b) years of service: 27
c) diagnosis: psychological:
   stress intolerance, mental overload + spastic colon
2001: 2 cases

a) age : 52
b) years of duty : 
c) diagnosis : cardio + psychological
   - infarctus + angina pectoris + cardiac rythm disorder
   - posttraumatic depression / burnout

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a) age : 49
b) years of duty : ( flow controller )
c) diagnosis : orthopaedic :
   severe back problems due to herniae -> sleep problems
   -> shiftwork intolerance
2002: 2 cases

a) age : 55
b) years of service :
c) diagnosis : psychological
   - burnout ( depression + surmenage )
   - compulsory personality

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a) age : 33
b) years of service : 7
c) diagnosis : immunological
   « multiple sensitivity syndrome »
   ( intolerance to quasi all food – vitamine depletion )
2005: 1 case

a) age : 52

b) years of service : 11 ( air traffic flow controller )

c) diagnosis : alcoholism
need for psycho-social support
IN TOTAL from 1989 until 2009

Over 21 years: 22 cases = 1.1 per 300 ATC per year
Population: +/- 200 ATC + 50 flight data operators + 60 ATFM

diagnoses:
- psy: 10
- cardio: 6 (4x coronaro, 2x hypertension)
- alcohol: 4
- orthopaedic: 2
- endocrino (diabetes): 2
- ENT: 2
- pulmonary: 1
- urogenital: 1
- neuro: 1
- ophthalmo: 1
- Immuno: 1
Comparison with the general Eurocontrol staff

1989 – 2008: 193 INV on 2100 staff
  = +/− 9,6 per year
  = 1,4 per 300 staff members per year

**DIAGNOSES:**

- 1) psy : 101
- 2) orthop : 41
- 3) neuro : 27
- 4) cardio : 25
- 5) cancer : 17
- 6) alcohol : 12

( Multiple causes : 50 )
Additional information from AME’s

• 1 on 4 consultations has to do with work environment

• 2 on 3 of these are psycho-social

• Most recurrent problems:
  - psychological constraints in the job
  - organisation and management
Coping with stress...
Comparison of unfitness numbers

- Provider A: 12 years: 1656 exams: 19
- Provider B: 8 years:
  - 2008: 5000 ATC: 13
  - 2009: 5000 ATC: 6
- Provider C: 1998:
  - 1999: 4500 ATC: 11
- Provider D: 2 years: 12,500 OPS: 147
- Provider E: 7 years: 367 ATC: 7
- Provider F: 2006:
  - 2007: 728 ATC: 1
  - 2008: 728 ATC: 2
- Eurocontrol: 15 years: 300 ATM: 22

In general: 1 to 2 ATC unfit per year per 300 ATC
# Diagnoses for ATCO unfitness

<table>
<thead>
<tr>
<th>Provider</th>
<th>Diagnoses</th>
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<tbody>
<tr>
<td>EUROCONTROL</td>
<td>1) psy</td>
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<tr>
<td></td>
<td>2) cardio</td>
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<tr>
<td></td>
<td>3) alco</td>
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<tr>
<td>Provider A</td>
<td>1) neuropsy</td>
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<td></td>
<td>2) ENT</td>
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<td>3) ophth</td>
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<td>Provider B</td>
<td>1) neuro</td>
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<td>2) cardiovasc</td>
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<td>Provider B :</td>
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<td>- initials :</td>
<td>1) ophthalmo</td>
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<td>- renewals :</td>
<td>1) psy</td>
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<td></td>
<td>2) neuro</td>
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<tr>
<td>Provider C 1998 :</td>
<td>1) headache</td>
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<td></td>
<td>2) mood fluct</td>
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<td></td>
<td>3) cardiopulm</td>
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<td>Provider D :</td>
<td>1) BP - cardio</td>
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<tr>
<td></td>
<td>2) psy</td>
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<tr>
<td></td>
<td>3) coronary</td>
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<tr>
<td>Provider E :</td>
<td>1) psy</td>
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<td></td>
<td>2) ENT</td>
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<tr>
<td>Provider F 2006 :</td>
<td>1) psy</td>
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<td>2) neuro</td>
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<td>3) cardio</td>
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<td>2007 :</td>
<td>1) psy</td>
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<td>2) internal</td>
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<td>2008 :</td>
<td>1) ophtha ( init )</td>
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<td>2) cardio</td>
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<td>3) psy</td>
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</tbody>
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**Globally**

1) psy 2) cardio 3) neuro
Conclusions

- for Eurocontrol (international) ATC:
  1.1 definitive unfitness per 300 ATC per year

- This is comparable with other service providers:
  1 to 2 unfitness per 300 ATC per year

- Slightly lower than the general (international) Eurocontrol population
  1.4 invalidities per 300 staff per year
Conclusions

- First reason undoubtly psychological – psychiatric
  second reason cardiological

- Is similar to the general Eurocontrol population: first reason psychological but here second is orthopaedical

- For initial examinations ophthalmology is an important reason, unless you screen them out before (as in Eurocontrol)

- Be aware for alcohol abusus

- Sharp decline in unfitness for Eurocontrol ATC over the last years probably due to early retirement scheme
The end…

EARLY RETIREMENT