

**FEDERATION AERONAUTIQUE INTERNATIONALE  
FAI MEDICO-PHYSIOLOGICAL COMMISSION  
COMMISSION INTERNATIONALE MEDICO-PHYSIOLOGIQUE (C.I.M.P.)**

**Scientific and Plenary Meetings held on board of the M.V. SILJA SYMPHONY  
Helsinki, Finland - Stockholm, Sweden.  
5-7 June 1998**

**Introduction**

**Scientific Papers and General Discussions**

**KEY WORDS**

Overview of Europe Airsports organizations

- non-commercial aviation

Doping

- doping policies  
- anti-doping activities

Cardiology Update  
Coronary

- Percutaneous Transluminal  
  
- Angioplasty (PTCA)  
- Stenting procedures  
- Pilot certification

Swedish Pilot Personal Assessment

- Human error  
- personal check list  
- Swedish Aero Club flight safety program.

Vision and Corrective Lenses

- JAR visual requirements  
- progressive lenses in the downward gaze  
- monocular lenses prohibition

Flight Illusions

- spatial disorientation  
- illusions  
- prevention

The Deaf Pilot

- radio communication  
- handicapped pilots  
- safety of flight.

Disease Assessment and Prevention

- medical unfitness  
- where health risk factors  
- pilot work load

## **Plenary Session**

Meeting and national reports

World Games

Election of Officers

CIMP Program for 1999 and Action Items

Immediate Action Items CIMP

Date and Place of Future Meetings

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## **Introduction**

This year's meeting was held in the conference facilities on board the M.V. SILJA SYMPHONY as it traveled from Helsinki, Finland to Stockholm, Sweden and returned to Helsinki.

The scientific session of the FAI MEDICO-PHYSIOLOGICAL COMMISSION was opened on the afternoon of Friday, 5 June 1998 by president, Colm Killeen of Ireland. In his introductory remarks, he gave special mention and thanks to Dr. Eero Vapaavuori and the Finnish Aeronautical Association for the excellent planning and arrangements that were made for the meeting. In similar manner he gave recognition and expressed his gratitude to Dr. Hans Hjort and the Royal Aero Club of Sweden for their co-sponsorship and outstanding contribution to this year's conference.

President Killeen then provided a brief summary of the FAI general conference held in Brazil. Similar remarks were also made regarding the CAA, SAAME meetings in Scotland and the AAMC meeting in England.

## **Scientific Papers and General Discussions**

As noted in previous years, the subject material covered in both the scientific and plenary sections tend to overlap both in subject matter and by speaker. Thus it is necessary to review these minutes with that interrelationship in mind.

## **Overview of Europe Airsports**

Dr. Saundby pointed out the need to separate non-commercial aviation into categories appropriate to the organization that represented the airport involved and yet maintain a degree of discipline that would guide such activities as aircraft

design, pilot skill assessment and fatigue parameter measurement. This would tend to limit the potential for individual groups and countries from going down radical courses that might be non-productive or even in error. The fact that current sport organizations have no legal status more than that of a club currently is a limiting factor in the development of such a concept. FAI does provide a degree of surveillance and the Europe Airsports organization is an international affiliate member of FAI. This degree of oversight however is considered inadequate. Ireland on its part has a paid director to monitor international concerns of this type and Dr. Saundby is also a coordinator for medical concerns in Great Britain. Professor Dal Monte does the same task for Italy. Overall however, input to sport aviation from an aero-medical point of view remains inadequate. It is important to have such input from an aviation medical representative who is involved in the sport concerned. The key is to having knowledgeable aviation medicine persons involved in each sport and then listen to them.

### **Doping**

Professor Antonio Dal Monte presented an excellent in depth presentation of doping policies and the current status of anti-doping activities. Both drugs utilized in an attempt to enhance physiological performance and those used in the context of abuse as mind altering substances were covered. Of much interest was the discussion of drugs utilized to legitimately treat disease yet having the potential to be a prohibited substance if utilized for abuse or performance enhancement. In way of reassurance, it was pointed out anti-doping programs are not yet perfect but they are workable and will continue to be refined as time goes by. As a point of additional input, Max Bishop indicated that he was unaware of any positive doping cases occurring within FAI sponsored events. Further that prevention of cheating and the maintenance of safety considerations remain the underlying objectives for anti-doping programs.

### **Cardiology Update**

Dr. Maire presented an excellent review of Percutaneous Transluminal Coronary Angioplasty (PTCA) and coronary vessel Stenting procedures. Coronary stenting is a new interventional cardiological method, which, after having passed a difficult period within its first years, has been developed to a routine procedure within the last three to four years. This technique is being used in half of all coronary angioplasty procedures at most interventional centers. Because of the widespread distribution of coronary stenting, Aeromedical Examiners (AME) must have a general and aviation cardiologists an in depth knowledge about this method. For the assessment of the fitness to fly, the same criteria can be applied for applicants, who have had angioplasty with coronary stenting as those that have been used for applicants who had angioplasty without coronary stenting. Airman successfully treated by such measures could be considered potentially able to return to flight status after six to nine months if follow up studies are within normal limits. Subsequent evaluations should occur at yearly intervals.

## **Swedish Pilot Personal Assessment**

Dr. Hjort reviewed the current status of the personal check list used in the Swedish Aero Club flight safety program. It has been well accepted throughout the club membership and is now ready for export to other countries. To date, Denmark is already using it. Financial concerns regarding the cost of the program to other users however has not yet been completely settled. At the present there is also a need for additional development monies to finalize the English version of this program. Considerable discussion was also had on risk assessment as it relates to number of hours flown, age and reaction time. In regards to the latter, Prof. Dal Monte made the comment that speedy reaction times may have a negative aspect in those who over react and then compound the original problem that necessitated action in the first place.

## **Vision and Corrective Lenses**

Dr. Vapaavuori presented an update of his pilot education project on the subject of vision and corrective lenses. He also provided general comments relating to the implementation of JAR as it relates to the conversion of English verbage into the language of other nations. Simple items such as the use of the word "OPTIMUM" when no parameters have been defined are difficult to translate. Also the use of the statement "authorized medical examiners" without explicit definitions of what constitutes "authorized" cause similar problems. He again pointed out the problems when progressive lenses are used in the downward gaze position and to meet intermediate visual requirements. In both cases, their use is not recommended. On a separate subject concerning corrective lenses, he emphasized the need to prohibit the use monocular lenses by all pilots.

## **Flight Illusions**

Dr. Truska of the Czech Republic presented an in depth review of spatial disorientation and illusions that pilots must understand and contend with. A copy outlining the contents of the paper is available on request. A summary of advice to airman is to be noted below:

### **Practical Advice to Aircrew**

- You cannot fly by the "seat of the pants"
- Do not allow control of the aircraft on "seat of the pants" inputs
- Do not mix flying by instruments with flying by external visual cues
- Go early to instruments in poor visibility
- Be in practice at flight in IMC
- Avoid maneuvers which are known to induce disorientation
- Be particularly vigilant in high risk situation
- Do not fly with: infections, alcohol ...
- Remember: experience does not make you immune

## **The Deaf Pilot**

Max Bishop again reported the pressure FAI members are bringing to bear on the subject of clearing deaf persons to fly. This accommodation is already under way by the FAA in the United States and expansion to other countries is being requested. Since a number of national regulations prohibit the deaf from flying, this may be some time in-coming. For example, Finland currently does not allow the deaf to fly and Germany makes it mandatory to be in radio communication at all times. For the present, the CIMP position remains similar to that of last year which is to endorse the accommodation of all handicapped persons if the safety of flight is not compromised.

## **Disease Assessment and Prevention**

The Polish delegates presented an excellent study of medical unfitness occurring in both military and civil aviation. For the most part they paralleled each other very closely and included those of cardiovascular origin, mental and neurological entities and those considered to be disorders of the spine. Comparison of cholesterol levels, body weight and tobacco use were also made to reflect the areas where health risk factors could best be reduced through preventive medicine techniques.

The incidence of prostatic cancer was also addressed. On a separate issue, Dr. Klukowski presented his findings on pilot work load assessment. Items addressed were accuracy of the performed task, the pilot's opinion of the effort required for task realization and the measurement of corresponding psycho-physiological parameters. Twelve candidates from the Polish Airforce Academy acted as test subjects and the centrifuge was utilized to subject them to controlled acceleration forces. Results of the study are contained in his paper that was provided the attendees and is available on request.

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## **Minutes FAI Medico-Physiological Commission - June 1998 Meeting**

### **Plenary Session**

7 June 1998

#### **Welcome Address**

At 0830 hours, Sunday, 7 June 1998, the Plenary session was called to order by President Dr. Colm Killeen of Ireland. Thanks and appreciation were again expressed to Doctors Vapaavuori and Hjort for their superb planning and execution of the 1998 CIMP Conference. Further thanks and acknowledgment were also given the Royal Aero Club of Sweden, its Secretary General and to the Finnish Aeronautical Association, its President, Leif Lundstrom and to FINAIR for their combined sponsorship.

#### **Roll Call and Apologies**

The roll call of delegates in attendance as published on the initial page of this report was read. Those sending apologies were also acknowledged.

#### **Minutes of the 1997 Meeting**

The minutes of 1997 meeting in Rome were accepted without change.

#### **Meeting Reports**

##### **Annual General FAI Conference - Brazil**

Max Bishop, FAI Secretary General reported that henceforth the FAI President would hold office for a four year term thus providing a climate for greater continuity and follow thru. Considerable discussion was also had regarding the financial status of the FAI. The need to increase monies required to meet prospective budgets was eventually endorsed. Max also announced that the FAI magazine was now On-line and future issues would be available via this format on Internet.

President Killeen reported on the meeting of the Association of Medical Examiners held in Scotland and made reference to a paper presented on the subject of cosmic radiation as it relates to the exposure of flying personnel. Also reported on was the meeting of the English Association of Medical Examiners held in Belfast.

## **National Reports**

### **Italy**

Professor Antonio Dal Monte reported on the similarities of escape problems noted in offshore boating accidents to those encountered in the egress from aircraft. The need for similar human factor engineering approach to their solution was pointed out.

### **United States**

Dr. McCann briefly reviewed an article authored by Dr. Cowl of the Mayo Clinic and published in the April 8, 1998 issue of the Journal of the American Medical Association entitled "Factors Associated With Fatalities And Injuries From Hot-Air Balloon Crashes." This review included 495 balloon crashes occurring in the United States between 1964 and 1995. Fifteen hundred thirty three persons were involved ninety-two of whom were killed and another 384 who suffered serious injury. The highest number of these accidents involved striking the ground and or power lines. Preventive measures recommended were mandatory education concerning the avoidance of power line and other risk factors. A copy of the article was provided each attendee.

### **South Africa**

Dr. Van Der Merwe briefed the attendees on the privatization of many of the former Civil Aviation functions. This has been accepted as a good development. Accident investigation however will remain as a government activity.

### **United Kingdom**

Dr. Saundby has been elected Chairman of the Royal Aero Club. In his report he also indicated the continuing upset several of the JAR requirements are causing sport aviation. His paper concerning diabetes occurring in airman has now be accepted for publication in the Journal of the Aerospace Medical Association. Two references of significant current value for those involved in aerospace medicine are "Aviation medicine," 2nd edition by Ernsting and King 1995 published by Butterworth-Heinemann, Linacre House, Jordan Hill, Oxford OX2 8DP, United Kingdom, ISBN 0 7505 2275 X, Library of Congress [DNLM: 1 Aerospace Medicine. WD700 A957 RC1062.A95 1998 616.980213 87-38209] and Joint Aviation Authorities documents published by: Printing and Publication Services, Greville House, 37 Gratton Road, Cheltenham, GL50 2BN, United Kingdom. Fax +44 1242 584139. 'JAR-FCL 3 Flight Crew Licensing [Medical]'. "User Pays" is the policy resulting in the price being considerable. It is not available on the Internet.

## **Sweden**

Dr. Hjort reported on the advancing age of private pilots in Sweden. It now stands at age 50 and considerable effort is being extended to recruit younger aviators. John Grubbstrom, CIA representative to CIMP commented on Ballooning activities and the upcoming "European Hot-Air Balloon Championship" to begin on 19 June 1998 in Sweden. Eighty one participants from twenty five countries are anticipated.

## **Portugal**

Dr. Antonio Gomes Da Crul was introduced along with his background in sport aviation and cardiac surgery.

## **Spain**

Dr. Ortiz presented his proposal for a CIMP home page on Internet. See attached. He also announced that the new designator for aviation in Spain was F.A. Espana. Further that aviation medical examiners are now to have a week of extensive training which will be at a cost of \$650.00 per person this year. He himself has authored several articles on aviation medicine and airports. Also he's writing an English version of his book on aviation medicine.

## **Germany**

Dr. Hollmann reported that the implementation of JAR was still unsettled but receiving continuing attention.

## **Poland**

Activities at the main medical center of the Polish Aero Club included the medical evaluation of 629 sport aviation candidates. This group consisted of airplane, glider and balloon pilots plus parachutists. Also 2082 glider, airplane, balloon, parachuting cadets and 239 temporarily grounded flying personnel were examined. Another 169 sport pilots and grounded persons were also seen. During the first world air games in Turkey, the center established a medical care program for 120 sport aviation competitors. For the future, the main goal to be accomplished by June 1999 is the implementation of the JAR regulations and then integration of them into the Polish certification process. Details include the establishment of three to nine aeromedical centers taking into account the geographic requirements of the flying population.

## **France**

Dr. Villey presented a review of current doping problems and commented on who will provide the professional surveillance testing and interpretation of results.



## **Slovakia**

Dr. Dzvonic presented an overview of national statistics concerning pilots and aircraft. No fatal accidents were noted in the past year. As an additional piece of information, the ministry of health has yet to recognize aviation medicine as an established specialty.

## **Czech Republic**

Dr. Truska reviewed problems associated with licensing and the program that is underway to include builders of aircraft.

## **Finland**

Dr. Vapaavuori reported a general increase in the number of private pilots. Basic instrument training has now been added to their qualification requirements. On another point, JAR integration is still causing problems. Much of this has to do with the conversion of their meaning to the language of member countries. In November of this year, AME training will begin. Forty will receive 60 hours of basic training and ten first class examiners will receive 120 hours. A goal for the year 2000 is to improve training and financial assistance for young pilots. In this regard, the recent demand for professional pilots has resulted in SAS recruiting Finish Air Force pilots thus causing problems in this area.

## **Switzerland**

Dr. Maire stated that Switzerland intends to implement the JAR Medical requirements on 1<sup>st</sup> January 1999. However, it has been recognised that there is still a debate about several aspects of these directives, thus, the further development of these medical regulations seems to be still uncertain. In Switzerland, there are actually three Aeromedical Centres (AMC), but this is a provisional solution. It is possible that there will be only one single AMC in the near future, which would be a combined civil and military AMC. A number of military airports have lost their military affiliation as a consequence of a new concept of the Swiss military airforce. Some of these airports might become open for sports aviation activities.

## **Ireland**

Dr. Killeen reported on the expanding appointment of new AME's. Currently there are seven, all located in Dublin. Eighteen more are now being considered but many may not be able to afford the investment required for new examination equipment. Also there has been a significant increase in examination fees. He further reported that the government is over implementing the JARs and as such the current status is an unhappy one. In commenting on recent accidents, there were two deaths of German pilots flying ultralites. This has resulted in an increased emphasis on safety and human performance considerations.

## **Specialist Reports**

This area is covered under the minutes of the scientific session and in the written reports provided each member by the author.

## **World Games**

Max Bishop commented on the success of the world games in Turkey and the current plans to have a repeat in Spain during the year 2001. He also reported that the one hundredth anniversary of the founding of the first aero club in 1898 by France would be celebrated in Toulouse, France the last two days of September and the first three days of October 1998. As a final point, he briefed the delegates on the upcoming move of FAI Headquarters to Lausanne, Switzerland later this year.

## **Election of Officers**

Dr. Colm Killeen of Ireland and the president of CIMP since 1988 announced his resignation as did vice-president Prof. Antonio Dal Monte of Italy. Elections were then held with the final result.

President	René Maire	Switzerland
Vice President	Hans Hjort	Sweden
Vice President	John McCann	United States of America
Vice President	Pedro Ortiz	Spain
Secretary	R. Peter Saundby	United Kingdom
President of Honor	Colm Killeen	Ireland

Following elections our new President, René Maire, toasted outgoing President Killeen and doing so briefly reviewed his many contributions to aviation, CIMP and the FAI. This review included his appointment as a AME and being selected as his country's delegate to the FAI and CIMP in 1967, his election to CIMP President in 1988, appointment as President to the Irish Aviation Council in 1999, and finally President of Honor of CIMP at this meeting. René then provided Colm a momento in recognition of the debt owed by all of us to him for his efforts over his entire career in furthering aviation and flight safety.

## **CIMP Program for 1999 and Action Items**

President Maire presented his general objectives emphasizing the need to define the role of CIMP for the future. To this end, he stressed his intent to depend heavily on the efforts of CIMP delegates and officers. In establishing areas to be addressed, the following subcommittees were formed.

### Safety/Accidents

Hans Hjort	Coordinator
Colm Killeen	Member
John McCann	Member
Jack Rubino (USA)	Member

Albert van der Merwe	Member
Ernst Hollmann	Member

#### Home Page/Internet

Pedro Ortiz	Coordinator
Peter Saundby	Coordinator

#### Europe Airsports

Peter Saundby

#### Personal Equipment/Ultralites

Antonio Gomes  
Thierry Villey  
Janusz Marek

Note: Prof. Antonio Dal Monte has volunteered to assist in the test and evaluation of ideas and equipment that may stem from this committee's activity.

#### Aviation Psychology/Situational Factors/Flight Illusions

Eero Vapaavuori  
Krzysztof Klukowski  
Oldrich Truska  
Olivier Dzvonik  
Bernhard Schober (from Austria, agreed by phone after the conference)

#### Ophthalmology & JAR

Eero Vapaavuori

#### Centrifuge Activities

Janusz Marek  
Krzysztof Klukowski

#### Doping

Antonio Dal Monte  
Thierry Villey

#### Cardiology & JAR

René Maire

## **Immediate Action Items**

A letter is to be drafted by Peter Saundby for the President of FAI's signature explaining FAI's concern regarding the cost and complexity of JAR medical examinations. This is to point out the scientific weakness of some of the ingredients of the medical standards and examination requirements.

Dr. Maire as CIMP President will author a letter to be sent to all FAI member countries encouraging them to send delegates to future CIMP conferences. In the Fall of 1998, he will also author a letter to all CIMP members requesting input for our next annual meeting. Specific attention is to be made to the relationship of our activities to Aeroports and the need for liaison with individuals and other FAI committees representing the various sporting groups in the federation.

Both Drs. Maire and Saundby are to review plans to personally attend the one hundredth anniversary of the founding of the Aero Club of France and the FAI in Toulouse, France.

Dr. Ortiz and his subcommittee are to complete the development of a Home Page for CIMP with the objective of having it ON-LINE by year end.

## **Date and Place of Future Meeting**

Dr. Van Der Merwe of South Africa presented a formal proposal from Mike Van Ginkel, Director General of the Aero Club of South Africa, to host the 1999 CIMP meeting. Dr. Dzvonik of Slovakia also made a similar invitation and Dr. Ortiz suggested the concept of combining the 2001 CIMP meeting with the World Games to be held in Spain. After much discussion, it was decided to have the 1999 meeting in Lausanne, Switzerland thus enabling CIMP to better coordinate its activities with the new home of FAI Headquarters. Dr. Maire, our new president, and also the delegate from Switzerland volunteered to coordinate the plans and logistics for this occasion. The schedule and proposals for the following years are thus as follows:

### Year

1999	FAI/CIMP Meeting	24 and 25 April, Lausanne, Switzerland
2000	South Africa or Slovakia	possibilities
2001	Spain	a possibility to be held coincident with the second World Air Games

Dr. John P. McCann  
Secretary, FAI Medico-Physiological Commission