

THE HISTORY OF AERONAUTICAL MEDICINE IN VENEZUELA

Dr. David R. Iriarte

Translation of "Historia de la Medicina Aeronáutica en Venezuela", a paper presented at the Sixth Seminar of Aeronautical Medicine in Venezuela, 27-28 September 1985, Caracas, Venezuela, pp. 1-15.



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16. Abstract The Aerial Medical Service of the Ministry of Transportation and Communications of Venezuela was created on June 1949. It later became the Department of Aeronautical Medicine. Its functions include the medical examinations of future pilots, navigators and flight engineers. This Article discusses the importance of good mental and physical health in all Flight and Ground Personnel to ensure the safety of air travel.					
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(Paper to be presented at the Auditorium of the Colegio de Médicos del Distrito Federal (Association of Medical Doctors of the Federal District) on the night of September 27, 1985, as a result of the distinguished designation made by Dr. José Ramón Gómez Mancebo, Chief of the Department of Aeronautical Medicine of the Ministry of Transportation and Communications, as part of the VI VENEZUELAN SEMINAR OF AERONAUTICAL MEDICINE).

CARACAS / 1985

DEPARTMENT OF CIVIL AERONAUTICS
DIVISION OF AIRWORTHINESS

No. DMA/144

Caracas, July 8, 1985

Citizen:
Dr. David Iriarte
Present.-

Dear Colleague:

I have great pleasure to invite you to participate in the program of the VI VENEZUELAN SEMINAR OF AERONAUTICAL MEDICINE, scheduled to take place during the 27th and 28th of the forthcoming month of September at the Auditorium of the Association of Medical Doctors of the Federal District.

The topic that has been assigned to you is titled "The History of Aeronautical Medicine in Venezuela". It has been programmed for Friday, September 27, at 8:00 p.m., with a stipulated duration of 30 minutes which should be strictly adhered to.

We are grateful for your collaboration and we are looking forward to hearing your interesting conference.

Very truly yours,

Dr. José Ramón Gómez Mancebo
Chief of the Department of
Aeronautical Medicine

JRGM/mac
Tel.: 509-22-27 and 22-04

Republic of Venezuela - Ministry of Transportation and Communications -

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DR. DAVID R. IRIARTE

Dean of the National Academy of Medicine - Became a member of the Board of Examiners of Civil Pilots of the Ministry of Communications in 1947 - Received a "Merit Award" from the Department of Aeronautical Medicine of the Ministry of Communications, for years of service, on September, 1962 - Was awarded the "Star of Honor" by the Ministry of Transportation and Communications in recognition of his services on November, 1977 - Received a certificate from the Ministry of Transportation and Communications for his participation in the 3rd Venezuelan Seminar of Aeronautical Medicine on October, 1982 - Honorary Member of the National Association of Pilots, 1956 - Member of the Aerospace Medical Association (U.S.A.) - Member of the Space Medicine Branch (U.S.A.) - Founder of the Society of Aeronautical and Spatial Medicine of Venezuela, and its first Librarian, 1966 - Decorated with the "Cross of the Venezuelan Air Force" and with the "Carlos Meyer Baldó Medal" - Author of the book "Historia de la Aviación Civil en Venezuela" (History of the Civil Aviation in Venezuela) with editions in the years 1967 and 1971, and of numerous articles about aviation and aeronautical medicine published in the magazines "Aeronaves", "Ciencia Aeronáutica", "Avión", "Boletín del Laboratorio de la Clínica Luis Razetti, and in the newspaper "El Universal" - Lecturer in overseas trips to institutes of aeronautical medicine in several countries - Presentation at the "Sociedad Venezolana de Historia de la Medicina" (Venezuelan Society of the History of Medicine) titled "Datos Históricos sobre Aviación y Medicina Aeronáutica" (Historical Data About Aviation and Aeronautical Medicine), year 1983, published.

THE HISTORY OF AERONAUTICAL MEDICINE IN VENEZUELA

Dr. David R. Iriarte

The modern Aeronautical Medicine is related to aerostation, /5* aeronomy and, more recently, to astronautics. All these fields have advanced in an incredible manner since the flight of the Wright Brothers in 1903.

It is a medical specialty. 62% of all aviation accidents are caused by human failures. The selection of aircraft pilots and astronauts is very important to prevent the affections produced during flight and in space by morbid agents related to aeronautics, cosmonautics and astronautics.

The Aeronautical Medicine, or Medicine of the Heights, was born as a result of the "altitude sickness" as noticed in the high Peruvian Andes by the jesuit Father Acosta in his book "Historia de las Indias" (History of the Indies); but Homer had already written that people, while in the Olympus at an elevation of 3,000 meters, presented symptoms of tiredness, asphyxia, cyanosis, hemoptysis, vomits and diarrhea. These problems are compounded in space travel by radiation and weightlessness.

Boque, a frenchman, has said: "The Aeronautical and Spatial Medicine is the science and the art to prevent, cure, and alleviate the illnesses caused by the morbid agents from space and by the passive and active movements of the human being during his transportation to that medium and by the aerocosmonautic and astronautic

*Numbers in the margin indicate pagination in the foreign text.

activities".

Around the year 1783, the American Doctor John Jeffries trav- 16
elled to high elevations carrying thermometers, barometers, hygro-
meters and published the results of his experiments. He is considered
as the author of the first book of Aeronautical Medicine.

The flights started in our country in 1920, when on December 20
the Military Aviation Regiment was created. Col. David López Henríquez
was his Director, and Capt. Fernández Ortíz his Organizer. The place
was Maracay, and the aircraft were made by Bleriot, Murane and Wultee.
The original members were Pacanins, Ochoa, Tucker, Marcano, Lagarde,
Miguel Rodríguez and Fuenmayor. In 1945 the Section of Civil Aero-
nautics was created; in 1946 the Civil Aviation School was created,
as well as the Air Traffic School in Maiquetía; in 1949, the Depart-
ment of Civil Aeronautics was created, which included the Department
of Aeronautical Medicine.

* * *

Symptoms such as headaches, earaches, toothaches, abdominal
flatulence (pneumatosis) and distension caused by pleural and medias-
tinal gases are diminished or eliminated by cabin pressurization and
by the speed of the aircraft which reduces the travel time. Statis-
tics in the United States reveal that accidents are rare, only 0.5%
per million passengers, due to cardiovascular or respiratory problems.

* * *

Doctor and Professor Franz Conde Jahn is truly the father of
the Aeronautical Medicine in this country.

The first World Congress of Aeronautical Medicine was held in Paris in 1927 and Dr. Conde Jahn, who resided in France from 1925 to 1930, was designated by the National Academy of Medicine, of which his father was President, to represent the Corporation in that event.

The Congress took place in the Faculty of Medicine and at the Le Bourget Airport where, on May 22 of the same year, Charles Lindbergh had landed after crossing the Atlantic. 17

Dr. Conde Jahn gathered a large amount of knowledge in this Congress attending the lectures, observing the equipment used for examining the future pilots and navigators and the studies that were required for them to graduate, according to their category.

After returning to Venezuela, on December, 1930, he was asked to go to Maracay where he was named otorrhinelaryngologist at the Maracay Clinic. On June 25, 1931, the Military Sanitation Service was created. The Línea Aeropostal, then almost entirely with French personnel, used his services for the medical records of its employees. Dr. Conde realized that the Venezuelan air force personnel lacked those type of records, and at that time the airplanes did not have the instruments now commonly in use, the landing runways were in bad condition; there were no control towers or air beacons. Based on his observations, he began keeping medical records after ophtalmological and otorrhinelaryngological examinations. These records were very useful in establishing the correct classifications for pilots, navigators, mechanics and radio-telegraphists. Similar examinations were

required by the School of Civil Aviation for all the applicants for admission.

* * *

When Venezuela joined the International Civil Aviation Organization (O.A.C.I. are the initials in Spanish), and signed the executive ratification on May 20, 1947, became participant in the Civil Aviation Agreement signed in Chicago (U.S.A.) on December 7, 1944 and subjected to all the norms and recommendations contained in the appendices of said Agreement. One of them, the No. 1, also called "Licensing the Aeronautical Technical Personnel" includes all the aspects related to Aeronautical Medicine.

In compliance with the requirements of said Agreement, the Aerial /8 Medical Service was created in June, 1949, as a dependency of the Division of Aerial Safety, actually known as the Division of Aeronavigationability and Operations, which is part of the Department of Civil Aeronautics of the Ministry of Transportation and Communications.

Later on, the Aerial Medical Service became the Department of Aeronautical Medicine due to the growth of the civil aviation, with new norms and procedures for this Department, which is responsible for the control of all the technical-aeronautical personnel.

This personnel can be divided in two large groups: Flight Personnel and Ground Personnel.

The first group includes:

Student Pilots

Commercial Pilots

First Class Commercial Pilots

Airline Pilots

Glider Pilots

Private Helicopter Pilots

Commercial Helicopter Pilots

Navigators

Flight Engineers

Flight Radio Operators

The second group includes:

1 - Air Traffic Control Technician, including:

- a) Air Traffic Controller at the Airport
- b) Air Traffic Controller in Route
- c) Air Traffic Control Specialist

2 - Aeronautical Radiocommunications Technician:

- a) Aeronautical Radio-Mechanic
- b) Aeronautical Radio Maintenance Specialist
- c) Aeronautical Radiocommunications Technician

3 - Aeronautical Communications Technicians:

/9

- a) Aeronautical Telecommunications Radiotelephonic Operator
- b) Aeronautical Telecommunications Operator
- c) Aeronautical Telecommunications Specialist

4 - Flight Dispatcher

5 - Aviation Mechanic

6 - Aeronautical Equipment Instructor

7 - Instrument Flight Instructor

* * *

The first official Medical Board for the examination of civilian pilots was created in 1945 and was formed by Roberto Baptista, in charge of the general medical examinations, who was a private pilot and loved aviation, was the founder of the "Aero-Club Caracas" and directed the first tourism international flight to Port Spain (Trinidad); Augusto Perret Gentil, a great humanitarian and competent ophthalmologist who died before his time; and Pedro González Vera, a distinguished and brilliant otorrhinelaryngologist and tourism pilot who had recently retired from the profession and was dedicated to the agriculture.

On November 5, 1947, in view of the aviation advances and the increasing number of pilots, the Ministry of Communications decided to expand the Civilian Pilots Medical Examination Board. These were the times during the presidency of Don Rómulo Betancourt and the Minister of Communications was Dr. Antonio Martín Araujo, who died recently. Six new medical doctors joined the Board: Rubén Henríquez García and Milton López Henríquez as General Practitioners; Pedro J. Alvarado and Oscar Beaujón as ophthalmologists; Gabriel Briceño Romero and David R. Iriarte as otorrhinelaryngologists.

* * *

The "Venezuelan Society of the History of Aeronautical Medicine" was founded on September 4, 1966 and the words "and Spatial" were

added to its name shortly thereafter. It was a milestone in the "History of Aeronautical Medicine". A meeting took place that morning in the Assembly Hall of the National Academy of Medicine, where there was mention of a Venezuelan Congress of Aeronautical Medicine. In the afternoon a solemn act was held in the Hall of the Palace of the Academies, presided by the Minister of Communications Dr. Héctor Santaella. There were speeches by Dr. Alcalá Erminy, Chief of the Department of Aeronautical Medicine, and by Dr. Marcel Granier, President of the National Academy of Medicine.

The first Board of Directors was formed as follows: President, J.M. Alcalá Erminy; 1st Vicepresident, David López Capriles; 2nd Vicepresident, Agustín Perret Gentil; Secretary, Oscar Beaujón; 1st Speaker, Rafael Zubillaga; 2nd Speaker, Pedro A. Santeliz; Librarian, David R. Iriarte.

In Valencia, during May of 1971, the "V Iberoamerican Conference of Aeronautical Law" were presided by Dr. Aníbal Rueda.

In the same city, on 1975, the "First International Symposium of Aerspatial Sciences" was held, sponsored by the University of Carabobo and directed by its Director, Dr. Rueda, with the assistance of Drs. Delascio and Fernández Morán.

On April 1974, the "Association of Aeronautical Engineers", under the auspices of the "College of Engineers of Venezuela", held a "Seminar of Air Safety and Aeronautical Medicine".

The topics covered were:

- 1.- To emphasize the importance of Aeronautical Medicine in Air Safety.
- 2.- To make the "Human Factor" generally known as well as its natural tendencies in the aeronautical personnel.
- 3.- The benefits of timely actions in the health of the aeronautical personnel.

As a special guest we had Dr. Amezcua in our country, founder /11 and Chief of the Department of Aeronautical Medicine of the Aeronautical Division in Mexico City. Other special guests were the Assessor of Aviation Medicine and otorrhinelaryngologist Dr. Hernández Orozco, and the Chief of the Aeronautical Medicine Research Center in Madrid, Dr. Merayo Magdalena.

On February 1976, the joint Venezuelan-French Conference of Aviation Medicine was held. Special guests included Dr. Eugenio Lafontaine, Medical Director of "Air France", and Dr. Lavernhe, Chief of the Flight Personnel Examination Center of Air France in Paris.

On October 22 of the same year, a ceremony was held at the Círculo Militar commemorating the 25th anniversary of the Aeronautical Medicine Service, sponsored by the Ministry of Communications.

The Program included a speech by the Hon. Dr. Sánchez Bueno, Minister of Communications; decorations and diplomas were presented, and the ceremony ended in a very pleasant manner.

Only the Medical Boards of the Federal District and of the States of Zulia, Trujillo, Lara and Carabobo existed in 1971. This number has grown to a total of 21 Boards presently in operation with 130 medical doctors of different specialties.

In 1971 an average of 4,000 persons required the examination for the control of the Department of Aeronautical Medicine; there were about 3,000 pilots and 595 mechanics. The personnel of the airline "Avensa" numbered almost 500, and the O.A.C.I. made the following statement: "In Venezuela, the Department of Aeronautical Medicine has strict physical and psychological requirements in accordance with the norms and recommendations of the O.A.C.I.".

* * *

It is necessary and convenient that the doctors who are the /12 medical examiners of the aeronautical personnel be specialized in Aeronautical Medicine because they are responsible for the Health factor in air safety. In addition the the proper curriculum, postgraduate courses and seminars will keep their knowledge up-to-date. The following are the conclusions at the Seminar held in Bangkok (Thailand):

- 1.- Stimulate the States of the region to organize instruction courses for the medical doctors responsible of examining the aeronautical personnel.
- 2.- Help the States with the creation of specialized courses for the examining doctors.

- 3.- Raise the professional level of said doctors so that they can better evaluate psychophysical conditions of the aeronautical candidates.
- 4.- Improve the preparation of the examining doctors in the fields of otorrhinelaryngology, cardiology, ophtalmology and psyquiatry.

The Venezuelan Seminars of Aeronautical Medicine were started in 1980 when Dr. Pedro Hernández Latuff was the Chief of the Department of Aeronautical Medicine of the Ministry of Transportation and Communications.

Presently, the VI Seminar is being held with the assistance of Dr. Luis Amezcua, Director of the National Center of Aviation Medicine of Mexico. The last Seminar was honored with the presence of Dr. Silvio Finkelstein, Chief of the Section of Aeronautical Medicine of the International Organization of Civil Aviation (O.A.C.I.).

These Seminars serve to put in direct contact the attending professionals; important aspects of the development of Aeronautical Medicine are discussed, and help is provided to those doctors who want to take the initiative in this discipline. One of the objectives of this Department is the creation of the future Institute of Aeronautical Medicine, to which we have referred in previous occasions. /13

* * *

It appears that the designation of several doctors as acting examiners of Technical-Aeronautical personnel was abolished, as

published in the October 14, 1982 issue of the Official Gazette. This will allow the reorganization of the colleagues participating in this activity by imposing new requirements.

* * *

The "El Universal" published recently an interesting "Commentary" by the well known journalist Mariahé Pabón regarding a paper presented in the recent Congress of Psychology held in this City of Caracas by the distinguished Psychologist José Mirabal, Assistant to the present Chief of the Department of Aeronautical Medicine, Dr. José Ramón Gómez Mancebo. In his paper, Mirabal notes that "an aviator needs to have good hearing, good vision and the necessary mental capacity to fly an airplane. The Aeronautical Psychology pursues, by studying the individual, to improve the safety of the pilot, the passengers and of all the citizens".

Mr. Mirabal explains that since 1982, when the application of psychological evaluations was started, only 10% from a total of 12,000 pilots have manifested the acceptance of the psychological evaluation; he criticizes the fact that the law allows a 15-year old adolescent to enter the School of Aviation, adding that in 131 of such young persons the examinations have indicated mental retardation.

We had already written in this field: "The examination of the pilot from the neurological and psychiatric-psychological standpoints is very important. There is confusion between the activities of these disciplines in relation with the man's mind. The psychiatry focuses on the mental health based on the physiological sciences; it uses

medicinal preparations and psychotherapeutic techniques. Psychology /14
is the science focusing on the mental health and conduct of the man,
his dynamism and the interrelation with his socio-cultural environ-
ment".

"The field of applied psychology in aeronautical medicine knows
and studies the personality in its magnitude and manifestations, and
works very closely with the psychiatric medicine. The psychiatrist
uses his or her medical knowledge, and the psychologist uses a series
of tests that permit the understanding of the mental state of a person".

"It is difficult to discover a psychotic nucleus or a precarious
situation in a personality that is not perfectly integrated; however,
the psychology can provide data on the psychomotor abilities of a
pilot, while trying to cover the psychodynamics of the interested
person".

* * *

In a recent act, in which we were honored by the Academy of
Medicine of Zulia, we said:

"We have been founders of the Library of the Greek Orthodox Asso-
ciation of Venezuela and of the Library of the School of Microbiology
and Parasitology of the Faculty of Odontology of the Central Univer-
sity, and have made donations to the libraries of the School of
Medicine of the Oriental University in Bolivar City; of the Univer-
sity of Zulia; of the National Academy of Medicine and of the Academy
of Medicine of Zulia. We have also made donations to the Baralt Li-
brary".

"We don't want to miss the opportunity to donate to this Academy part of our Library of AVIATION, AERONAUTICAL MEDICINE AND SPATIAL MEDICINE. This is a small donation that we wish will remain as a flower in the austerity of the shelf that scatters to the wind the seeds of knowledge, with a total of 420 works".

"We are sure that it will deserve your worthy attention and that /15 it will be, in the West, the central nucleus of documentation about a young science on one part, and a novice one on the other. It will also serve to provide information about such important subjects which lack of sufficient bibliographical material and of good organizational system. It will help in the formation of men that search the truth and will show the errors".